River Crossings

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Missouri River Flow Analysis

The U.S. Army, Corps of Engineers has identified fall 1999 as the target timeframe for completion of their "review and update" of the *Master Water Control Manual for the Missouri River.* When finished, this manual will be used as a strict guideline for release of water from the mainstem flood control and hydropower dams.

This summer the *Missouri River Natural Resources Committee* (MRNRC) and MICRA partially funded a project to analyze existing middle Missouri River data and develop a series of hypothetical relationships between discharges and "catch per unit effort" (cpue) for selected fish species. This work was developed under contract to *Rivers Corporation*, a Nebraska nonprofit foundation, that had previously been engaged in organizing much of the available biological, hydrological and physical data.

The MRNRC determined that insight into these relationships is essential for development of recommended flows from Fort Randall and Gavins Point dams in order to help improve the well-being of native Missouri River fish populations. The Biometry Department at the *University of Nebraska - Lincoln* assisted with data and model development. Although many analyses were envisioned, time was available to evaluate hydrobiological relations with only larval fish and seine catch data as they related to releases from the two dams.

Thirty-five larval fish models were created, but eleven of these were highlighted due to insufficient sample size in some instances.

View of the Missouri River near Niobrara, NE.

Smallmouth buffalo (*Ictiobus bubalus*), walleye (*Stizostedion vitreum*), sauger (*S. canadense*), and goldeye (*Hiodon alosoides*) abundance indices were found to be correlated with discharge, suggesting that spawning success is related to flow. There were many significant correlation models among the seine data, including, shovelnose sturgeon (*Scaphirhynchus platorynchus*), shortnose gar (*Lepisosteus platostomus*), goldeye, *Hybognathus spp*., flathead chub (*Hybopsis gracilis*), sand shiner (*Notropis stramineus*) and walleye, when discharge was compared with current year cpue. In addition, shovelnose sturgeon, shortnose gar, common carp (*Cyprinus carpio*), *Hybognathus spp*., flathead chub, emerald shiner (*N. atherinoides*), river shiner (*N. blennius*), bigmouth shiner (*N. dorsalis*), sand shiner, fathead minnow (*Pimephales promelas*), shorthead redhorse (*Moxostoma macrolepidotum*), black bullhead (*Ictalurus melas*), channel catfish (*I. punctatus*), white bass (*Morone chrysops*), bluegill (*Lepomis macrochirus*), and black crappie (*Pomoxis nigromaculatus*) models were correlated with discharge when

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discharge was compared with the previous year's cpue.

Discharge targets for Gavins Point Dam were developed using a model reported by Richter et. al. (1998, *Regulated Rivers: Research & Management* 14:329-340). These authors developed a series of hydrologic attributes with biological relevance and then characterized differences for these attributes between pre- and post-dam years on several rivers in North America.

The current Missouri River procedure used pre-dam Missouri River discharge for the period 1928-52 for the Sioux City, IA gage, compared with the post-dam period of 1954-98. This exercise identified the most critical hydrologic events based on the magnitude of alteration, pre- vs post-dam. Monthly mean discharge for January, March, April, May, July, and November were highlighted. Additional discharge is required during these months. In addition, short duration, 'flash floods' were determined to be the most altered including, 1, 3, and 7-day minima and maxima. It was recommended that hydrologic recovery programs be tested by using the annual operating plan followed by field monitoring to measure biological and human response.

In a 9/11/99 article in the *Omaha World Herald* entitled, *Flexibility is Vital for River,* Larry Hesse, President of *Rivers Corporation*, said "the Corps' manual should not set inflexible rules that damage people and natural resources." Hesse said his 40-year database can be used for developing an experimental water release plan and help find a way for fish and wildlife to coexist with industry and agribusiness. "Adopting a permanent operating alternative now for the Corps' manual would doom the river to further deterioration", Hesse said. "Money would be spent on habitat development projects, while the key ingredient that can make the habitat projects work – water releases – could not be changed. The result would be more native species at risk. Additional species would be listed as threatened and endangered. Recreational and commercial fishing would further deteriorate. An environmental and economic opportunity would be lost for more years to come. And, eventually, more money would have to be spent to update the Corps' manual yet again."

The Corps of Engineers has been trying to revise its *Master Water Control Manual* since 1988. The manual establishes the "rules" for long-term water releases, and then an *Operating Plan* is developed each year as predictions of the Rocky Mountain snowpack and other runoff information become available. The *Plan* depends to a great extent on the rules set out in the *Master Water Control Manual*.

Review of the manual began 11 years ago after a lengthy Basinwide drought resulted in conflicting demands between downstream navigational and upstream recreational interests for a dwindling amount of water. About this same time, biological evidence suggested that water-release patterns from upstream dams may play a role in the health and well-being of the native fish and wildlife trying to survive in a dramatically altered river. The review process required technical expertise to evaluate a number of proposed water-release plans, and the process has been embroiled in controversy ever since between upstream and downstream (mostly MO) states.

The first revised draft was completed in 1994, but was scrapped because of significant opposition. It involved a small increase in water releases from the dams in the Spring to enhance fish spawning. The current navigation plan tries to eliminate high- and low-flow periods, with minimal variation from April through November. Before the dams were built, water elevations rose and fell rapidly and frequently during the early Spring through late Summer period. These were actually small flash floods resulting from heavy localized rainfall. Of course the pre-dam Missouri River also was known for its large floods when the river was out of its banks for weeks at a time -- about once every 1.5 years. The dams cut that to once every 15 - 20 years, and even these were much smaller

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floods. "That has been good for people living and working on the floodplain, but it has been hard on fish and wildlife", Hesse said.

An 8/30/99 report in *The World-Herald* indicated that the *Missouri River Basin Association* (MRBA) agreed on a proposed river operating plan to be recommended to the Corps. The MRBA has not been very supportive of the idea of releasing water from Gavins Point Dam for environmental management, favoring instead the needs of navigation and agricultural interests. *American Rivers*, a Washington, D.C.-based environmental group, on the other hand has recommended a split navigation season, with somewhat elevated releases in the Spring and late Fall, and reduced releases in late Summer and early Fall. The 1994 proposal and split navigation season plans are similar and, Hesse believes, totally inadequate to help river fish and wildlife survive and prosper. He says, "These plans provide too little water during the Spring and Summer breeding season, and they do not address the natural 'flash flood' behavior of the pre-dam river." "Individual native species used these short-duration flash floods to breed. It was the wide variability of extremes in water flow that contributed to the viability of a large number of fish and wildlife species."

Hesse says further that, "Habitat is an essential component, but habitat has minimal value if it is not under water at the proper time." International environmental research on large rivers with similar problems supports the requirement for correctly timed and suitably sized water releases from dams as the essential ingredient for native species preservation. Hesse says, "Some species of fish that nearly disappeared after the dams and the navigation channel were completed increased their numbers dramatically during the 1993-1997 flooding. A serious error will occur if proper water releases are not included in the future long- and short-term dam operation plans."

Hesse is convinced that "our current understanding of the river environment is limited and that long-term plans must be easily adjustable". He says that "The best approach to achieve a water-release plan that people and wildlife can live with is to implement a trial annual operating plan. Field sampling can then be used to evaluate this experimental water-release program. Field data can document its good and bad impacts on both fish and wildlife as well as human endeavors."

Hesse has studied the Missouri River almost continuously for more than 25 years, first as a state biologist with the Nebraska Game and Parks Commission and now for a Nebraska nonprofit foundation.

Missouri's MO River Alternatives

The State of Missouri has been at odds with most of the other Missouri River Basin states for a number of years over flow related issues, and whether the Missouri River should be managed specifically for navigation or whether it's flows should also be used to address fish and wildlife species' needs. One of our readers in an upper Basin state sent us a copy of an article entitled, "*Addressing Missouri's Domestic Conflict of Interests in the Missouri River: A Suggested Approach for Resolution*". It was written by Craig A. Street for the *Missouri Environmental Law and Policy Review*. Vol. 5(3):117-142. The following excerpt might serve as a useful guide for Missouri and others in solving such resource conflicts:

"...The period of review is ... a good time for state leaders to reevaluate the interests of their people and to consider whether they are advancing the most appropriate interest or interests on behalf of their citizens. To that end, Missouri should endeavor to inventory the interests of its people, weigh and compare the relative values of the interests, and determine which interests it should advocate in the interstate dispute. The state government and elected state and federal officials, as public servants and representatives of the people, have an obligation to act on behalf of the people of Missouri, and in so doing, to advocate and protect the best interests of the people. Thus, after identifying all of the state's interests and ascertaining their relative values, the state should urge the Corps to manage the river in such a manner as will promote a combination of Missouri's interest and produce maximum benefits to the people of Missouri.

'Admittedly, the notion of maximizing benefits for all of Missouri's people with regard to the management and utilization of the Missouri River is theoretical and idealistic. It would require that Missouri's political leaders escape political, interest-group, budgetary, and other pressures in order to objectively weigh and balance the state's various interests in the Missouri River. However unlikely this may be, seeking to maximize benefits for Missouri on the Missouri River is, nonetheless, a worthwhile goal. As a state, Missouri should be committed to advancing policies and interests that, if implemented, would secure the greatest possible benefits for all its people. If Missouri's elected officials are incapable of objectively assessing the benefits of the state's various interests in the Missouri River, then the state should employ independent means in order to do so. In fact, Missouri should consider taking a number of actions to better ascertain, assess, and advocate the interests of its people. Missouri should (l) conduct studies to determine the public's attitudes toward and opinions regarding the use and management of the Missouri River; (2) conduct studies to more accurately assess the values of Missouri's different interests, including any noneconomic values of the interests; (3) conduct studies to determine realistic opportunity costs associated with pursuing each interest; (4) strive for objectivity and avoid political pressures in identifying and assessing the different interests; (5) disregard history and tradition to the extent they interfere with objectivity; and (6) focus on the best interests of all of the state's people.

'While this comment has focused on the activities of Missouri's state government and political leaders, it is important to realize that this issue is not solely the government's burden. Private parties, too, should take action. Persons with any interest in the Missouri River, whether navigation, wildlife, recreation, or otherwise, should seek to organize and participate in the intrastate debate, if not, the interstate debate. At minimum. such parties should offer their opinions to their elected officials. Such officials can respond to public sentiment only if they are aware of what public sentiment is. In addition, private parties should consider conducting the same types of studies proposed above. So long as the party's objectivity is preserved, the studies are no less valid. In the alternative, private parties could employ independent groups to conduct the studies.

'Although realistic assessments of costs and benefits are not available, this author is persuaded by the success of other basin states that if Missouri and the federal government would dedicate as many resources to developing recreational opportunities, fish and wildlife habitat, and intangible benefits on the Missouri River as have been dedicated to developing and maintaining the navigation channel over the past several decades, the recreation wildlife,

and intangible benefits would far outweigh the navigation benefits Missouri has heretofore enjoyed. Subsequent to the development of the mainsten dam and reservoir system, the upper basin states gained an extremely profitable recreational resource in the Missouri River. Those states have tapped and profited from the Missouri River's recreational potential, and Missouri can learn a valuable lesson from them. While the Missouri River in Missouri lacks the recreational draw of reservoirs, it does possess appreciable recreational potential along its mainstem, and, if the river were properly developed and aggressively marketed and promoted, recreation along the river could yield substantial economic benefits. Iowa appears to demonstrate this concept, even on a shorter length of the Missouri River than runs through Missouri. It is important to stress that promotion of recreation, fish and wildlife, and intangible benefits does not, by itself, require exclusion of navigation from Missouri's plans for river management. Advocating that Missouri assert more-beneficial interests over less-beneficial interests, as discussed in this Comment, certainly does not necessitate that one interest be promoted to the exclusion of any other. Rather Missouri simply should seek to allocate resources to generate the maximum possible benefits to the people of this state."

Feeding the World Through the Mississippi River, A Flawed Idea

"The future of the Mississippi River lock and dam system is being debated in political circles after an initial report from the U.S. Army Corps of Engineers multi-year study indicates upgrading may not be justified until at least 2020. The report concluded that expanding the navigation did not make sense even without considering the environmental costs of lock reconstruction.

'U.S. grain exporting and commodity groups have reacted strongly to the Army Corps recommendation and are now lobbying Congress for a $1.2 billion appropriation, the "Export Facilitation Act," that would initiate the lock expansion studied by the Army Corps. The project would eventually cost $5 to $6 billion. Congress and the public are told that U.S. grain exports will be critically needed in the next two decades to feed a hungry world and boost farmer income. Modernizing the lock and dam system will facilitate movement of grain for export out of the Midwest. But will this lessen food hunger? Will moving more grain down the Mississippi give farmers more income? The questions of who will benefit and who will pay deserve careful consideration.

'About 17% of corn, 30% of soybeans and 43% of wheat produced in the U.S. this past year will be exported. Much of the corn and soybeans grown for both domestic and international markets is used for animal feed, while a large percentage of wheat grown for international markets is used for human consumption. Some developing countries must import food to improve their diets, but they do not have sufficient income to pay for the food. These countries receive only about 15% of the U.S. grain exports. And while the amount of U.S. exports of corn, soybeans and wheat has nearly doubled since 1970, the money has not been seen by American farmers. Grain prices are at record lows. Dr. Dick Levins of the *University of Minnesota* examined the farm income in two agricultural Minnesota counties. He found that in spite of dramatic increases in yields and farmer efficiency, the farm income was virtually unchanged in these counties over the past 25 years.

'What is the role of grain exports to the U.S. economy and can the increase in grain exports, assuming markets exist, be used to justify the costs to the taxpayer of enlarging the Mississippi River locks? Will an increased ability to move grain from the Midwest to the Gulf measurably benefit individual farmers, or will the primary financial gains be made by the marketers and processors, both foreign and domestic? And when the costs of the lock and dam system expansion are assessed, to what degree will the environmental effects on the river and on the Gulf of Mexico be considered?

'It seems to us that public awareness of this issue must be raised and the lock and dam project debated. U.S. agriculture and rural farming communities are in dire need of help. It will take vision and creative approaches to work ourselves back to a prosperous, environmentally friendly agriculture that favors the family farm. The Export Facilitation Act, largely a public subsidy to grain traders, lacks that vision. Increasing export of grains out of the Midwest is not going to be the answer."

Source: Dennis Keeney and Mark Muller, *Des Moines Register, 7/7/99.* Keeney is Director of the *Leopold Center for Sustainable Agriculture* at *Iowa State University* and President of the *Iowa Environmental Council*. Muller is a Senior Associate at the *Institute for Agriculture and Trade Policy*, Minneapolis

Round Goby Invasion

Experts say recent findings of the round goby in Lake Ontario are "grounds for serious alarm." A similar alarm has been sounded for the Mississippi River Basin. The small fish, native to the Black and Caspian Seas, feeds on the offspring and eggs of native fish (i.e. smallmouth bass, walleye, perch, lake trout, etc.) while driving them out of habitat and spawning grounds. The invader is only about four inches long but it threatens to alter ecosystems and is attracting the sort of attention normally reserved for more dangerous ocean predators. "This animal has found a niche very much to its liking," said biologist Ron Dermott of Canada's Department of Fisheries and Oceans.

It turned up in 1990 in Lake St. Clair, evidently after arriving in the ballast water of an ocean-going vessel. "As we get into a more and more global economy and global trade, the pathways for these exotics to come into our waters, and have a significant effect, increases," said John Mills, regional director general of Environment Canada. He said the increasingly aggressive goby is beginning to displace other fish like perch, monopolize the food available to other forage fish, and deny others access to spawning grounds.

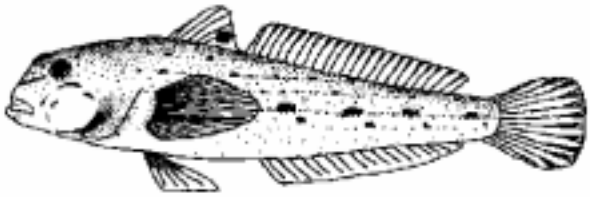
The goby's only known benefit is that it feeds heavily on zebra mussels, which clog water intake pipes, but not enough to eliminate that problem species. Goby predators include sturgeon, bass or pike, but it "will chase away a fish twice its size," biologist Dermott added. Strategies that Canada is employing to limit the proliferation of gobies include educating boaters on the proper inspections of boats. In addition, the Coast Guard and Transport Canada inspect commercial vessels to ensure they transfer bilge and ballast waters properly, displacing gobies before they enter the Great Lakes system. "...there are probably a few dozen nonnative species in the Great Lakes basin," said Environment Canada scientist Harvey Shears. "At some point, we've got to try and stop the invasion because we just can't predict how the system's going to respond." However, Mills said the problem is that eliminating a species after it has become established is

"usually impossible," but that it may be possible to slow their spread

Canadian officials, worry that the goby could injure the area's $100 million fishing industry and, "are moving full speed ahead" to get control measures such as ballast-water exchange in place. But U.S. and Canadian officials disagree on the effectiveness of ballast-water exchange. The U.S. requires ships headed for the Great Lakes to dump stowaways in the North Atlantic. But some Canadians say because of rough conditions at sea, the U.S. requirement is "difficult if not impossible." The UN's *International Maritime Organization* hopes to have global regulations of ballast-water management in place by 2002 or 2003

Round gobies have become so abundant along the Illinois and Indiana lakefront in Lake Michigan that *Perch America*, a perch fishing organization, sponsored a "big-money" goby tourney to help get rid of the pesky critters. Eddie Landmichl, president of *Perch America*, said his group sponsored the tourney to help the U.S. Fish and Wildlife Service catch at least 1,500 live gobies for special toxicity tests. Prizes of $100 to $200 were awarded to anyone who brought in a suitably big goby. *Perch America* paid $100 for a **10-incher**, while *Lakeside Bait & Tackle* in Hammond, Ind., coughed up $150 for a **12-incher**. The best way to catch gobies is with a No. 8 Aberdeen hook tipped with maggots, redworm pieces or bee moth fished on the lake bottom against seawalls.

The point source for introduction of round gobies into the Mississippi River Basin is a man-made canal system (*Cal-Sag and Chicago Sanitary and Ship Canals*) that provides an aquatic connection between Lake Michigan and the Illinois River. This is the same pathway that the infamous zebra mussel used to invade the Basin. That species, able to attach itself to barges by secreting "byssal threads", has now found its way to every reach of the Basin where commercial towboats travel (*see accompanying photo*). Zebra mussels are costing American citizens billions of dollars annually in control costs and lost revenues. In addition to barges, the mussel is able to attach itself to any solid object, and so clogs water intakes and literally covers outboard motors, boat docks, and native mussel species shells. It has become so abundant in some reaches that it is even depleting dissolved oxygen levels and killing native mussel species by sealing their shells shut, raising concern that it will lead to the extinction of some species.



"Round goby"

The round goby has already followed the path of the zebra mussel, finding it's way out of Lake Michigan and into the Cal Sag and Sanitary and Ship Canals. MICRA Chairman, Bill Reeves (TN) raised concerns about the round goby invasion in an 8/25/99 letter to the *Aquatic Nuisance Species Task Force* (ANSTF). The ANSTF, charged with addressing issues related to invasion of exotic species, is cochaired by the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration. Reeves called the canals "...a significant point source for the spread of exotic species from the Great Lakes to the Mississippi River Basin". Reeves also said that unless action is taken to control this problem, the round goby is expected to significantly impact fish species such as smallmouth bass, perch, walleye, and lake trout, all of which support significant local and regional fisheries throughout the Basin.

The Corps of Engineers plans to install an electric fish barrier in the canals next Spring in hopes of corralling the goby in the canals, but the efficacy of this measure is not known. Gobies have already been found at the confluence of the Cal-Sag and Sanitary and Ship Canals, about 7 mi. upstream of the proposed electric barrier site. This is a movement of about 15 mi. from last year's most downstream point of known occurrence. MICRA's *Aquatic Nuisance Species Committee* Chairman, Jay Rendall (MN) said that at the present rate of spread, the gobies will likely move past the electric barrier location before it becomes operational.

Zebra mussels attached (below the waterline) to an "unloaded" barge.

As a consequence, an interagency panel has been considering this problem and has evaluated the use of the following additional control measures:

- Canvas electric barrier - This would take 60 to 90 days to install and may not hold up under barge traffic;
- Hydraulic barrier - This has not been field tested and would require significant effort including recessed piping in the walls and bottom of the canal to avoid barge damage;
- Oxygen reduction - This option could be used as a supplemental tool to prevent goby spread, but was not considered as a primary tool for the following reasons: (1) turning off the aeration station at the confluence may not kill the gobies and may push those at the confluence further downstream; (2) and the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) is very sensitive to actions that may cause them to violate the water quality provisions of their existing permits from the state and the USEPA; and
- Piscicide application - The following factors favor this approach: (1) gobies do not avoid two piscicides (i.e. antimycin or baylicide); (2) the pH of 7 for the canal water is good for the suggested piscicides; and (3) a bottom formulation could be used to keep the piscicide in the target area of the waterways.

The consensus of panel members was that piscicide application was the only possible solution that could be implemented in a timely manner with a likelihood of success. MICRA supported this decision but added the following recommendations:

- Treat an area of the Illinois waterways from approximately 1/2 mile downstream of the confluence of the canals upstream in each canal to a point about 1/2 mile beyond the confluence (estimated cost $60-80,000) as soon as possible (i.e. **before September 15**);
- After the treatment, temporarily stop aerating the water at the confluence of the canals until the proposed electric barrier is in place;
- Retreat as necessary until the electric barrier is installed;

- Continue monitoring to determine goby distribution in the waterways; and
- Evaluate the feasibility of amending the MWRDGC permit to require that the aeration devices in the Cal-Sag and Sanitary and Ship Canals be periodically turned off for a time long enough for the waters to go anoxic and kill any species present. Although this would also kill any native species which entered the canals, it would help to stop the spread of the invaders.

MICRA felt that a multifaceted approach of using both of these techniques and the electric barrier is needed because the electric barrier alone will likely not be 100% efficient. MICRA further recommend that the USEPA conduct a feasibility study as soon as possible and amend the MWRDGC permit, as appropriate. Reeves stated that the "importance of the native fish and the sport fisheries of the entire Mississippi River Basin far outweigh that which may be provided by the artificial canals."

MICRA's 9/15/99 recommended piscicide treatment deadline was not met due to regulatory constraints, and as far as we know Illinois (who has to push the regulatory process) has not expedited it, so a piscicide treatment will likely not be completed before the water cools to 60 °F, the point at which efficacy of the selected chemical drops off significantly. Also, the USEPA and MWRDGC both oppose shutting off the canal aeration devices as a supplemental measure to kill the gobies by letting the water go anoxic.

Another control method, not mentioned in MICRA's letter, but being discussed in some circles, is to stock the canals with large numbers of native predatory fish such as flathead catfish to prey on the gobies. This technique has reportedly been used with some success to control bullheads in Illinois power plant lakes, and may show promise in the canals. This technique would likely, however, require an ongoing stocking commitment, since the canals are not closed systems and some flatheads would likely escape through the locks.

As noted earlier, round gobies arrived in North America about 9 yrs. ago, likely in the ballast water of foreign freighters. The global economy and global trade have thus become troubling pathways for exotic species introductions, making this a federal issue. The burden of responding to this "biological pollution" should therefore not fall with the MICRA states or the sport fishing public, but should be primarily a federal responsibility with funding for prevention and control measures coming, in some way, from the entities primarily benefitting from the presence of the "point source of pollution" (i.e. Cal-Sag and Sanitary and Ship Canals). The benefitting entities in this case are primarily the maritime industry (a small number barge and towing companies), and to a lesser extent, the MWRDGC.

The bottom line is that this is yet another impact of commercial navigation. These canals are reportedly maintained for the use of only a small number of towboats and barges. An even smaller number of recreational craft use them. Lake Michigan water used by the City of Chicago for domestic and industrial purposes, for the most part, is pumped through the city's water treatment system where, for all intents and purposes, all biological life is destroyed before it is released into the canals and from there downstream into the Illinois River and the Mississippi River Basin.

An evaluation (environmental and economic) is needed to determine the cost effectiveness of maintaining the aquatic connection these canals provide between the Great Lakes and the Mississippi River Basin. Closing this "point source of biological pollution" is not just a situation of stopping the spread of the round goby, and wishing we had stopped the zebra mussel before it. There are other species (e.g. river ruffe, various species of crustaceans, and other as yet to be identified species, including one that is said to cause cancer in fish) waiting in line to enter the Mississippi River Basin via these canals. The federal government is attempting to address the ballast water issue, but in the meantime the towing industry is getting another "free ride" while precious state and federal fisheries monies and resources are being "wasted" on the control of the aquatic invaders being allowed to enter the Mississippi River Basin through these canals. Our best advice is to:

"Stop the Invaders Now, Close the Canals!"

Sources: *Environment Canada release*, 7/28/99; Scott Sunde, *Seattle Post-Intelligencer*, 7/29/99; Ruth Walker, *Christian Science Monitor*, 8/2/99; John Husar, *Chicago Tribune*, 9/1/99; National Journal's GREENWIRE, *The Environmental News Daily*, 7/29, 8/2/99

Bighead Carp Concerns

The bighead carp (*Hypopthalmichthys nobilis*), a large-bodied planktivore native to eastern China, was introduced into Arkansas in 1973 in an attempt to improve water quality in fish hatchery production ponds. A year later regulations were mandated to restrict stocking of the species into the State's public waters, and the control of accidental introductions was investigated. Similarly, in Kansas the importation and possession of bighead carp were prohibited in 1978. Despite these regulations, the species found it's way upstream into the Mississippi and Missouri river systems, and is currently reported in 22 states (AL, AR, AZ, CA, CO, FL, IA, IL, IN, KS, KY, LA, MO, MS, NE, OH, OK, SD, TN, TX, UT, and WV).

The diet of hatchery-reared bighead carp, raised alone in aquaculture ponds, was documented to consist of up to 86% zooplankton, including cladocera and copepoda. It is thus likely that bighead carp are negatively impacting native planktivorous fish, such as bigmouth buffalo (*Ictiobus cyprinellus*) and paddlefish (*Polyodon spathula*). Paddlefish populations have been declining in major U.S. river systems since 1900 due to over exploitation, habitat alteration, and habitat destruction. And MICRA was formed by the Mississippi River Basin states in the late 1980's out of a shared concern over declining paddlefish populations.

Spawning habits of bighead carp are not documented in the U.S., but in Asian and European rivers spawning is triggered by rising Spring water levels, peaking in late May. Spawning typically occurs at the confluence of two rivers, behind sandbars, stonebeds, or islands, in habitats characterized by rapid current (> 0.8 m/s) and mixing of water. Bighead carp eggs are semi-buoyant and require a current to float. One day after fertilization, the eggs hatch and enter the ichthyoplankton drift. Six days later, the larval bighead carp migrate to shore, and flood plains associated with rising water levels thus provide nursery areas. Optimum water temperature for spawning is 22-26 °C, and must be greater than 18 °C. Bighead carp often have 2-3 spawning periods per year.

The species reaches sexual maturity at 3-9 years of age, depending on environmental conditions. Average weight and length of sexually mature individuals have been

documented at 50-70 cm and 5-10 kg, respectively. Males generally mature one year earlier, at smaller sizes than females. Fertility increases with increasing age and body weight, and is directly related to growth rate -- an 18.5 kg female is capable of producing over one million eggs.

Bighead carp populations seem to be on the rise in the Mississippi River, with the first reported catches (300 lbs.) occurring in Tennessee's commercial fishery data this year. Also reports of at least 3 year classes (up to 30 in. long) were documented this Summer by the Upper Mississippi River Long Term Resource Monitoring Program field station at Cape Girardeau, MO.

Concerns over continued expansion of bighead carp populations have prompted four MICRA states (IA, KS, MO, and SD) to begin developing a multi-state study of the species. The research, scheduled to begin in 2000, will likely be conducted by the respective Cooperative Fishery Research Units of the participating states. It will document population characteristics including: current distribution, food habits, recruitment, growth, mortality, rate of expansion, and range limitations in the lower Missouri River (i.e., Gavins Point Dam to the Mississippi River confluence.

Sources: Sally Schrank, *ANS Digest* 3(3):26-28; Robert Todd, *Tennessee Wildlife Resources Agency*, 9/8/99; and Bob Hrabik, *Missouri Dept. of Conservation*, 8/3/99

Caviar Controversy Continues

On 9/20/99 MICRA received an email message from Dr. Vadim Birstein, *American Museum of Natural History* in New York, transmitting a copy of a letter he had written to Dr. Robert Jenkins, Chairman of the *CITES Animals Committee* raising concerns regarding the way in which the U.S. Fish & Wildlife Service (USFWS) is handling "implementation of the CITES listing of sturgeons for the future actions under the CITES". In this letter Birstein accuses the USFWS of using "pseudoscience as a tool for legal international actions".

Specifically, he points to new facts released by the USFWS Division of Law Enforcement during a trial in Federal Court in New York (i.e. Civil Actions Nos. CV 98-7047 and 98-7232) which show that caviar species identification by the USFWS Forensics Laboratory (FL) using its "so-called 'molecular method' is not based on scientific data". Birstein calls the method a theoretical invention of its author, Dr. Steven Fain, and points to the following scientific problems:

• The USFWS molecular method...is not based on experimental data because it did not use enough tissue samples of the target species to prove statistically that the method works. Also the method has never been peer reviewed by independent scientists or published in a professional journal. Despite all this, beginning on 4/1/98, the FL used its method for testing commercial shipments of caviar to the U.S. Since then, several tons of caviar were stopped, destroyed or rotten.

• Tissue samples presently available to the FL includes only a few scientifically valid samples (i.e. from fish identified by a sturgeon expert) from each of the three main commercial sturgeon species (i.e. the beluga *Huso huso*, sevruga, *Acipenser stellatus*, and Russian sturgeon, *A. gueldenstaedtii*). All valid FL samples represent only one population (Volga River) of each species. In the meantime, each of the three species consists of many populations living in three basins of the Caspian, Black, and Azov seas. According to statistics, the FL needs to have tissue samples from at least 10-20 sturgeons representing several populations of each species.

• The FL ignores the basic principles of scientific sampling:
- In his tests Dr. Fain uses tissue samples from unknown fish of unknown location obtained at fish markets (without supervision of any sturgeon expert) as reference standards of beluga and Russian sturgeon;
- Dr. Fain uses tissue samples from unknown fish from unknown location as references for the Siberian sturgeon, *A. baerii* (presumably *A. b. baicalensis*). These fish, seized by the Customs of Florida, were described (in a letter from Allan Brown, Florida Customs) as follows: "Warning: these fish STINK. Even though they were frozen immediately after they died, they smell terrible, even when frozen." These fish have never been identified by any expert on sturgeons. Despite this, the "stinking fish" of unknown origin and location are used by the FL as standards for its forensic identification.

• In his method, Dr. Fain is using a very short region of the mitochondrial cytochrome b gene (cyt b), which consists of only 270 nucleotides (or base pairs, bp). This region does not contain diagnostic nucleotides for all sturgeons species (5-7), as Dr. Fain claims.

• Dr. Fain does not use special computer programs for the analysis of the DNA sequences. Instead, he picks up by hand nucleotides from 28, as he believes, informative diagnostic sites from the original 270-bp sequence. Dr. Fain has never revealed any reason or scientific proof for choosing these 28 nucleotides. Dr. Fain has never presented experimental data that would show that the extraction of these 28 bp in fact can be used as a characteristic of a species.

• Taking into consideration that the FL's collection of tissue samples consists of only 10 scientifically valid samples of *A. gueldenstaedtii*, 9 samples of *A. stellatus*, and 8 samples of *H. huso* from only one population of each of the species, the FL CANNOT provide scientific proof that its method in fact is working.

• Because of the lack of samples, Birnstein says Dr. Fain falsified the data. The "identification" of the ship sturgeon, *A. nudiventris*, caviar is a good example. Birnstein says that during the preliminary court hearing on 12/5/98 Dr. Fain testified that for the identification of *A. nudiventris* he had used data from the GenBank (access No. AF006152), which Birnstein and his colleagues had developed. Regarding that data Birstein said, "We studied only one specimen of *A. nudiventris*. Potentially, we could have made a mistake or mistakes in the sequence." Birstein points out that this can happen in a routine scientific study, but it is not acceptable in forensic science. But to have a characteristic of a species (including a DNA sequence), one needs to study at least 10-20 individuals, and if a species consists of many populations, a researcher is obliged to study 10-20 individuals from each of the many populations. Birnstein says the lack of samples resulted in a manipulation of the data where "...caviar from unknown, unidentified sturgeon species from unknown location through Dr. Fain's manipulation becomes a tissue standard from a known identified species caught in a known location".

• The FL is using for testing only 1-2 eggs for a caviar sample. This is, again, statistically not enough for a serious conclusion. Birnstein points out that during the testing, a researcher can fail with one egg (as it was revealed during hearings, it happens in the practice of the FL) and it is clear that the

result of testing one egg cannot be conclusive (a lot of mistakes could be made during the many steps of testing). If a researcher expects that a sample of caviar can be a mixture of caviar from two species, he needs to test 8-10 eggs.

• Even if we are to believe that despite all above-mentioned problems the FL's "method" is working, the records of the FL show that it is extremely unreliable. From 5/12/98 till 3/2/99 the FL failed to identify 20% of caviar samples declared as *A. gueldenstaedtii* (23 of 115 analyses), 7% of samples declared as *A. stellatus* (7 of 98 analyses), and 20% of samples declared as *Huso huso* (20 of 103 analyses).

Birnstein concludes that "...testing samples from commercial caviar shipments by the FL must be stopped immediately in the USA and the FL's method must be reviewed by a group of independent (not employed by the USFWS) experts in molecular genetics and conservation biology". Birnstein further proposes that the *CITES Animals Committee* "introduce a rule to submit any unpublished method which potentially could be used for the CITES implementation for a review by experts from the *National Academy* of the country which offers the method, or by any other internationally recognized group of independent scientists".

Birnstein says that several tons of caviar have been seized and destroyed since 4/1/98 on the basis of results of the FL analyses. Unfortunately, these seizures have had "...NO impact on sturgeons in the Caspian Sea. But they are effectively destroying several small family businesses here, in the United States". When a caviar shipment arrives in JFK, the sturgeon females have already been killed, processed and caviar produced. The Russian partner has already been paid (Russian businessmen demand prepayment in their international export-import deals) even if he had cheated his American partner by putting the wrong name of sturgeon species in the paperwork, including the CITES permits. If the caviar shipment was stopped by the USFWS and goes rotten, only the American businessman is hurt. The Russian businessman continues to catch the fish without change because he has an option: to send his next caviar shipment to Europe, where no molecular testing is implemented by the CITES authorities and implementation consists of simply checking the documents. The intensity of the sturgeon catch in the Caspian, Black, and Azov seas is thus not affected by the USFWS seizures.

Birnstein says, "I believe that the idea of the CITES implementation was to save sturgeons in the wild...In the worst nightmare I could not imagine that our efforts would become a Kafkian-Orwellian process of caviar testing in the United States using a scientifically inadequate method, a process that has nothing to do with saving sturgeons from extermination".

Birnstein says the second consequence of the sturgeon CITES listing is that international projects and research have become almost impossible. The CITES listing made an exemption for 250 gms. of caviar which can be brought into a country by anybody without special permission. But CITES did not provide any exemption for scientific samples so that now a scientist cannot send even one egg fixed in alcohol to a colleague in another country for a genetic study. This means the end of working relationships between scores of scientists located in different countries because of bureaucratic reasons. Birnstein says, This "...is absolutely destructive to the long term survival of sturgeons." Birnstein thinks it is time for the CITES to make an exemption for tissue samples for DNA studies. These samples have nothing to do with the trade and convention. The current regulations disrupt international scientific contacts and the development of scientific knowledge necessary for conservation work worldwide.

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Janet Reno's Huck Finn Project

Federal prosecutor Charles Grace describes the Mississippi River as "...probably one of the top two or three great resources this country has physically...But we have used this resource in modern times in a way that has degraded it." It is now often unsafe to swim in or eat fish from much of the world's third-longest waterway, and the habitats that the river basin provides for birds and animals from the Allegheny Mountains in the east to the Black Hills in the west are fast disappearing. Environmentalists also believe pollution from the Mississippi River has caused a 7,000 mi^2 dead zone in the Gulf of Mexico (See *Dead Zone Grows*). Such concerns prompted Grace - who oversees federal cases in Illinois' 38 southernmost counties - to work to reverse the tide of pollution. To do so, he pulled together people from many levels of government: the USEPA, state environmental agencies, the Fish and Wildlife Service , the Coast Guard and other U.S. attorneys; and over the past two years has gone after polluters throughout the Mississippi River Basin. The federal *Mississippi River Initiative* - or Attorney General Janet Reno's *"Huck Finn" Project*, as it is affectionately known - has produced dozens of criminal convictions and millions of dollars in civil penalties and restitution.

Polluters have been caught dumping raw sewage and industrial waste into the river and its tributaries, destroying nearby wetlands, even emitting toxic chemicals into the air that could turn into acid rain and harm the water. The accused include: an oil refinery in Chicago's south suburbs; another in Roxanna, IL; the city-owned wastewater treatment plant in Youngstown, OH; a concrete company in CO; a truck driver in LA; a hog farm in IA; and a riverboat casino in St. Louis, MO.

But dedicated Mississippi River watchers - including those responsible for the program - also recognize their limited ability to make a huge dent in how dirty the river system is. The most significant source of the water's ills is runoff from farms, construction and residential areas. That type of pollution is not regulated by the Clean Water Act. And since the agencies involved - which already are financially strained - get virtually no new money, they cannot handle many of the complex, science-heavy cases. Instead, they've picked the most egregious examples and hoped the ensuing publicity makes potential polluters think twice.

In the intensified effort's first year, 142 cases were filed, resulting in $28.9 million in penalties and restitution. By 9/98, there were 54 criminal convictions, as well as 18 civil actions and 93 administrative cases brought by the USEPA. Since then, there have been 14 new civil actions, bringing in another $52.9 million in fines and commitments to clean up their messes, purchase wetlands, stabilize stream banks and perform other environmental restoration, as well as 120 new administrative cases. The Justice Department could not give a total number of the additional criminal cases, but they include:

• Indictments against *Chemetco Inc.'s* Hartford, IL, copper smelting plant and five

of its employees for allegedly installing a secret pipe a decade ago that has spewed metal-laden sludge into Long Lake, a creek that empties into the Mississippi. A sixth employee pleaded guilty and is cooperating with Grace's office.

• $19 million in fines and restitution assessed in 12/98 against *Burlington Northern and Santa Fe Railway Co.*, for dumping thousands of tons of lead waste at a rail car cleaning operation in Cherryville, MO.

• A pending settlement with *Material Service Corp*. that would require the company to pay $7.5 million in penalties and to buy wetlands for letting its dolomite mining operation destroy about 40 acres of wetlands near the Des Plaines River outside Chicago (See *Miscellaneous River Issues*).

"It's not just a cost of doing business, where you pay a fine," said U.S. Attorney Ed Dowd, who oversees Missouri's eastern district. "We're putting people in prison." Even environmentalists, accustomed to criticizing the government's performance as a steward of natural resources, cheer the program. Reno and Assistant Attorney General for Environment and Natural Resources Lois Schiffer have "pursued this like Elliot Ness pursued Al Capone. These are two tough ladies," said Scott Faber of the Washington-based conservation group *American Rivers.* "I think it's terrific that people who dump tires or oil into the Mississippi River are going to jail."

Source: Jennifer Loven, *Associated Press Newswires*, 8/2/99

Ag Waste Update

Drawing criticism from both farmers and environmentalists, the USEPA has announced new restrictions on two widely-used pesticides. The agency will restrict the use of both *azinphos methyl* and *methyl parathion* beginning with next Spring's growing season. *Azinphos methyl* use must be reduced and *methyl parathion* will no longer be allowed for produce applications, but much of the *methyl parathion* use is not affected by the new rules. Last year, 4.2 million pounds of the pesticide were applied to 4.9 million acres, but about 75% of the acreage produced cotton, corn and wheat, which do not fall under the new restrictions. USEPA Administrator Carol Browner said children's health concerns prompted the move. The action is the agency's first "major step" under the 1996 Food Quality Protection Act, which gives EPA the power to review 10,000 pesticide uses. Although manufacturers agreed to the limits, farmers are concerned that no affordable replacement exists and that the EPA move will create unfounded fears about food. Meanwhile, the *Natural Resources Defense Council* and several environmental groups announced that they will sue the EPA for not moving quickly enough, because they failed to meet deadlines set by Congress in 1996.

Meanwhile, according to a *University of California - Los Angeles* (UCLA) study published in the 8/20/99 issue of the journal *Science*, Midwest topsoil erosion has declined since the 1930s. The study attributed the trend to improved farming practices and soil conservation efforts. Led by UCLA's Stanley W. Trimble, the researchers examined the Coon Creek Basin in western Wisconsin and found "a real success story in the soil conservation field." Trimble said, "When people say soil erosion is as bad now as it was in the 1930s, it indicates they are absolutely clueless about what was happening in the '30s." Trimble said many agriculturally disturbed basins in the eastern U.S. are likely to show similar progress but on differing magnitudes. The research confirms other surveys, and the Agriculture Dept.'s National Resources Inventory has indicated a general decline in soil erosion in recent years.

New controls in Maryland, Virginia and Delaware have shifted some of the burden of poultry waste control to the big parent poultry companies. Currently, local farmers who grow chickens for the large companies "are left to deal with the several hundred chickens that usually die before maturity as well as the manure all the birds generate." But MD, VA, and DE lawmakers, regulators and environmentalists wanted the sponsoring companies to take responsibility for the waste since they actually own the birds. A national strategy to reduce farm pollution released by federal regulators in March urged states "to pin legal liability" for manure disposal on poultry companies. But chicken companies say they can't afford the extra financial responsibility, and argue that manure is a valued commodity that contract growers use to fertilize their fields.

According to a report released in mid-September by the *Sierra Club* factory-style hog and chicken farms receive millions of tax dollars to pollute air and water. The report, which examines public subsidies received by 10 large livestock operations, found the farms have benefited from tax dollars for road improvements, railroad spurs, worker training and wastewater treatment plants. At the same time, livestock waste is contaminating water supplies. The companies profiled in the report are Kentucky-based *Cagle's Inc*.; Illinois-based *Murphy Family Farms*; Mississippi-based *Prestage Farms*; Arkansas- based *Tyson Foods, Inc*.; Utah-based *Circle Four Farms*; Maryland-based *Perdue Farms*; Oklahoma- based *Seaboard Corp*.; Iowa-based *DeCoster Farms*; Missouri-based *Premium Standard Farms*; and North Carolina-based *Smithfield Foods.*

In **Arkansas** *Tyson Foods Inc*. violated state regulations more than any other hog producer, according to a report released by the *Arkansas Public Policy Panel* and *Arkansans for Responsible Agriculture.* The groups said Tyson violated its AR Dept. of Environmental Quality permits 135 times between 2/96 and 6/99. A Tyson press release called the report "absolutely false".

In **Georgia** the Board of Natural Resources adopted a budget request on 8/25 that would add 60 people to the state's Environmental Protection Division (EDP). The increased staff would, in part, help the EDP enforce new hog farm regulations, and crack down on stormwater runoff.

In **Iowa** many older, earthen hog-waste lagoons are "oozing" chemicals and failing state environmental standards, according to an investigation by *Iowa State University*. The research, released on 8/23, found that the lagoons generally contain as much manure as they were designed to hold when they were built 5-12 yrs. ago. But more than a third of the 34 lagoons studied have leaked too much to meet "tough" state standards that

took effect this year. The investigation showed that pollutants seeped from the lagoons into surrounding areas, but not to the degree researchers predicted. Lead researcher Stewart Melvin said, "Our data indicate that most structures are meeting the standards to which they were built. We find that encouraging." But because those standards have changed, researchers called for better management of the lagoons. The *Iowa Farm Bureau* said the report shows "the lagoons did the job they were supposed to do," while the *Iowa Environmental Council* said the study is "evidence that waterways are threatened by hog-manure pollution", and called for regular testing at each site

In **Kansas** the Dept. of Health and Environment will require hog farms with more than 10,000 animals to line waste pits with plastic to keep manure out of groundwater supplies, according to the state's top environmental officer, Clyde Graeber. Water supply managers welcomed the move, but said the action "does not go far enough." Mike Dealy of the *Groundwater Management Dist. 2* in Halstead, said large hog farms are rarely located near heavily populated areas and that the biggest risk to aquifers are medium-sized farms that are not being required to line their pits. But pork producers say the action "goes much too far." Mike Jensen of the *Kansas Pork Producers Council* criticized Graeber for an "ongoing vendetta against the swine industry." The debate over KS hog lagoons has heightened because *Seaboard Farms*, one of the country's largest swine producers, has announced plans to build a packaging plant near Great Bend that would process 4 million hogs/yr., twice the number currently raised in the state.

In **Kentucky** "an opening shot in what could be a major environmental battle of the 2000 General Assembly," KY *Sierra Club* leaders called on Gov. Paul Patton (D) on 9/15 to impose a moratorium on chicken houses until the Legislature passes regulations to prevent massive amounts of manure from contaminating water.

In **Maine** four state agencies recently signed an agreement to implement the Nutrient Management Revolving Loan Program, which will provide as much as $6 million to ME farmers to improve handling of manure and milk-room wastes

In **Massachusetts** the USEPA on 7/30 made a farm the first in New England to be regulated as if it were a factory or sewage treatment plant subject to "massive" fines or closure. The National Pollution Discharge Elimination System permit is normally required for manufacturers and wastewater treatment plants and sometimes large Midwestern dairy farms. Under the permit, Jose Pimental's 450-cow, 30-acre farm near the Westport River could be fined or shut down if he disobeys instructions on how to stop the pollution. Manure from Pimental's farm flows into the river and a nearby creek, driving bacteria levels up to 8,000 times the safe level. The new permit is a warning to other New England farmers that if their farms pollute waterways, "they, too, may face the heavy hand of federal manure regulation".

In **Missouri** an "unprecedented" deal has been struck with MO hog producer *Premium Standard Farms* who has agreed to pay a $1 million fine and invest $25 million in new technology to reduce its pollution. MO Attorney General Jay Nixon filed a lawsuit in January accusing the state's largest hog producer of numerous manure spills and other violations of anti-pollution laws. The fine is the largest ever levied against a U.S livestock farm.

In **New Yor**k the largest *E. coli* outbreak in state history may have been caused by farm runoff, officials say. One girl has died, and more than 150 people ingested the bacteria after attending the Washington County Fair in Greenwich, in late August. Officials say the bacteria may have found its way into the fair's water supply after a "major downpour" on 8/26. Runoff was washed from a nearby barn into the aquifer the fair used for its water. And because the water table was lower due to the drought, the well was unable to reach the purest water. Officials have not been able to find a pattern among those who became ill, but the water could have been used to make ice, wash lettuce and prepare food.

In **North Carolina** hurricane Floyd's heavy rains ruptured a hog waste lagoon in Duplin County, spilling about 2 million gallons. The spill threatened to pollute a tributary of the Cape Fear River, which supplies Wilmington's drinking water. Ernie Seneca of the state water quality division said officials would be monitoring other hog waste lagoons.

In **Ohio** Gov. Bob Taft (R) announced on 7/20 a new program to encourage farmers to use strips of land near streams as buffer zones to block pollutants from reaching the waterways. Meanwhile, three residents of Licking County, are suing the *Buckeye Egg* farm for $11.5 million, saying chicken manure and fertilizer spilled into creeks that pass through their properties.

In **Oklahoma** on 8/10, the Water Resources Board denied the state's largest hog producer, *Seaboard Farms*, a water permit for a huge facility in Beaver County. *Seaboard* said it has already spent $10 million on the facility after being granted construction permits by the state Agriculture Dept. and has taken the 25,000 hog farm issue to court. The board said state law forbids locating hog farms within three miles of a nonprofit facility that conducts recreational activities. The proposed farm is three miles from the 22-member *Bethel Church of God* in Beaver County.

In **Oregon** a U.S. district judge ruled on 7/29 that a Yakima Valley dairy farmer is liable for 15 violations of the Clean Water Act for polluting water with cow manure. Henry Bosma could face fines of more than $350,000. Judge Edward Shea also ruled that irrigation canals can be classified as federal waterways protected by the Clean Water Act.

In **Virginia** the *VA Poultry Federation* is setting up a toll-free hotline that will help connect poultry growers who have surplus litter with those who need it for cattle feed or crop fertilizer. The *Chesapeake Bay Foundation*, which lobbied for the provision, hopes it will help control poultry pollution and decrease the amount of nutrients in state waterways. Meanwhile, a federal appeals court upheld a lower court ruling in mid September that requires pork processor *Smithfield Foods Inc*. to pay $12.6 million – the largest fine ever imposed under the Clean Water Act – for polluting the Pagan River earlier this decade. Justice Department lawyers accused *Smithfield Foods* of "willfully polluting" the river from 1991-97 to avoid expensive improvements to wastewater treatment plants at its two riverside slaughterhouses. *Smithfield Foods* claimed an agreement with the VA Department of Environmental Quality allowed the company to exceed phosphorous discharge limits with an agreement to connect its plants to the *Hampton Roads Sanitary District System*. But the three-judge panel said the agreement did not apply to the federal government. The state of VA has filed a separate lawsuit against *Smithfield Foods* for "slipshod management" that caused other pollution, and record-keeping violations.

Meanwhile, producers say environmental rules are being used "to keep out an emerging industry that does not fit with the rural tradition of the family farm", a debate often driven by emotion and nostalgia. Mark Drabenstott, VP at the *Federal Reserve Bank* in Kansas City, and an expert on the rural economy, says "the industry is going to go where it feels welcome." He notes that big producers have started raising some pigs in the western provinces of Canada and are considering doing the same in Mexico.

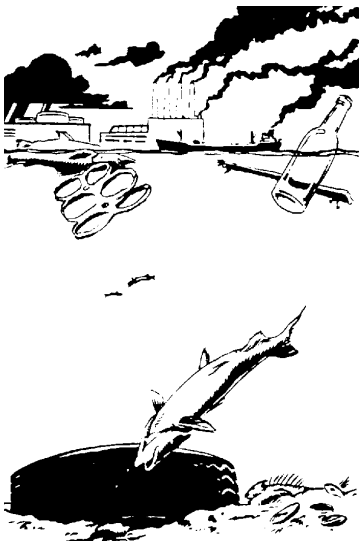
Sources: Tom Kenworthy, *Washington Post*, 8/3/99; Lisa Ramirez, *Philadelphia Inquirer*, 8/3/99; Matthew L. Wald, *New York Times*, 8/3/99; *Wall Street Journal*, 8/3 and 8/20/99; *AP/Richmond Times-Dispatch*, 8/20/99; Peter S. Goodman, *Washington Post*, 8/3/99; *Sierra Club release*, 9/15/99; Barbara Wieland, *Little Rock Arkansas Democrat-Gazette*, 7/21/99; Dave Williams, *Augusta Chronicle*, 8/26/99; Perry Beeman, *Des Moines Register*, 8/24/99; Jean Hays, *Wichita Eagle*, 8/3/99; Andy Mead, *Lexington Herald-Leader*, 9/16/99; *Portland [ME] Press Herald*, 8/24/99; Scott Allen, *Boston Globe*, 8/1/99; Michael Mansur, *Kansas City Star*, 7/29/99; Amy Waldman, *New York Times*, 9/7/99; Sylvia Wood, *Albany Times Union*, 9/7/99; Manware/Perlmutt, *Charlotte Observer*, 9/17/99; John Seewer, *AP/ Cleveland Plain Dealer*, 7/20/99; *Columbus Dispatch*, 8/7/99; Mick Hinton, *Oklahoma City Daily Oklahoman*, 8/11 and 9/14/99; Mark Jewell, *AP/Portland Oregonian*, 7/30/ 99; Calvin R. Trice, *Richmond Times-Dispatch*, 8/2/99; Alan Cooper, *Richmond Times-Dispatch*, 9/15/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 1/21; 3/9; 3/19, 7/22; 8/2, 8/3, 8/4, 8/10, 8/12, 8/16, 8/20, 8/25, 8/26, 9/7, 9/14, 9/15, 9/16 and 9/17/99

Dead Zone Grows

The largest ever low oxygen zone off the coast of Louisiana was recently mapped by a team of *Louisiana Universities Marine Consortium* (LUMCON) research scientists. A preliminary estimate of the bottom area made by Dr. Nancy Rabalais puts the size at 20,000 km^2 (7,728 mi^2). This is about 2000 km^2 (700 mi^2) larger than the previously recorded maximum size in 1995. The expanse is about the size of the state of New Jersey, and if placed in the heart of the country would extend from Chicago, IL to Des Moines, IA.

The low oxygen zone, commonly referred to as the "dead zone", or region of "hypoxia" in scientific terms, stretched west from the Mississippi River delta all the way to the Texas border, and from very near shore along most of the Louisiana coast out to 10 ft. water depths. Off Grand Isle, LA, the low oxygen extended from shore to 24 km (15 miles) offshore, off Isle Dernieres to 56 km (35 miles), off Atchafalaya Bay 72 km (45 miles) and off Cameron, LA reached 88 km (55 mi.) offshore. The popularized name of the "dead zone" derives from the lack of sea life such as shrimp, crabs and fish in its bottom waters. When the oxygen levels in the bottom waters fall below 2 milligrams per liter (ppm), anything that can swim leaves the area. Animals that cannot escape, such as the clams, snails, and worms that live in the mud, eventually die if the oxygen levels are too low for too long.

Evidence of Mississippi and Atchafalaya River waters was apparent during the LUMCON mapping cruise in the form of much lower salinity surface waters and dense concentrations of phytoplankton (microscopic algae or plants). Low oxygen waters usually form each Spring and Summer as a result of discharge from the Mississippi River system. The fresh waters bring with them nutrients and overlie the heavier, saltier Gulf waters forming a two-layer system. The phytoplankton flourish in the nutrient-enriched surface waters. Eventually they die and sink to the bottom, or are consumed by zooplankton and the zooplankton fecal pellets sink to the bottom. The organic matter that falls into the lower waters and reaches the seabed is decomposed by bacteria, a process that uses up the oxygen in the lower water column. Low winds and calm seas occur more commonly in the Summer, providing the perfect conditions for persistence of the two-layer system and development of expansive zones of hypoxia off the coast. Low oxygen levels persist for much of the Spring and Summer only to be relieved when a tropical storm or cold front pushes across the Gulf and stirs up the water column.



A 2 yr. study conducted by the White House Office of Science and Technology Policy blamed fertilizer runoff from Midwestern farms for causing the "dead zone". The study concluded that the dead zone could shrink if farmers cut fertilizer use by 20% and restored 5 million aces of wetlands that could trap nutrients before they reach the waterways. The study attributed more than 50% of nitrogen in the water to runoff of crop fertilizers, with the rest originating from rainfall, sewage plants, manure, decaying plants and other sources.

But the *American Farm Bureau Federation* calls the data "questionable" and insists more research and voluntary reduction programs should preclude restrictions on fertilizer. Emily Eide of the *Iowa Farm Bureau* said, "There is no cause-and-effect relationship demonstrated by the assessment, or any other known science, between a 20% mandated cut ... and any improvement in the short run in water quality."

Although the dead zone may be caused in part by agricultural runoff from the Upper Midwest, developers in the lower Basin must also accept some of the blame. The lower Mississippi River has been almost completely isolated from it's "life giving" coastal marshes by a system of flood control levees and a deepwater ship canal. As such the ship canal acts like a huge hypodermic needle, injecting runoff materials from the watershed directly into the deeper waters of the Gulf, bypassing the River's shallow, life-giving coastal marshes.

In a natural river system coastal marshes and estuaries act like "kidneys" for the river and coastal ecosystem, stabilizing and oxygenating materials carried in from the watershed. Not only are the coastal marshes and estuaries not performing their "cleansing" functions, they are also being lost to erosion from the Gulf, a natural process that is counterbalanced in a natural ecosystem by sedimentation carried in by the river from watershed erosion.

The bottom line is that to solve the Gulf hypoxia problem, <u>both</u> contributing problems must be addressed. Runoff of nutrients from agricultural and industrial wastes from the watershed must be reduced, <u>and</u> flow and sediment transport must be restored to the coastal marshes.

We have found the culprit, "It is all of us!" The question is are we willing to do anything about it?

Sources: *Mississippi Monitor*, Vol. 3, No. 9; Philip Brasher, *AP/San Francisco Chronicle/Examiner online*, 8/17/99; Perry Beeman, *Des Moines Register*, 8/16/99; National Journal's GREENWIRE, *The Environmental News Daily*, 8/4, 8/17/99

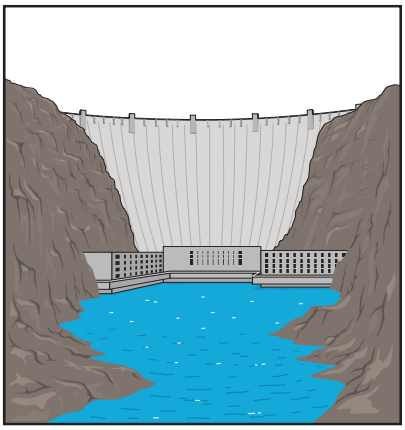
Dam Update

The Tennessee Valley Authority has begun dismantling the $83 million, "unfinished" Columbia Dam along the Duck River. The dam site was located 40 miles south of Nashville. Construction began in 1969 and continued until 1983 when it was halted for environmental reasons. TVA is recommending the 12,800 acre project be used as a recreation and wildlife management area.

Licenses of 80 hydroelectric dams in the southeastern United States will expire in the next 10 years, forcing utilities to "justify scores of dams in the new era of government mandated environmental awareness." The Federal Energy Regulatory Commission's (FERC) new relicensing method is a 7 mo. process as opposed to the old 3-5 yr. timeframe. One of the largest licenses in the nation is a 4-project conglomerate owned by *Alabama Power Co.*, which must renew its licenses by 2007.

In California, a bid by *Pacific Gas and Electric Co.* (PG&E) to transfer its network of dams and power plants to an unregulated subsidiary for $3.3 billion has won support of some prominent energy and water groups. For months, PG&E has participated in hearings with the California Legislature over plans to shift control of its 68 powerhouses, 99 reservoirs, 174 dams, 19 miles of pipe and 136,000 acres of eastern California land to Maryland-based *U.S. Generating Co.*, where they would be exempted from California regulations. It revealed its list of supporters to the public at an *Assembly Utilities Committee* hearing on 8/16/99. Johanna Thomas of the *Environmental Defense Fund* said PG&E is also in the midst of "roller-coaster" talks with environmental groups over changes in how the dams should operate. PG&E Vice President Dan Richard said his company is negotiating with the groups to spend $200 million to improve river quality and protect 45,000 acres of watershed. But Thomas expects costs to hover around $400 million. Several lawmakers may require the utility to make the environmental improvements before they concede on the dam transfers.

Also in California, the Department of Agriculture's General Counsel has joined the Interior and Commerce departments in recommending that the FERC close a hydroelectric dam on the Eel River in the northern part of the state to save endangered salmon and steelhead trout runs. The *Pacific Gas and Electric* dam, known as the Potter Valley Project, diverts 85% of Eel River flows into the East Fork of the Russian River. Water diversions are factors "believed to have contributed to the crash" of depleted salmon runs. But the *Sonoma County Water Agency*, which draws water for agricultural and residential use, has "threatened to sue if water is returned to the Eel".



Oregon officials "are about to dive headfirst into an unprecedented flood of hydroelectric renewals" that range in size from Boise-based *Idaho Power Co.'s* three dams along the Idaho-Oregon border, which generate 1 million KW, to a 6-inch plastic pipe, which siphons water to power a home. To balance environmental and energy needs, state wildlife, energy and environment officials have formed a *Hydroelectric Application Review Group* to look at each renewal. Most projects will be reauthorized, state officials said. But nearly all pose barriers to threatened or endangered fish and some will be removed.

Also in Oregon, Portland-based *PacifiCorp* agreed to a deal on 9/23 among environmentalists, private industry and the federal government to demolish the Condit Dam on Washington's White Salmon River, starting in 2006. The Condit's removal will make way for about 5,000 to 10,000 fish to spawn in the river, including bull trout, the coastal cutthroat trout and the Pacific lamprey. The 125 ft. high dam, which has blocked salmon and trout from their historic breeding grounds, produces 15 MW of electricity. *PacifiCorp* agreed to contribute $17 million for its removal and for projects to improve the fishery. In return, the utility will be allowed to operate the dam as it is until 2006, rather than spend $28 million on ways to help fish over the dam. Interior Secretary Bruce Babbitt called the Condit an example of a dam that has outlived its purpose. He added, "This is yet another example that river restoration is on the national agenda."

The 9th U.S. Circuit Court of Appeals ordered the FERC on 8/11 to increase protection for fish before renewing licenses for two hydroelectric dams on Oregon's McKenzie River. But the court also rejected requests by environmental groups and wildlife officials to require a broad review of the dams' overall environmental impact. The groups had argued that the Walterville and Leaburg dams were threatening populations of wild chinook salmon and bull trout. FERC renewed the dams' licenses for another 40 years in 3/97, but "an unusual alliance of environmental groups and state and federal agencies" sued in 1/98, calling provisions to protect the fish inadequate. **On 8/11/99 the court said FERC does not have to accept all recommendations by environmental agencies, but that it is required to accept proposals for "fish-ways," structures that allow fish to pass freely upstream and downstream.**

In Maine, three dams on the Presumpscot River that provide power for *Sappi* paper mills should be removed to improve the river's quality, four citizen groups told federal regulators on 8/25. *Sappi* filed an application with the FERC in January to renew federal licenses that expire in 2001 for 5 dams between Windham, ME, and Westbrook. *Friends of the Presumpscot River* (FPR) and other groups oppose the renewal, saying the river has been severely damaged by the dams. FPR President Will Plumley said the river bottom is covered with "slime and muck," it is unnaturally warm and that rapids that allow the river to recapture oxygen are now gone. The three dams the groups want to remove provide only 3 MW of power. *Sappi* argues the dams are a clean, renewable energy source that is less harmful to the environment than other forms of energy. The company also has proposed making several improvements to the dams, including making it easier for eels to migrate past the dams.

A *Philadelphia Inquirer* (7/22/99) editorial says Pennsylvania is "leading the charge" to destroy dams in an effort to "return some of

nature to nature." While the paper says, "Always, the economic benefits must be weighed against environmental cost," it says "here's a chance, finally, to restore some of what we've disturbed -- at minimum cost with much gain".

While environmental groups are primed to ensure that FERC enforces protection of the rivers, Ron McKitrick, a FERC environmental protection specialist, said most dams that undergo review are allowed to continue operating under new terms and conditions such as minimum water flow requirements and limited lake level fluctuations. Dam breaching, which recently resulted from the review of Edwards Dam in Maine, is not a common FERC response McKitrick said. Also a campaign by environmental groups such as *America Rivers* to remove dams "won't hold water," because the list of 121 breaching projects released by the group is not accurate, said Ron Corso, a former FERC official who now advises the hydropower industry. *American Rivers* released the list just before the removal of Edwards Dam in July in an effort to "suggest dam removal was a routine activity." Corso said more than 80% of the listed dams are not registered on the *National Inventory of Dams.*

Meanwhile, on 8/16/99 the Army Corps of Engineers (Corps) issued a "Finding of No Significant Impact (FONSI)" statement regarding four reversible hydropower turbines at the Russell Dam (Savannah River), and announced plans to ask a federal judge for permission to operate the $600 million project. The dam's reversible turbines pump water back from Thurmond Lake to Lake Russell for reuse in power production, but the turbines also suck fish into the mechanism and kill them. Fish kills in 1998 sparked a lawsuit against the Corps by the state of South Carolina and the *National Wildlife Federation,* and the court ordered an injunction on the turbines until the Corps could prove they were safe. After $34 million in environmental tests and programs, Corps spokesman Jim Parker said, "We've completed the environmental review process and we believe we've thoroughly addressed the issues." The FONSI says that while the turbines would kill millions of fish each year, the casualties would amount to less than 1% of Thurmond Lake's fish population. The Corps also said it will limit use of the turbines to reduce fish kills and plans to install a $4.5 million oxygenation system to expand striped bass habitat. The agency also plans to evaluate the effects of the system for 7 yrs., and will ask a federal judge to lift the injunction later this year.

In Washington, D.C. more than 100 members of the House have asked Pres. Clinton to remain open to the option of removing 4 dams on the lower Snake River in the state of Washington to help restore Pacific salmon runs. In a letter to the president, the 107 members – 95 Democrats and 12 Republicans – do not advocate dam removal, but recommend that it remain an option. Their letter "could mark a turning point" in the dam removal debate as the House members argue the issue is of national importance, a view long held by environmentalists. The letter's prime GOP author, Rep. Thomas Petri (WI) said, "We're simply asking that nothing be ruled out, and that a thorough and professional review of the different options be done". *Taxpayers for Common Sense* Executive Director Ralph DeGennaro said, "Lawmakers sent a message today that our resources should be targeted at the most promising solutions".

Removal of the 4 dams would mean the loss of less than 500 long-term jobs and the creation of 10,000 short-term ones, according to a Corps study. The preliminary draft, part of a 2 yr., $20 million study, is the "most thorough analysis yet of the economic effect" of the dam breaching proposal. Within the first 10 yrs. of dam breaching, about 10,600 to 13,500 new jobs would be created. Over 20 years, about 3,800 to 4,700 new jobs would replace the 5,300 to 6,000 lost jobs. Proponents said the report is evidence that breaching will not cause an "economic meltdown." But Sen. Gordon Smith (R/OR) says the impact would be far more than 500 jobs. Smith said, "Find out what they're smoking, because they must be inhaling. This is preposterous." House Republicans recently passed a resolution to oppose the dam removal. Corps officials said the subject report is a "pre-decisional draft" and was not meant for release. It comes just months before the Corps will recommend whether or not to breach the dams.

A *Portland Oregonian* editorial (7/30) wants opponents and proponents of the dam breaching proposal -- "spin doctors of various persuasions" -- to put on the brakes until the Corps makes its recommendation to Congress. The paper cites pleas to Pres. Clinton by Northwest scientists to remove the dam and political meetings by Idaho's Republican congressional members to thwart the removal. The editorial said, "None of these efforts to color the facts about dam breaching will take the region very far in developing strategies to recover the endangered salmon and steelhead...We need an evaluation from the Corps that is free of political pressure masquerading as scientific and economic certainty".

Oregon Gov. John Kitzhaber (D) proposed on 9/17 a "controversial" new plan to create a powerful, four-state *Columbia River Authority* that could help restore endangered salmon while protecting the Northwest's cheap electric rates. The authority, which someday could buy the *Bonneville Power Administration* (BPA) from the federal government, would include federal and tribal officials and have control over tough environmental and economic choices such as dam removal. The plan also would help stave off congressional efforts to make BPA earn a profit for the federal government by raising electrical rates, which could cost the region $500 million/yr. Critics say the 20-year-old *Northwest Power Planning Council,* which is charged with balancing power and fish needs, lacks the federal authority and key tribal representation to work effectively and decisively. Some environmentalists and consumer advocates praised Kitzhaber "for showing the sense of urgency behind regional cooperation." And Montana Gov. Marc Racicot (R) said he supports a regional planning authority. However, the plan could meet stumbling blocks in Washington state, which is most heavily dependent on BPA power, because changes could reduce its share. Bruce Loveline, executive director of the *Columbia River Alliance,* says it may be difficult to secure the act of Congress needed to create the new authority because the Northwest congressional delegation is "small and short on seniority". Kitzhaber said he wants the proposal ready by the end of the year.

Rep. Mike Simpson (R/ID), Sen. Larry Craig (R/ID) and Ron Brown of *Flash Technology Corp. of America* offered alternative ideas to removing dams to save Snake River salmon. Brown said strobe lights placed underwater could divert juvenile salmon, which "strongly dislike" the lights, around the dams, while other suggestions include a man-made channel and in-line fish hatcheries.

Sources: *Sacramento Bee*, 8/17/99; Robert Pavey, *Augusta Chronicle*, 8/16/99; David Anderson, *Eureka [CA] Times- Standard*, 7/21/99; Marta W. Aldrich, *AP/Birmingham News online/others*, 7/19/99; David Pace, *AP/Birmingham News online*, 9/7/99; *National Hydropower Association release*,

9/2/99; Bob Egelko, *AP/Portland Oregonian*, 8/12/99; Tom Bell, *Portland [ME] Press Herald*, 8/26/99; Traci Watson, *USA Today, 9/23/99;* Michael Paulson, *Seattle Post-Intelligencer,* 8/5 and 9/23/99*; Taxpayers for Common Sense release;* Jonathan Brinckman, *Portland Oregonian*, 7/30/99; John Hughes, *AP/Seattle Post-Intelligencer*, 7/29/99; Steve Suo, *Portland Oregonian*, 9/18/99; *AP/Portland Oregonian*, 9/17/99; Brent Hunsberger, *Portland Oregonian*, 9/17/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 1/14, 5/27, 7/22, 8/3, 8/5, 8/12, 8/18, 8/26, 9/7, 9/20, 9/23/99

Miscellaneous River Issues

IL Wetland Settlement - A quarry operator has agreed to pay $7.5 million to settle a lawsuit alleging the company destroyed 37 acres of high-quality wetlands while mining rock in Will County along the Des Plaines River. The settlement by Chicago-based *Material Service Corp.* represents a record payout for a wetlands violation in the history of the U.S. Army Corps of Engineers (Corps), officials said. The lawsuit, filed in 1995 by the U.S. attorney's office in Chicago, accused the company of violating the Clean Water Act. At a quarry site near Romeoville, *Material Service* allegedly dredged material from the wetlands and redeposited it in the adjacent waters of the Des Plaines River without a permit--in the process destroying marsh, meadow and extremely rare prairie land. Though it denies any wrongdoing or liability, the company agreed to pay a $500,000 penalty to the U.S. government and contribute an additional $7 to million to acquire land and restore the wetlands in portions of the lower Des Plaines and Kankakee River Valleys. According to studies by the U.S. Fish and Wildlife Service, the *Material Service* site near Romeoville still contains about 19 acres of wetlands sitting over dolomite rock, fully one-fourth of this type of prairie known to remain on Earth. The site serves as a habitat for a variety of endangered and rare plant and animal species, including the Hine's emerald dragonfly, the Blanding's turtle, the great egret, and tufted hair grass, officials said. The settlement, filed in mid August in federal court, needs to win the approval of U.S. District Judge Ann Williams before the lawsuit can be dismissed. In an agreement with the Corps, the *Corporation for Open Lands* will administer how the $7 million will be spent on acquiring land and restoring wetlands. "Projects will include reintroducing threatened and endangered species, returning water to drained and damaged areas, and protecting streams and wetlands from further damage," said Lt. Col. Peter Rowan, the Army Corps commander in Chicago. Source: Matt O'Connor, *Chicago Tribune*, 8/11/99

Appalachian Clean Streams - Kathy Karpan, director of the Interior Dept.'s Office of Surface Mining (OSM), approved $68,000 in funding on 8/17 for an *Appalachian Clean Streams Initiative* project in Pennsylvania. The project will be funded under OSM's Watershed Cooperative Agreement Program, announced in January. Sources: *OSM release*, 9/18/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 1/5 and 8/19/99

OH River Barge Spill - At least 60,000 gallons of gasoline spilled into the Ohio River on 8/9 when four barges carrying gasoline and one barge carrying the toxic chemical *cumene* collided near Mount Vernon, IN. Conservationists "worried about the effects" of the gasoline and

cumene on the river and nearby wetlands as the Coast Guard "scrambled" to keep the leaks from getting any worse. Sources: *Louisville [KY] Courier-Journal*, 8/10/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 8/10/99

Rio Grande Minnows - New Mexico government agencies and irrigators who draw water from the middle Rio Grande have sent a letter to Interior Secretary Bruce Babbitt notifying him of their intention to sue the federal government for designating 160 mi. of the river as a protected habitat for the endangered silvery minnow in 1997. The *Middle Rio Grande Conservancy District* fears the designation would divert water available for irrigation because it designates minimum flows of 100,000 acre ft./yr. -- so the river won't go dry. They say that violates a provision in the Endangered Species Act (ESA) which requires consideration of economic consequences for people along the river. State engineer Tom Turney plans to file a separate lawsuit saying the designation also violates the National Environmental Policy Act, which requires federal agencies to consider the consequences of environmental law. The river was designated a protected habitat for the minnow 13 mos. after 10,000 minnows died when the water district diverted its entire flow for irrigation. Sources: Ben Neary, *Santa Fe New Mexican*, 7/27/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 5/22 and 7/30/99

GA Construction Runoff Regs - "After years of legal battles with environmental advocates," Georgia officials are imposing new permitting regulations to control erosion from construction sites. The regulations, which will require developers to submit plans for controlling stormwater runoff, will be the strongest erosion control regulations in the country, according to Larry Hedges of the GA Environmental Protection Division. Sources: Dave Williams, *Augusta Chronicle*, 7/27/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/29/99

Mercury Laden Rain - Rain and snow falling on Chicago contains 41 times more mercury than the level considered safe for water in the Great Lakes, according to a report by the *National Wildlife Federation, Lake Michigan Federation, Sierra Club, Environmental Law & Policy Center* and other groups. Polluted rainwater runs into the Great Lakes, where even the lowest levels of recorded mercury are four times USEPA safety standards for wildlife in the lakes. The report details the history of mercury in the lake. Ten years ago, scientists discovered that rain is the link between air pollution and increased evidence of mercury and PCBs in the Great Lakes. Since then, technology has enabled researchers to measure tiny traces of mercury in raindrops. "The data show that rain scrubs the air of the mercury that wafts out of coal plants and waste incinerators. But when that rainwater flows into the Great Lakes and other waters, it carries the mercury with it." Andy Buchsbaum of the *National Wildlife Federation* said, "This reverses what we think about rain and the ability of nature to clean up air pollution. We all thought that rain and nature would dilute pollution and bring it down to acceptable levels." The rain itself is not considered harmful, but it is the source of mercury that affects the food chain in the lakes. Sources: Peter Kendall, *Chicago*

Tribune, 9/14/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/14/99

Governors Support ESA Changes - Montana Gov. Marc Racicot (R) said the primary goal of the *Western Governors' Association* is to revamp the 1973 Endangered Species Act (ESA). The *National Governors' Association* also supports changing the law. Together, the nation's governors are lobbying for three separate bills for change. Past bills failed, Racicot said, because they included too many changes within the auspices of one bill. Racicot said, "When there are 50 who unanimously support something or 18 governors in the *Western Governors' Association* who say this is the No. 1 legislative priority it's a serious problem...I just think it's in the best interest of the people and the plants and the animals that are involved with these issues if we can do something with recovery, flexibility, incentives and funding." Sen. Pete Domenici (R/NM) is working on a bill that would give states more say in protecting species within state borders. Racicot said revisions to the ESA should concentrate on recovery, rather than continuing to list species as threatened or endangered, and that more money is necessary to do that. He added that states, federal agencies and private landowners should be given the chance to enter conservation agreements before a species is listed. Sources: Erin P. Billings, *Billings Gazette*, 9/10/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/10/99

Global Warming Effects in GA? - Following reports that rising water temperatures in the Chattahoochee River are threatening trout populations, the Georgia Department of Natural Resources is testing seven sites in the river to determine "how bad the temperature situation is." Water heated from parking lots, roads and other hard surfaces runs off into the water and raises the temperature. Trout will die if the water temperature stays above 77 °F for too long. The state is now studying growth rates of fish in parts of the Chattahoochee, which is considered "Georgia's premier trout stream," and will begin testing water quality next year. It will also conduct an economic impact study to determine the value of the fishery. Results from temperature studies are expected by the end of the year. Sources: Cheryl Crabb, *Atlanta Constitution*, 8/25/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/27/99

IN Fish Concerns - A *Purdue University* survey of 2,700 fishers found that more than 600,000 Indiana residents – half of them children – may be regularly eating fish tainted with PCBs. Eighty percent of fish tested annually in the state contain PCBs. Sources: *Chicago Tribune*, 8/3/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/5/99

VA Environmental Concerns - Virginia's air and water have improved since the mid-1980s, but disappearing wetlands and population growth are creating new environmental problems, according to a new study by the *Virginia Commonwealth University Center for Environmental Studies*. The study, which the authors say is the first to use a scientifically valid statistical method to measure environmental trends, used 400,000 state and federal records to create the *Virginia Environmental Quality Index*. The index measures changes in air and water pollution, toxic chemicals, solid waste, wetlands, species and population growth. Despite overall improvements, the study found a decline in wetlands and open space and an increase in dangerous compounds in some areas. The study is available on-line at http://www.vcu.edu/cesweb/. Meanwhile, state health officials issued an advisory in late July warning people against eating fish from a 12-mile stretch of Levisa Fork in southwest Virginia because of PCB contamination. Sources: Rex Springston, *Richmond Times-Dispatch*, 7/31 and 8/4/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/3 and 8/4/99

AL Environmental Poll - In a statewide poll released in late July, 68% of Alabamians said environmental protection should be a priority, even at the expense of some jobs and business activity. Sources: Jessica Saunders, *AP/Birmingham News online*, 7/30/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/3/99

ATV Ban in Ouachita NF - Ouachita National Forest officials banned all-terrain vehicles from 57,000 acres of forest land on 8/25 because of concerns over the vehicles' effect on erosion and water-quality problems. The vehicles will be prohibited from nearly 12,000 acres of national forest at Wolf Pen Gap and 45,000 acres south of the Little Missouri River. Forest recreation supervisor Steve Cannell said the main problem in recent years has been "primarily from ATV users creating their own trails... and riding in streams." Despite the ban, "there's still plenty of access" said Jim Watson, district ranger for the Little Missouri River watershed. Sources: Rodney Bowers, *Little Rock Arkansas Democrat-Gazette*, 8/26/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/27/99

KS River Suit - Two environmental groups sued the USEPA in federal court in late August over charges the agency failed to enforce a 25-year-old law that requires all rivers to be clean enough for fishing and swimming. The *Sierra Club* and the *Kansas Natural Resource Council* filed suit to ensure the EPA would follow through on its promise to implement new standards to curb pollution in Kansas rivers. The EPA says the new regulations, which should be ready this fall, would measure runoff pollution from farms, urban lawns and parking lots. Cities and farmers say the new regulations will cost too much. Kansas environmentalists aim to change the state's reputation "of having the dirtiest water in the nation." About 69% of the state's 15,000 miles of rivers do not meet state water standards -- a "big improvement" from 1996, when that statistic was 97%. Sources: Jean Hays, *Wichita Eagle*, 8/25/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/25/99

Subsidized Compliance in IN - A proposed government payback program in Indiana would reward some of the state's largest companies for complying with environmental laws. Under the *100% Club Plan*, announced earlier this year by Lt. Gov. Joe Kernan (D), companies would win rebates for staying within permit limits for air, water or solid waste releases. Possible annual cash rebates could total $25,000 per company. But environmentalists criticize the proposal, saying companies could receive the cash but still pollute the air with millions of pounds of emissions each year. John Blair, pres. of *Valley Watch* said, "You could have a power plant that's operating under its permit that gets this reward, but is one of the biggest polluters in the world." The goal of the plan is for 100% of the state's companies to meet environmental standards, according to Dept. of Environmental Management (DEM) Commissioner Lori F. Kaplan. The impetus behind the program is to create an incentive for sub-par companies. Kaplan said, "Our hope is, by bringing recognition to those companies that are in compliance, it will encourage other companies to step up their efforts to reach compliance and go beyond." State officials estimate 2,000 permit-holding companies

out of 3,000 already are in full compliance. Although complete prospects for revenue loss are not yet available, DEM Deputy Commissioner Tim Method said rebates could add up to $1 million. Sources: George McLaren, *Indianapolis Star/News*, 8/24/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/24/99

WI Land Purchase - Marking the largest land acquisition in the state's history, Wisconsin Gov. Tommy Thompson (R) and the state Dept. of Natural Resources have reached a $25 million deal with an Illinois paper company to buy more than 32,000 acres of wilderness. The purchase is designed to protect 42 mi. of land along rivers and streams and 6 mi. of lakeshore. Several parts of the undeveloped land owned by the *Packaging Corp. of America* would connect tracts of land from previous state acquisitions. The state will use some of the land to create new natural areas, including a 2,500-acre Woodboro Wildlife Area and nearly 1,760 acres on the Wisconsin River for the Menard Island Resource Area. The state plans to offer 6,800 acres for sale to Indian tribes. Sources: Jenny Price, *AP/St. Paul Pioneer-Press*, 8/23/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/23/99

MT Coal Mining Suit - The Montana Dept. of Environmental Quality filed a lawsuit in late July against Tennessee-based coal mining company *Mountain Inc.*, seeking $531,200 for environmental violations at its now-closed *Bull Mountain Mine*. Sources: Erin P. Billings, *Billings Gazette*, 9/21/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/22/99

CA Ballast Water Regs - Both houses of the state Legislature passed a bill to regulate ballast water discharges by cargo ships in California waters. The bill would require reporting of ballasting activities and require high-seas ballast water exchange. Sources: *Journal of Commerce*, 9/15/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/16/99

IA Cities' Impact on Rivers - The state Environmental Protection Commission approved on 9/20 a plan to study the impact of cities on Iowa's rivers. As part of one of the largest ever expansions in state water monitoring, samples of river water above and below 10 Iowa cities will be taken twice a year and analyzed for pollutants. Sources: Lynn Okamoto, *Des Moines Register*, 9/21/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/23/99

Atrazine Contamination - High levels the weed killer, *Atrazine*, are turning up in water supplies across the Midwest, increasing the cancer risk for bottle-fed infants, according to a report released in late July by the *Environmental Working Group* (EWG). The report says tap water in nearly 800 communities was contaminated with the chemical which is used on corn, and has been linked to cancer in high doses. The study analyzed more than 127,000 tap water sample test results over the past 5 yrs. in 7 states. At least 20 communities had single-day readings that were 4 times the federal limit. The USEPA said it has been conducting a review of atrazine because of "special concerns for children's exposure," though it insisted that water supplies are safe. That review is expected to be finished by next year. The Denver-based *American Water Works Assn.* (AWWA) called for stricter protections to keep atrazine out of water supplies. Dave Whitacre of *Novartis Crop Protection, Inc.*, the largest manufacturer of atrazine, "called the report a bogus attempt to discredit a safe and reliable herbicide." He criticized the EWG for failing to have the report scientifically peer-reviewed, which would have evaluated the group's methodology. Bruce Knight of the *National Corn Growers Assn*, said, "You can tell the study was done more with promotion and public relations and scare in mind than with facts and science and the real risks, or none, associated with any of these products." Sources: Libby Quaid, *AP/Yankton [SD] Press & Dakotan*, 7/29/99; George McLaren, *Indianapolis Star/News*, 7/29/99; Paul Barton, *Cincinnati Enquirer*, 7/29/99; *AWWA release*, 7/28/99; Mansur/Igoe, *Kansas City Star*, 7/29/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/29/99

TVA/EPA Pact Signed - The Tennessee Valley Authority (TVA) and USEPA signed an agreement on 8/23/99 to collaborate on improving management of the region's natural resources. The agreement calls for cooperation on erosion, water quality and air pollution in areas including the Great Smoky Mountains National Park. Specific projects will be decided in the next few months. Some of the first concerns likely to be addressed are restoring wetlands and reforesting land depleted by chip mill harvesting. While generally supportive of the pact, *Tennessee Valley Energy Reform Coalition* Executive Director Stephen Smith said he is concerned the agreement may hinder the EPA's oversight of TVA's electric production program. Sources: Jacque Billeaud, *Knoxville News-Sentinel*, 8/25/99; Duncan Mansfield, *AP/Birmingham News online*, 8/25/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/25/99

Natural Resource Polls

Republicans Views on the Environment: Republican primary voters care more about the environment than tax cuts when it comes to choosing a presidential candidate, according to a *National Environmental Trust* poll of likely GOP voters in 5 early primary and caucus states. In New Hampshire, 94% of 405 people polled said protecting the environment was "very or somewhat important," compared to 89% for tax cuts and 57% for abortion. The poll found similar results in Iowa, California, New York and South Carolina. But likely Republican voters expressed stronger feelings about crime, military readiness, Social Security, education and family values than the environment. Still, state Sen. Rick Russman (R), who chairs the Senate Environment Committee, said the poll confirms that the Republican Party "has been missing the boat" on environmental issues. More detailed questioning showed that improving air and water quality, cleaning up toxic wastes and regulating pesticides were the most important environmental goals, while curbing global warming, protecting endangered species and preventing sprawl were less important. Independent voters were more likely than registered Republicans to call themselves environmentalists and consider environmental protection "very important." The telephone poll, conducted 8/15-8/18/99, has a 5% margin of error. Sources: *Associated Press*, 9/10/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/13/99

Public Views on Land Protection : Fifty-seven percent of people living in the West and 63% of those surveyed nationwide believe not enough national forest land is protected from commercial development, according to a poll conducted by the *Mellman Group Inc.* Seven percent of Westerners and 6% of nationwide respondents said too much land is already protected as wilderness. The remainder surveyed believed the correct amount of forest land is protected. The poll of 800 "likely voters" also found 62% surveyed "across gender, political party and regional lines" support the protection of roadless areas in national forests. More than 70%

surveyed favor a ban on oil drilling, logging and mining in roadless areas. The *Wilderness Society*, the *National Audubon Society* and the *Heritage Forests Campaign* commissioned the poll, which has a margin of error of plus or minus 3.5%. Sources: *AP/Salt Lake Deseret News*, 7/28/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/18 and 7/29/99

Biology of Fish Proceedings

The complete proceedings of the 1998 *International Congress on the Biology of Fish* are available free for downloading (in Adobe Acrobat format) at http://www.fishbiologycongress.org . Information on how to get printed copies of previous proceedings is also provided. The next *International Congress on the Biology of Fish* will be held in Aberdeen, Scotland on 7/23-26/00. Information on this meeting is available at the website. Planning for individual Symposia for the Aberdeen Fish Biology Congress are just starting. Suggestions or interest in being involved in organizing a session should be directed to: Don D. MacKinlay, Habitat & Enhancement Branch, Fisheries & Oceans Canada, 555 West Hastings St., Vancouver BC V6B 5G3 CANADA, (604) 666-3520, FAX (604) 666-6894, e-Mail: MACKINLAYD@PAC.DFO-MPO.GC.CA

Vegetation Symposium Abstracts

A limited number of copies of the Proceedings of the Symposium entitled, *Vegetation of the Upper Mississippi and Illinois River System: Status, Management and Ecological Linkages* are available from the Upper Mississippi River Conservation Committee (UMRCC). The symposium was held in La Crosse, WI on 9/21-9/22/99. The Proceedings consist of abstracts of papers presented at that meeting. Direct requests for single copies to: Jon Duyvejonck, Coordinator, UMRCC, 4469-48th Avenue, Court, Rock Island, IL 61201, (309) 793-5800, jon_duyvejonck@fws.gov.

Mississippi River Status Report

"The declines in key native species across many trophic levels signal a deterioration in the health of this riverine ecosystem. The Mississippi River ecosystem is often heralded as a multiple-use resource, and human use of the river and its floodplain for various purposes is expected to increase while inputs of sediment, nutrients, and potentially harmful chemicals from the watershed continue. Clearly, the greatest challenge on the Mississippi and other large rivers is to maintain ecological integrity while sustaining multiple human uses of the ecosystem.

'Evidence is mounting that the cumulative effects of human activities have already exceeded the ecosystem's assimilative capacity. The abundances of many key native organisms, including submersed plants, native pearlymussels, fingernail-clams, certain fishes, migratory waterfowl, colonial waterbirds, songbirds, and mink, have decreased along substantial reaches of the river in recent years or decades. The degradation of the Mississippi River delta represents a severe, nationally significant loss of wetland resources. Sediment deficiency is aiding in habitat destruction in Louisiana's coastal zone while, ironically, sediment deposition is threatening to destroy aquatic habitats in the impounded Upper Mississippi River.

'Abundances of undesirable nonindigenous organisms in the river have increased along with these other problems...Recent declines in benthic invertebrates and submersed aquatic plants constitute a partial, yet significant, collapse in the food web supporting certain key fish and wildlife species...The riverine ecosystem of the Mississippi has undergone many changes. Most of the natural changes have occurred gradually over hundreds or thousands of years, whereas human-induced changes have occurred rapidly and recently. Several factors have apparently contributed to the recent declines in the river's flora and fauna, including habitat loss and degradation, point and nonpoint pollution, toxic substances, commercial and recreational navigation, deterioration of water quality during drought periods, reduced availability of key plant and invertebrate food resources, and invasions of nonindigenous species..."

Source: Wiener, J.G., C.R. Fremling, C.E. Korschgen, K.P. Kenow, E.M. Kirsch, S.J. Rogers, Y. Yin and J.S. Sauer. 1998. *Mississippi River*. In: M.J. Mac, P.A. Opler, C.E. Puckett Haeker, & P.D. Doran, editors. *Status and Trends of the Nation's Biological Resources*, Vol. 1. U.S. Geological Survey Reston, VA. pp.

Single copies of the entire publication are available free of charge from: Kathy Mannstedt, Librarian, USGS-UMESC, 2630 Fanta Reed Rd., La Crosse, WI 54603, (608) 781-6215

Meetings of Interest

Nov. 7-10: Southeastern Association of Fish and Wildlife Agencies Annual Conference, Greensboro, NC. Contact: Sid Baynes, (919) 733-7123, bayanes.sid@coned.wildlife.state.nc.us

Nov. 8-9: The Missouri River Voyage of Discovery Conference, Baymont Inn & Suites, St. Charles, MO. Contact: American Rivers, (877) 228-0861, http:\\www.americanrivers.org

Nov. 15-17: International Conference on the Use of Property Rights in Fisheries Management, Fremantle, Western Australia. Contact: petrconf@iinet.net.au: http://www.fishrights99.conf.au

Nov. 16-17: Wetlands & Remediation, Salt Lake City, UT. Contact: (614) 424-6510 or Nehringk@battelle.org

Nov. 29 - Dec. 3: Congress on Recreation and Resource Capacity, Snowmass Village, Aspen, CO. Contact: Susan Scott Lundquist, (970) 491-4865 or FAX (970) 491-2255.

Dec. 4-9: Watershed Management to Protect Declining Species, Seattle, WA. Contact: Amer. Waterworks Assoc., (425) 649-7140

Dec. 5-8: 61st Midwest Fish and Wildlife Conference, Sheraton Hotel and Towers, Chicago, IL. Contact: Doug Austen, (217) 785-5935, dausten@dnrmail.state.il.us

Dec. 6-10: Land Satellite Information in the Next Decade III Conference, Doubletree Hotel, Denver, CO. Contact: Kass Green (510) 654-6980, http://www.asprs.org

Aug. 20-24: 130th Annual Meeting of the

American Fisheries Society, Adam's Mark Hotel, St. Louis, MO. Contact: Betsy Fritz, (301) 897-8616, ext. 212; bfritz@fisheries.org

Feb. 3-5: National Whirling Disease Symposium, Coeur d'Alene Resort, ID. Contact: Whirling Disease Foundation, (406) 585-0860

Feb. 8-10: International Conference on Risk Analysis in Aquatic Animal Health, Office International des Epizooties, Paris, France. Contact: K. Sugiura, 011/33-0144-151888, k.sugiura@oie.int

Mar. 24-28: North American Wildlife and Natural Resources Conference, Hyatt Regency O'Hare, Chicago, IL Contact: Richard McCabe, (202) 371-1808

Apr. 4-6: International Hazardous Material Spills Conference, Regal Riverfront Hotel, St. Louis, MO. Contact: http://www.nrt.org/hazmat2000

May 2-6: AQUA 2000, "Responsible Aquaculture in the New Millennium", Acropolis Convention Centre, Nice, France. Contact: John Cooksey, worldaqua@aol.com

May 21-24: Missouri River Management: It's Everybody's Business, Radisson Inn, Bismarck, ND. Contact: Roger Collins, (701) 250-4492, roger_collins@fws.gov, http:\\infolink.cr.usgs.gov/events/00.htm

July 23-26: International Congress on the Biology of Fish, Aberdeen, Scotland. Contact: Don D. MacKinlay, Fisheries & Oceans Canada, (604) 666-3520, FAX (604) 666-6894, e-Mail: MACKINLAYD@PAC.DFO-MPO.GC.CA or http://www.fishbiologycongress.org

Congressional Action Pertinent to the Mississippi River Basin

Endangered Species Act Amendments

S. 1100 and S. 1210: J. Chafee, R/RI. Addresses designation of critical habitat, and assists in the conservation of endangered and threatened species of fauna and flora found throughout the world.

S. 1305: C. Thomas, R/WY: Improves the listing, recovery planning, and delisting process, and for other purposes.

H.R. 494, 495 and 496: W.M. Thomas, R/CA. Endangered Species Fair Regulatory Process Reform, Land Management Reform and Criminal and Civil Penalties acts,

H.R. 960: G. Miller, D/CA. Strengthens the commitment to protect wildlife, safeguard children's economic future, and provide assurances to local governments, communities, and individuals.

H.R. 1101: R. Pombo, R/CA. Improves the ability to prevent flood disasters.

H.R. 1763: K. Calvert, R/CA. Limits required mitigation costs for public construction projects to less than 10% of total project cost.

H.R. 2017: W. Herger, R/CA. Enables Federal agencies responsible for the preservation of threatened and endangered species to rescue and relocate individuals that would be taken in the course of certain reconstruction, maintenance, or repair of Federal or non-Federal manmade flood control levees.

H.R. 2131 and 2253: K. Calvert, R/CA. Prohibits the requirement to mitigate for impacts of past activities, and the use of any item or information obtained by trespassing on privately owned property, or otherwise taken from privately owned property without consent of the property owner.

Environment

S. 352: State and Local Government Participation Act of 1999, C. Thomas, R/WY and H.R. 2029: G. Radanovich, R/CA. Amends the National Environmental Policy Act (NEPA) of 1969 requiring Federal agencies to consult with State, county, and local agencies and governments on environmental impact statements.

S. 481: Environmental Crimes and Enforcement Act of 1999, C.E. Schumer, D/NY. Provides for protection of government employees and the public from environmental crimes.

S. 1066: P. Roberts, R/KS. Amends the National Agricultural Research, Extension, and Teaching Policy Act of 1977 to encourage use of and research into agricultural best practices to improve the environment, and for other purposes.

S. 1090: J. Chafee, R/RI: Reauthorizes and amends the Comprehensive Environmental Response, Liability, and Compensation Act of 1980.

S. 1279: R. Kerrey, D/NE. Improves environmental quality, public use and appreciation of the Missouri River and provides additional authority to the Army Corps of Engineers to protect, enhance, and restore Mo. River fish and wildlife habitat.

S. 1426, T. Harkin (R/IA), T. Daschle (D/SD), P. Leahy (D/VT), R. Kerrey (D/NE), K. Conrad (D/ND), and T. Johnson (D/SD) : Amends the Food Security Act of 1985 to promote the conservation of soil and related resources, and for other purposes.

S. 1622: B. Lincoln (D/AR), B. Frist (R/TN), M. Landrieu (D/LA), T. Hutchinson (R/AR), J. Breaux (D/LA), and R. Durbin (D/IL). Provides economic, planning, and coordination assistance for the development of the lower Mississippi River region.

H.R. 408: C. Peterson, D/MN. Amends the Food Security Act of 1985 to expand the number of acres authorized for inclusion in the Conservation Reserve Program (CRP).

H.R. 525: Defense of the Environment Act of 1999, H.A. Waxman, D/CA. Requires any Congressional provision that reduces environmental protection to: (1) identify and describe the provision, (2) assess the extent of the reduction, (3) describe actions taken to avoid the reduction, and (4) recognize any statement of the Comptroller General in assessing the reduction.

H.R. 728: K. Lucas, D/KY. Amends the Watershed Protection and Flood Prevention Act providing cost share assistance for rehabilitation of structural measures constructed as part of water resource projects previously funded by the Secretary of Agriculture.

H.R. 1836: D. Bereuter, R/NE. Balances the wind and water erosion criteria and wildlife suitability criteria for the 18th CRP signup.

Hydropower

S. 740: L. Craig, R/ID and E. Towns, D/NY. Amends the Federal Power Act to

improve hydroelectric licensing processes by granting the FERC statutory authority to better coordinate participation of other agencies and entities, and for other purposes.

Population Growth

H. Con. Res 17: Population Growth Resolution T.C. Sawyer, D/OH. Expresses the sense of Congress that the U.S. should develop, promote, and implement, at the earliest possible time and by voluntary means consistent with human rights and individual conscience, the policies necessary to slow U.S. population growth.

Property Rights

S. 333: P. Leahy, D/VT, H.R. 598: R. Santorium, R/PA, and H.R. 1950: S. Farr, D/CA. Amends the Federal Agriculture Improvement and Reform Act of 1996 to improve the farmland protection program.

S. 1028: O. Hatch, R/UT. Simplifies and expedites access to Federal courts for parties whose rights and privileges, secured by the Constitution, have been deprived by actions of Federal agencies, entities or officials acting under color of State law.

S. 1202: B.N. Campbell, R/CO. Requires a warrant of consent before land inspections may be carried out to enforce any law administered by the Secretary of the Interio**r.**

H.R. 1002: Declaration of Taking Act,, D. Hunter, R/CA. Amends the subject act to require that all government condemnations of property proceed under that Act.

H.R. 1142: D. Young, R/AK. Ensures that landowners receive equal treatment to the government when property must be used.

H.R. 2550: T. DeLAY (R/TX). Compensates owners of private property for the effect of certain regulatory restrictions.

Public Lands

S. 338: B.N. Campbell, R/CO; S. 568: C. Thomas, R/WY and H.R. 154: J. Hefley, R/C. Establish fee systems for commercial filming activities on public lands.

S. 446: B. Boxer, D/CA. Provides for permanent protection of U.S. resources in the year 2000 and beyond.

S. 510: B.N. Campbell, R/CO and H.R. 883: D. Young, R/AK. Preserves U.S. sovereignty over public and acquired lands, and preserves state sovereignty and private property rights in non-federal lands surrounding public and acquired lands.

S. 532: D. Feinstein, D/CA and H.R. 1118: T. Campbell, R/CA. Increases funding to resume state grant funding for the Land and Water Conservation Fund and development of conservation and recreation facilities in urban areas under the Recreation Recovery Programs.

S. 826: C. Thomas, R/WY. Limits federal acquisition of lands located in States where 25% or more of the land in the State is owned by the U.S.

S. 1049: F. Murkowski, R/AK, and H.R. 1985: B. Cubin, R/WY. Improves administration of oil and gas leases on Federal lands, and for other purposes.

H.R. 488: Northern Rockies Ecosystem Protection Act of 1999, C. Shays R/CT. Special designation of lands in the states of ID, MT, OR, WA, and WY.

H.R. 701: D. Young, R/AK and **H.R. 1118 T. Campbell, R/CA.** Provides funding for Land and Water Conservation Fund, Urban Parks and Recreation, and Teaming With Wildlife.

H.R. 798: G. Miller, D/CA. Provides for permanent protection of U.S. resources in FY 2000 and beyond through **Land and Water Conservation Fund** funding, **Urban Parks and Recreation** and various other conservation programs.

H.R. 1199. R.W. Pombo, R/CA. Prohibits expenditure of **Land and Water Conservation Funds** for new National Wildlife Refuges without Congressional authorization.

H.R. 1207: B.F. Vento, D/MN. Prohibits the U.S. government from entering into agreements related to public lands without Congressional approval.

H.R. 1284: Minnesota Valley Refuge Bill, D. Young, R/AK. Protects the Minnesota Valley National Wildlife Refuge and protected species to ensure that scarce refuge land in and around the Minneapolis, MN metro area are not subjected to physical and auditory impairment.

H. R. 1396: C. McKinney, D/GA. Saves taxpayers money, reduces the deficit, cuts corporate welfare, and protects and restores America's natural heritage by eliminating the fiscally wasteful and ecologically destructive commercial logging program on Federal public lands, and facilitates the economic recovery and diversification of communities dependent on the Federal logging program.

H.R. 1500: J. Hansen, R/UT. Accelerates the Wilderness designation process by establishing a timetable for completion of wilderness studies on Federal lands.

H.R. 2222: G. Miller, D/CA. Establishes fair market value pricing of Federal natural assets, and for other purposes:

Regulations

S. 746: Regulatory Improvement Act of 1999, S.M. Leven, D/MI. Improves the ability of Federal agencies to use scientific and economic analyses to assess cost-benefits and risk assessments of regulatory programs.

H.R. 1864: J. Hansen, R/UT. Standardizes public hearing processes for Federal agencies within the Dept. of the Interior.

H.R. 1866: J. Hansen, R/UT. Provides a process for the public to appeal certain decisions made by the National Park Service and the U.S. Fish & Wildlife Service.

Tennessee Valley Authority

S. 123: TVA Funding Act, R.D. Feingold D/WI. Phases out Federal funding for the Tennessee Valley Authority.

Water Resources

S. 294: R. Wyden, D/OR. Directs the Secretary of the Army to develop and implement a comprehensive program for fish screens and passage devices.

S. 507: Water Resources Development

Act, J. Warner R/VA and H.R. 1480: R. Shuster, R/PA. Provides for construction of various projects in U.S. rivers and harbors.

S. 685: M. Crapo, R/ID and H.R. 2456. Mike Simpson, R/ID. Preserves state authority over water within their boundaries and delegates states the authority of Congress to regulate water.

H.R. 1444: P. DeFazio, D/OR. Authorizes the Secretary of the Army to develop and implement projects for fish screens, fish passage devices, and other similar measures to mitigate adverse impacts of irrigation system water diversions in the states of OR, WA, MT and ID.

H. Con. Res. 86: E. Blumenauer (D/OR). Concurrent resolution expressing the sense of Congress regarding Federal decisions, actions, and regulations affecting water.

Water Quality

S. 20: Brownfield Remediation and Environmental Cleanup, F.R. Lautenberg D/NJ. Directs EPA to establish a grant program for States and local governments to inventory and conduct site assessments of brownfield sites. Defines brownfield sites as facilities suspected of having environmental contamination that could limit their timely use and can be readily analyzed.

S. 188: Ron Wyden, D/OR. Amends the Federal Water Pollution Control Act (FWPCA) to authorize the use of State revolving loan funds for construction of water conservation and quality improvements.

S. 493: P. Sarbanes, D/MD. Requires the U.S. Army, Corps of Engineers to conduct pilot projects on toxic microorganisms in tidal and non-tidal waters.

S. 669: P. Coverdell, R/GA. Amends the FWPCA to ensure compliance by Federal facilities with pollution control requirements.

S. 914: B. Smith, R/NH and H.R. 828: J. Barcia, D/MI. Amends the FWPCA requiring discharges from combined storm and sanitary sewers to conform to the *Combined Sewer Overflow Control Policy* of the USEPA.

S. 968: B. Graham, D/FL. Authorizes USEPA to make grants to States for water source development to maximize the supply of water and protect the environment through development of alternative water sources, and for other purposes.

H.R. 155: Municipal Biological Monitoring Use Act, J. Hefley, R/CO. Amends the Clean Water Act.

H.R. 684: Farm Sustainability and Animal Feedlot Enforcement Act, G. Miller, D/CA. Amends the Clean Water Act.

H.R. 1290: W.B. Jones, R/NC. Amends the FWPCA related to wetlands mitigation banking.

H.R. 1549: P. Visclosky, D/IN. Amends the FWPCA to establish a National Clean Water Trust Fund to carry out projects to restore and recover U.S. waters from damages resulting from FWPCA violations.

H.R. 1578: J. Hostettler, R/IN. Amends the wetland conservation provisions of the Food Security Act of 1985 and the FWPCA to permit unimpeded use of privately owned crop, range, and pasture lands that have been used for the planting of crops or the grazing of livestock in at least 5 of the preceding 10 years.

H.R. 1712: Bart Stupak, D/MI. Amends the FWPCA to authorize an estrogenic substances screening program.

H.R. 2328: J. Sweeney, R/NY. Amends the FWPCA to reauthorize the Clean Lakes Program.

H.R. 2449: Charles Norwood, R/CA. Amends the FWPCA relating to Federal facilities pollution control.

Source: Congressional Affairs Update, USFWS, 6/2, 6/25, 7/23 and 9/25/99

River Crossings

Mississippi Interstate Cooperative Resource Association
P.O. Box 774
Bettendorf, IA 52722

ADDRESS SERVICE REQUESTED