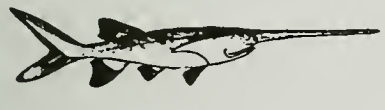
River Crossings

Volume 4 January/February 1995 Number 1

MICRA Paddlefish Survey

Beginning in February 1995 MICRA initiated a major basinwide paddlefish stock assessment, distribution, movement, harvest and exploitation survey. The project is sponsored by the U.S. Fish & Wildlife Service (FWS) through funding of the Dingell-Johnson Federal Aid to Sport Fish Restoration Program. Funding for that program comes from excise taxes levied on fishing tackle and gear.

Seventeen states (AR,IL,IN,IA,KS,KY,LA, PA,MN,MS,MO,NE,OH,SD,TN,WV, and WI) will participate this year, with plans to include the remaining basin states, where paddlefish occur, in future years. The State's shared concern for the welfare of the paddlefish was a primary reason for MICRA's formation.



paddlefish

Some states have listed the paddlefish on their protected species list, while others maintain sport and/or commercial fisheries for the species. The FWS was recently petitioned to list the paddlefish on the federal list of threatened and endangered species. While not currently listed, the species remains on the federal "watch list".

Paddlefish were historical distributed in most of the Mississippi River Basin's larger rivers, but little is known about their present distribution, movements, and habitats. For example, there is concern that fish being harvested in one state may, in fact, have been produced far away in another state or river where the species may be listed as protected. Such information is essential to develop appropriate management measures to protect and restore the species.

The MICRA survey will use coded wire tags. These state-of-the-art, sequentially numbered tags will be distributed to participating states and entities for use in marking paddlefish in their jurisdictional waters. Each sequentially numbered tag will be coded to identify tagging date and specific river mile where fish were collected or stocked. Habitat (i.e. backwater, side channel, tailwater, etc.) where fish are taken will also be recorded. MICRA hopes that all paddlefish stocked in the Basin will in the future carry the MICRA tag.

A major publicity and public participation program involving both sport and commercial fishermen will be used, as will a tag recovery reward program. MICRA will develop informational signs and brochures for distribution by participating states and entities to strategic individuals and locations (i.e. media, fishing clubs, bait shops, etc.) throughout the Basin.

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Tags, located internally in the fish, will be impossible for fishermen to see, so return of the marked paddlefish body part (i.e. dorsal fin or rostrum) from harvested fish will be required. Field biologists, however, will use a special wand to detect and recover coded wire tags without sacrificing the fish.

Recovery of both tagged and untagged fish will enhance the statistical power of the study, improving the reliability of estimated population size and exploitation rates. Fishermen returning tags will receive a reward and be eligible for other prizes supplied by various vendors.

Such a large scale effort (involving 17 states) has never before been conducted on a warmwater, interjurisdictional species. The MICRA survey will rival similar studies conducted in the northwest on Pacific coast salmon.

Flood's Lesson Manual Adrift

"The Galloway report has entered the black hole that has become the White House," according to Scott Faber of American Rivers. The report, named for the task force head, Brig. Gen. Gerald E. Galloway, made more than 80 recommendations to revamp federal response to floods. The report was summarized in Volume 3, No. 3 of *River Crossings*.

"Here we are: the Midwest, Texas, Georgia, now California," said Larry Larson, executive director of the Association of State Floodplain Managers, "Every year, we have a dozen presidential disaster declarations for flooding, and there goes another basketful of money for disaster relief."

The Midwest flood alone caused $12 billion in damages, $5.4 billion of which was covered by the federal government. Since then flooding in Georgia, Texas and California has run up the damage bill by at least $1 billion more.

Michael Davis, associate director for natural resources in the White House Council on Environmental Quality, said the administration was not ignoring the Galloway recommendations and hoped to make final decisions by March. "It's still very much a priority issue, but it's slipped a little," he said. "It's really a function of workload. There's a relatively small staff at the White House and Office of Management and Budget that are working on a lot of different issues that are important."

But politics also has played a role, said Faber, of American Rivers. "There are strong opponents of implementing the reforms suggested by Galloway," he said. Developers and property-rights groups have balked at proposals that would encourage local governments to adopt stricter zoning and building codes. Development of flood-prone land was blamed for increasing flood damage in the Midwest and, most recently, in California.

The Army Corps of Engineers also is not happy with proposals that would require it to give greater weight to the environmental impact of building new dams, levees or other river management structures. And some agencies have criticized plans to revive the Water Resources Council, which would have broad power to coordinate flood policies across the federal bureaucracy.

Opponents of changing floodplain management policy gained some powerful new allies, including Sen. Christopher S. Bond (R/MO), when Republicans took control of Congress in the November elections. Before the election, Bond was instrumental in blocking a vote on legislation that would have written many of the Galloway recommendations into law. Bond objected to provisions that would have made it harder for the Corps of Engineers to rebuild some levees destroyed by flooding along both the

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Missouri and Mississippi rivers. But he was equally angered by language that had little to do with floodplain management, but a lot to do with Missouri River politics.

Sen. Max Baucus (D/MT), then chairman of the Senate Environment and Public Works Committee, included a provision in his bill (summarized in Vol. 3, No. 5 of *River Crossings*) that called for giving preference to recreational interests on the upper Missouri River at, according to Bond, the expense of navigational interests downstream.

In the new Republican Congress, Baucus is no longer chairman of the committee and hence no longer able to control its agenda. Moreover, Bond won a seat on the committee in the new Congress and, as a member of the majority, will have a stronger voice in shaping policy. A Senate aide who has worked on floodplain management issues said, "I'm not optimistic in this session of Congress that we can get much accomplished. It may be they just got sideswiped by the election."

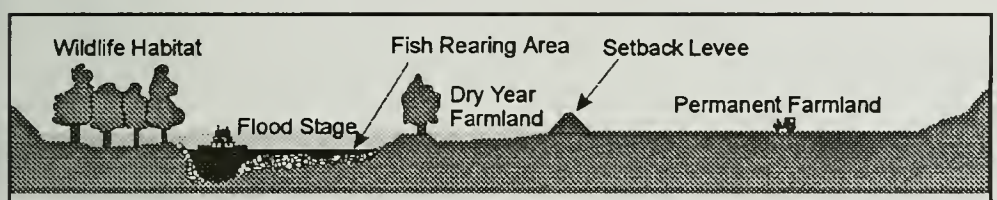
Larson, of the state floodplain managers association, said there were some positive signs of change. When James Lee Witt took over as director of the Federal Emergency Management Agency (FEMA) in 1992, he ordered the agency to consider mitigation in its response to disasters. Mitigation means spending federal disaster aid on programs that will reduce future damage. For the first time, instead of the feds coming in and saying we'll help you build a levee, they are helping people move," Larson said. "There were 6,000 federal buyouts in the Midwest. That's absolutely huge compared to purchases in the last 20 years".

"FEMA used that same approach in the Georgia and Texas floods. And I expect them to use it in California." But to be effective, said Larson and others, FEMA cannot act alone and needs the backing of an administration-wide policy. "This isn't politically popular," Larson said. "But in the long term, to reduce disaster costs and get rid of a big drain on the budget, they've got to make some of these changes. And make them permanent."

Source: St. Louis Post-Dispatch, 1-22-95

DeJa Vu in Europe

For those involved, in one way or another, in the 1993 Mississippi River flooding, the following quote taken from the Columbia Tribune (2-2-95) regarding flooding in the Netherlands, and attitudes of the Dutch seems all too familiar:



Setback levees provide for ecosystem management, balancing developmental and environmental needs, and preserving river floodplain integrity, while providing for compatible floodplain uses.

"'These dikes have been here since the 13th century ... And they just haven't been kept up ... Because of all the crap by the environmental freaks, nothing is happening ... You need to have an eye for the landscape, but its more important to look out for the people ... This is going to cost billions."

Illinois River Strategy Team

Lt. Gov. Bob Kustra recently announced the formation of the Illinois River Strategy Team, a task force of business, conservation and agriculture leaders that will work to begin a long-range planning process for the Illinois River floodplain ecosystem.

"The Illinois River was once unparalleled in this country as a natural resource," Kustra said. "But since the turn of the century, the river has experienced a catastrophic decline in its abundance of plants and animals." "We hope to turn that around," Kustra added. "With the advice of a new advisory committee of ecologists and economists, the Illinois River Strategy Team will try to preserve those portions of the river's ecosystem that are in good shape and to restore to health other parts."

"Now is the perfect time to begin such an endeavor. There are many opportunities in the Illinois River Valley to improve the environmental quality, enhance recreation and reduce potential damage from future floods," Kustra said. "We must keep in mind the importance of continued farming operations along the river and explore ways to both protect our river and our economy."

Kustra explained that Phase 1 of the plan will focus on selection of innovative and reproducible model projects in the Illinois River Valley. "The team already has inventoried all of the current projects that the local, state and federal governments are doing," Kustra said. "For the first time, we will be able to prioritize all the projects now underway and try to link all these local, state and federal efforts to protect and improve this river," Kustra noted. The team will solicit suggestions for model projects from organizations and interested Individuals. "...Once we have chosen those projects, we then will get on with developing a full ecosystem restoration plan for the entire Illinois River system, Kustra said.

Source: Illinois Agr-News, La Salle, 10-21-94

Missouri River - A View from Upstream

According to South Dakota Governor Bill Janklow it's easy to understand what motivates Missouri's and other downstream states' views of the

Missouri River. "You can sum it up in one word. It all comes down to one thing – 'Greed'". Downstream states (Missouri, Nebraska and Iowa) oppose an Army Corps of Engineers plan to put recreation on an equal footing with navigation in determining river flow. South Dakota, North Dakota, and Montana support the change.

"The downstream states have never recognized that we are all in this together. This is the most selfish thing I have ever seen in public life," Janklow said last year in an interview with the Yankton Press & Dakotan. "Recreation represents by far the greater economic benefit," said Sen. Tom Daschle, D/SD. "This plan begins to put us on the right track." The Corps values recreation at about $77 million annually, while the estimated value of navigation is $15 million. Despite the shift, the Corps' says that downstream states will continue to receive 68% of the river's benefits, or $752 million, while upstream states' benefits would be set at $360 million, or 32%.

Political leaders in Missouri, Iowa, and Nebraska have objected and have threatened congressional action. They also want the Clinton administration to let them review the manual again before it is put into effect. They are concerned that the plan would result in increased flooding in the spring and a shortened navigation season in the fall. They also argue the plan would increase air pollution by shifting goods from barges to heavy trucks and trains. According to the Associated Press, David Shorr, Director of the Missouri Department of Natural Resources, says the plan "stinks". Shorr says "It is, very simply put, an attempt to transfer water rights from the lower basin states to the upper basin states so they can have more fun with their little boats. We get ripped off."

Janklow said, "A public official who makes the kind of statements that Shorr made is either lying or they don't know the facts. That kind of person does not belong on the public payroll." Federal officials acknowledged that they had no rational reason for rating any one benefit, other than flood control, higher than another, Janklow said. "As a result, they agreed to consider recreation equally with the other benefits," he said, "...Now the downstream states are talking like they own the river."

The Flood Control Act of 1944 created the Missouri River dams, and the dams created huge reservoirs in the upstream states. South Dakota lost 536,875 acres of rich river bottom land to the reservoirs. More than 1.2 million acres were lost in the Dakotas and Montana. For that sacrifice, the states were promised federal irrigation projects, cheap hydroelectric power and flood control. Recreation, domestic and municipal water and other uses were not considered significant. Nearly 1

million acres were to be irrigated in South Dakota. "No one anticipated that the agricultural development would not occur. The federal government failed to fund most of the irrigation projects, and the projected 21 million tons of grain which would be shipped from Sioux City is less than 2 million." Janklow said. "None of that promised agricultural development occurred, and in the meantime, the downstream states have grown accustomed to their greed."

South Dakota's share of the electric power from the dams is less than one-fifth of what is generated, yet the state is home to four of the six dams. Nebraska gets about 19%. North Dakota and Montana receive smaller amounts. Minnesota, which lost nothing to the development, gets 24% of the power. Iowa gets 19%.

Recreation, which was not a factor when the plan was enacted, has become the biggest benefit. Since Gavins Point Dam near Yankton, SD is the lower most dam on the river, the reservoir behind it, Lewis and Clark Lake, remains more stable and has developed as a tourist attraction. South Dakota leaders want more permanent storage for the other reservoirs so similar developments could occur.

A point the Associated Press article failed to note was the fact that under the federal Pick Sloan Plan; which authorized reservoir construction; Iowa, Nebraska, Kansas, and Missouri were to provide land for a "setback levee" flood control system downstream of Gavins Point Dam. This system was never put in place due, in large part, to land owner opposition. Landowners living adjacent to the river, especially in Missouri, received huge, "windfall" land holdings from the Pick Sloan river channelization project.

As the river was channelized, its former backwater and side channel habitats were filled with sediments and most of these lands became the "free and clear" private property of adjacent land owners. These lands were then drained and farmed (also through federal subsidies). In most cases land owners chose to build their own levees and to farm right up to the river's edge instead of participating in the federal Pick Sloan setback levee flood control system.

Critics, during the 1993 flood, argued that this landowner decision exacerbated the flooding problem and escalated public expenditure to recover from the 1993 floods. Conversion of riparian habitats to farm lands also played a major role in the destruction of the River's ecosystem, which is now unable to support its native species.

According to Corps of Engineers figures, the lands of upstream states, inundated by federal reservoirs, provided significant flood storage

capacity and flood damage reduction for downstream states during the 1993 floods. It therefore seems fair for South Dakota, North Dakota, and Montana to claim that their floodplain lands and land rights were transferred by the Pick Sloan project to the private holdings and interests of downstream states. So its easy to see why this is such an emotional issue to all involved.

Source: The Associated Press

Missouri vs Sturgeon

The state of Missouri is laying groundwork for a legal challenge to proposed changes in Missouri River flow management that are intended to benefit the endangered pallid sturgeon. Using Freedom of Information Act requests, the state has obtained documents from the U.S. Department of the Interior concerning pallid sturgeon genetics and just how proposed changes in river flows are supposed to aid recovery.

pallid sturgeon

U.S. Army Corps of Engineers' proposed changes to water released from six upstream dams (currently under review) would alter Missouri River flows to more closely mimic natural flows. These releases would produce a higher spring rise, and probably more flooding, as well as a reduced flow in the fall that would reduce the barge navigation season by one month. Biologists believe the changes would act as natural triggers which would improve sturgeon spawning. The plan would also help the endangered interior least tern and the threatened piping plover by reclaiming sandbar nesting sites.

Missouri Attorney General Jay Nixon said, "...We hope they (the Corps) will come back to the primary role of that river as a transportation channel." The Corps will take comments on the plan through March 1, with final implementation planned in 1996. Ron Kucera, director of intergovernmental relations for the Missouri Department of Natural Resources, said Missouri does not believe the "full range of options" to save the sturgeon - other than changing the river flow - have been explored.

Missouri is trying to portray the Corps proposal as an economic issue affecting the entire nation. Kucera said the state has found that there could be impacts on Mississippi River barge traffic if flows are reduced each fall. In addition, he said, the plan benefits upstream states and their huge reservoirs by making much more water available for irrigation and recreation at the expense of the downstream states. "This is not just an endangered species issue," Kucera said. "The underlying battle is the ability to use and exploit the water. The Endangered Species Act shouldn't be used as a club."

Meanwhile, the Missouri Department of Conservation has stocked the river with pallid sturgeon raised at a state fish hatchery. Biologist Kim Graham said 17 of the tagged fish have been found in good condition since they were released last spring in the Missouri and Mississippi rivers. "I think those fish are going to make it," Graham said. "If we can get the base population built up, when they become sexually mature, I think we've got a chance for natural reproduction." But Graham said the underlying cause of the pallid's decline is loss of natural habitat, a direct result of the man-made changes in the Missouri River. "A stocking program is just a stopgap measure," he said.

Source: Columbia Daily Tribune Jan. 29, 1995

Sturgeon Genetics - The Current "Bottom Line"

Three genetic studies have been conducted to assess relationships of sturgeons of the genus *Scaphirhynchus* (pallid, shovelnose, and Alabama sturgeon). All three have attempted to discover consistent genetic differences between pallid and shovelnose sturgeon, and two of the three have compared all three sturgeons. Two of the studies have examined variation in nuclear DNA, one directly (the Genetic Analyses study of PCR-amplified DNA fragments) and one indirectly (the allozyme study of 37 gene products of Phelps and Allendorf (Copeia 1983: 696-700)). The third study, supervised by Schill, compared sequences of segments of the mitochondrial DNA cytochrome b gene. The results can be reviewed from the perspective of two major questions: 1) are pallid and shovelnose sturgeon different species, and if so, what is the extent of hybridization between them; and 2) is the Alabama sturgeon genetically distinct from either pallid or shovelnose sturgeon?

shovelnose sturgeon

Pallid vs Shovelnose - None of the studies detected significant genetic differences between pallid and shovelnose sturgeon. The mtDNA sequences of one individual of each species were identical, and the four polymorphic loci identified in the other two studies yielded similar allele frequencies for each species. All other loci and fragments examined were very similar or identical. These results would be expected if pallid and shovelnose sturgeon were in fact the same species. Does this guarantee that they are one species? No. If the two types had diverged very recently or if *Scaphirhynchus* molecular evolution were very slow, sequences and allele frequencies may have diverged only a little from the ancestral type. Alternatively, there may be sufficient gene exchange (i.e. hybridization) to bring allele frequencies to equilibrium frequencies; Slatkin has shown that only a few exchanges/generations are enough to produce genetic identity. In sum, there is no genetic evidence supporting the contention that pallid and shovelnose sturgeon are different species, but there is strong but insufficient evidence to conclude that they certainly are one species. How

much evidence for conspecificity is enough? This question probably cannot be answered, but if no genetic differentiation can be demonstrated after repeated efforts, the only genetic consideration in recovery efforts is avoidance of loss of genetic variability in each management unit established by morphological criteria.

Alabama Sturgeon - The two genetic studies conducted so far have reached different conclusions. The mtDNA sequence of the single Alabama individual is identical to that of both pallid and shovelnose sturgeon. At the nuclear DNA level, the Alabama individual has the common sturgeon genotype at the one polymorphic locus analyzed, but when the total available nuclear DNA markers are assessed, considerable genetic differences between the Alabama and both shovelnose and pallid sturgeon individuals are observed. Is the Alabama sturgeon the same species as shovelnose, pallid, or both? The nuclear DNA differences suggest that the Alabama sturgeon is much more different genetically from either shovelnose or pallid than the latter two species are from each other. However, this result is based upon only one individual. A second individual would document whether the observed differences are consistent; based upon the very low levels of geographic and individual variability observed in pallid and shovelnose sturgeon, one more individual should be enough to test consistency. Genetic differentiation without question implies the presence of two separate gene pools, whether or not they are described as species.

Source: Genetic Studies of *Scaphirynchus spp.*, Genetic Analyses Inc., P.O. Box 598, Smithville, TX 78957, November, 1994.

Alabama Sturgeon Withdrawn

Mollie Beattie, Director of the U.S. Fish and Wildlife Service announced on December 5th her decision to withdraw the proposal to list the Alabama sturgeon as an endangered species. She said in her news release that she did not believe the listing is warranted at this time because of the lack of evidence that the Alabama sturgeon still exists in the wild. Despite more than 3 years of searching we have been able to capture only one Alabama sturgeon. "I cannot endorse listing a species with so little information, she said.

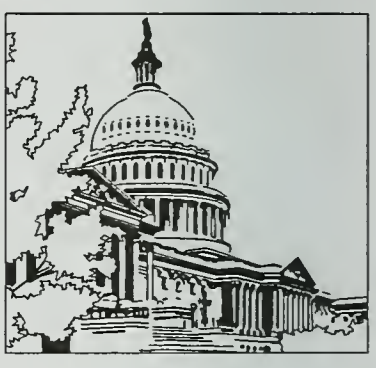
It is apparent from the information we have developed that damage to sturgeons found in the Alabama and Tombigbee rivers occurred years ago from dams built on the rivers, water quality, past habitat destruction, and perhaps commercial fishing. This information also indicates that current activities on these rivers will not have adverse effects on any undiscovered wild Alabama sturgeon populations.

In lieu of listing, the Service will continue to look for wild Alabama surgeons. If Alabama sturgeons are found, the Endangered Species Act provides the Service flexibility to list them on an emergency basis. We will continue our ongoing efforts to learn more about the Alabama sturgeon and its habitat. Those efforts will continue in the Alabama River through next spring. Meanwhile, the Alabama sturgeon will remain protected under state law, as it is currently.

1995 Conservation Outlook

Public Support - According to a Peter Hart Research Associates poll, released December 21 by Jay Hair, president of the National Wildlife Federation, there is continued strong public support for environmental protection. According to the poll, fewer than 7% of voters were thinking about environmental issues when they chose candidates. Among all voters, 62% favored strong or stronger environmental protection with 18% opposed. Among Republicans, 55% thought environmental laws don't go far enough or strike the right balance, while 25% said they go too far. League of Conservation Voters pollsters found that 83% of voters consider themselves environmentalists.

Budget Cutting - Some Republicans are expected use the budget process rather than a regulatory agenda to reduce or eliminate funding for programs they oppose. Spending caps will force continued declines in many agency budgets, particularly those that affect natural resources. Programs that fail to win reauthorization this year could find themselves without funding next year. Interior appropriations panel chairman Ralph Regula (R/OH) has pledged to withhold funds for any programs that lack authorizing legislation. Regula, who has a strong environmental record, reportedly made that pledge to appease fellow Republicans concerned about his priorities, sources said. Many observers predict funding for the National Biological Service, which was not authorized last year, could be among the first to be stricken. The U.S. Geological Survey, Bureau of Mines, and various Interior and Agriculture department programs also are threatened.



Relaxed Regulations - Advocates of relaxed environmental regulations could find new friends in House Agriculture Committee Chairman Pat Roberts (R/KS), who earned a 93% rating from the League of Private Property Rights Voters and a 4% grade from the League of Conservation Voters, and incoming Senate Agriculture Chairman Richard Lugar (R/IN), who scored 70% and 31% respectively.

Farm Bill - Aside from the budget, the most significant environmental debates may take place during the expected reauthorization of the farm bill. The 36 million acre Conservation Reserve Program (CRP) is expected to survive the budget ax, though perhaps in a different form. The program's contribution to soil erosion control has been questioned, but its contribution to wildlife habitat enhancement has been

an unqualified success. Farm groups support the program, but worry it could be pined against more traditional commodity programs.

Wetlands - Depending on the political climate, controversial issues like wetlands protection and property rights could be addressed in the farm bill or deferred for later action. Many Republicans and conservative Democrats want to reform wetlands protection programs and could seek changes in the definition of wetlands in the Swampbuster provision to limit the scope of regulations. Adjusting the definition could exempt more than 10 million acres of prior-converted and other wetlands from regulation. Anti-regulatory forces are targeting Swampbuster and will most likely seek to pass a wetlands reform bill outside the context of Clean Water Act reauthorization. Don Young (R/AK) is planning to mark-up a free-standing wetlands bill similar to last year's H.R. 1330, sponsored by Rep. Jimmy Hayes (D/TX). House Republicans may have enough votes to pass a Hayes-style wetlands bill, said Bob Szabo of the reform minded National Wetlands Coalition, but outlook in the Senate is less clear. Environmentalists vehemently oppose the Hayes bill, because they believe it would weaken wetlands protection, which they say enjoys wide-spread public support.

Endangered Species Act - No federal environmental law has suffered as much rhetorical defilement as the Endangered Species Act, but despite harsh words and growing opposition, the controversial law will probably survive 1995 intact. The act was due for reauthorization in 1992, but Congress deferred action to see whether President Clinton's Northwest forest plan would be able to diffuse the tension between timber interests and efforts to protect the northern spotted owl. More recently, the growing private property rights movement has frustrated reauthorization efforts. Although a number of reauthorization bills were introduced and hearings were held last summer, bill sponsors feared that congressional preoccupation with "takings" compensation language would weaken species protection. With the Republicans intent on passing a free-standing private property rights protection measure through the Contract with America, the most controversial aspect of the species law may be addressed outside the context of reauthorization. If that happens, there will be far less pressure to amend the act. Once again, the law's opponents may seek to enact changes through the appropriations process. The law remains in effect and continues to receive appropriations, but Congress could slash funding or require that cost-benefit analyses be conducted for future projects it funds. Additional listings also could be barred. A key figure to watch in the Endangered Species Act debate is new House Speaker Newt Gingrich (R/GA) who last year co-sponsored an environmentalist backed reauthorization bill introduced by Reps. Gerry Studds (D/MA) and John Dingell (D/MI). If reauthorization is attempted, providing incentives for private landowners to preserve species will be a hot topic, as will the economic impact of listing decisions, and improving ecosystem management and multi-species recovery efforts. But takings will be the battleground, and a compensation provision like that in the Republican contract would go a long way toward gutting the act. Even some hard-core property rights activists consider the 10% trigger extreme. Rep. Billy Tauzin (D/LA), the notable House property rights advocate prefers a 50% trigger. Most sources agree that Congress will pass something dealing with private property rights, but whether it will be a symbolic gesture or a bill with far-reaching effect remains to be seen.

Clean Water Act - The outlook that Congress will take up reauthorization of the Clean Water Act is bleak this year. A comprehensive reauthorization bill cleared the Senate Environment Committee last spring, but only after deferring action on wetlands and other more controversial aspects. Action in the House, where water issues were split among four committees, ground to a halt last summer when House Public Works Chairman Norm Mineta (D/CA) failed to muster enough support to pass a bill that would strengthen water protection. Rep. Bud Shuster (R/PA), a 15% League of Conservation Voters scorer who will lead the renamed Transportation and Infrastructure Committee this year, wants to go ahead with reauthorization after addressing unfunded mandates concerns, but environmentalist-ally Rep. Sherwood Boehlert (R/NY) will head the committee's water resources panel and is expected to oppose a bill that weakens the act.

Grazing - In a major concession to Western interests, Interior Secretary Bruce Babbitt abandoned a controversial plan to increase public land grazing fees from his rangeland reform proposal on December 22. Babbitt called the move a "tactical retreat" aimed at preserving other regulatory provisions of the plan. Regulations within Babbitt's plan will not take place until six months after being published. This is to allow for congressional review, and Congress could overrule the plan, particularly if language on water rights, grazing

advisory panels, and ownership of range improvements remain onerous, said Jon Doggett of the American Farm Bureau Federation. According to Karl Gawell of The Wilderness Society, Babbitt's reversal is an opportunity to persuade budget-conscious lawmakers that "We're letting corporate cowboys get an outrageous subsidy". "If social security is on the table then corporate welfare should be too, Gawell said." The Society, and possibly other groups, will try to enact a politically smart, bipartisan fee increase, which protects the family rancher while charging the agribusinesses that hold the majority of grazing permits, he said. Hill sources suggest the fee issue could come up in the Senate, where lawmakers may attempt to impose a more modest fee hike palatable to industry. House Resources Committee Chairman Don Young and Senate Energy Committee Chairman Frank Murkowski, both Alaskans, scored zero on the League of Conservation Voters' 1994 scorecard, and tend to favor public land users in environmental disputes. They hold the key to grazing reform in the 104th Congress.

Clinton Forest Initiative - Congress probably will address the Clinton administration's forest health initiative, which was unveiled by Forest Service Chief Jack Ward Thomas in November. At issue there will be policies affecting salvage and thinning operations, particularly those designed to prevent fuel buildup that some believe worsens forest fires. Timber interests will be pushing for increased salvage operations as a means of ensuring a continued supply of timber, while environmentalists will oppose such measures, especially in roadless areas, beyond that absolutely necessary for forest health.

Mining Reform - A victim of fiercely partisan politicking, mining reform died in the 103rd Congress just as it seemed House and Senate conferees might be able to reach agreement on reforming the 123-year-old mining law. Now with Republicans in control and western conservatives strengthening their grip on public lands committees, mining reform could still be a front-burner issue, though any change will be modest and palatable to the industry. But how the 1872 law can stand up unscathed in a Congress hell-bent on ending subsidy programs and pork-barrel politics is a question Democrats and environmentalists will ask repeatedly unless the new leadership takes action. With committee chairmen Murkowski and Young sympathetic to their concerns, mining interests most certainly will push for modest reform that will end the horror stories about billion-dollar giveaways yet still protect their industry and livelihood. If Congress does pass a bill, even a weak one, President Clinton will have little choice but to sign it, lest he inadvertently protect the status quo. Environmentalists and mining reform advocates will have to lobby hard to keep what concessions the mining industry made last year in the areas of royalties and fees.

National Parks - Just about all park bills died without action in the last Congress, including long-awaited measures to reform the way concessions contracts are awarded. Both chambers passed a concessions reform bill last year, but the measure failed when conferees were unable to resolve minor differences before the close of the session. Sens. Robert Bennett (R/UT) and Dale Bumpers (D/AR) will push hard to enact reform this year, sources said. The outlook has improved, particularly because the bill's most outspoken critic, former Sen. Malcolm Wallop (R/WY) retired at the end of last session. Bills to reorganize the National Park Service and impose higher entrance fees at some parks also failed to pass. Environmentalists are lobbying hard for land acquisition funding and have received encouraging signals from the administration, sources said. Park Service Director Roger Kennedy released his reorganization plan December 12, but some congressional Republicans want to pursue more radical proposals, including those that would decrease the size of the park system by privatizing some parks and eliminating others.

Wild and Scenic Rivers - The 103rd Congress saw a decrease in the number of river miles added to the Wild and Scenic River System. At the start of 1994 more than 1,000 rivers had been identified by the Forest Service, Bureau of Land Management, and the Park Service as eligible for inclusion in the system. Suitability studies are underway for some of those, but few formal recommendations have been forthcoming. Sources doubt the new Congress will be any more receptive to expanding the river system than the last.

Wildlife Refuges - The U.S. Fish and Wildlife Service established the 500th National Wildlife Refuge last fall, but legislation to provide the agency with a new congressional mandate for the refuge system was held up because of controversy over what activities -- such as grazing, mining, hunting, and off-road vehicle use -- posed a threat to wildlife. The agency released a review November 29 that found most activities were compatible with refuge purposes, appeasing hunting and fishing groups who felt they were under attack by the agency and Sen. Bob Graham's (D/FL) bill. Graham has pledged to reintroduce his bill, which would establish a formal process for compatibility reviews and require a master plan for the system, this year. Most environmental groups support the Graham bill.

Other Legislation - Superfund and Safe Drinking Water Act reauthorization bills may see action. Other issues, including pesticide regulation, farm stewardship

guidelines, market-based commodity programs and water quality programs will be under scrutiny in the new Congress. Finding common ground between environmentalists and farm groups on conservation programs and stewardship incentives will be critical here, if such programs are to escape budget cuts. Environmentalists have pinned their hopes on Senate Environment Committee Chairman John Chafee (R/RI) a strong environmentalist who has come under fire from Republican colleagues for his green views. Property rights, risk assessment, and unfunded mandates top the committee's agenda, followed by reauthorization of Superfund and the Safe Drinking Water Act.

Source: Land Letter, SPECIAL REPORT, January 1,1995, Vol. 14, No. 1

Finish Off Endangered Species (FOES) ACTION PLAN

On January 19th while cruising down the Information Super Highway (ISH), one of our readers nearly had the Com Port of his 486SX blown off by a fast moving cybernaut using the "handle" – FOES1995@AOL.COM.

FOES1995@AOL.COM was picked up on the ISH as he/she/it sped down the passing lane of "America On Line" leaving only a trail of dust, a "hearty Hi Ho Silver", and a disturbing, if not irresponsible, message. That message was titled, "Finish Off Endangered Species (FOES) ACTION PLAN". Whether the FOES Action Plan is serious or a joke, it should serve as a "wake up call" for all those who care about such things as species diversity, open space, greenways, and quality of life. The text of the FOES Action Plan follows:

"In a few short months, the Endangered Species Act will be history. This plan explains how. America was a great country up to the late 1960's and early 1970's. Then, the whacko environmentalists took over and passed crazy laws. And the craziest law of all was the Endangered Species Act that said varmints, bugs, and poisonous plants are more important than people. Think about it. That law was passed in 1973 and that's when America really started going down the tubes.

'The Endangered Species Act is another Viet Nam. Since the sorry day the Endangered Species Act was passed, we have declined from our former greatness as a human civilization. At the same time, the bugs, birds, and other vermin have prospered. It's gone from bad to worse, and now thousands of hard working Americans and their families have lost everything because of endangered species. It's a sad day when people's homes burn down because of a stupid rat some fool put on a list. When a whole proud logging industry dies because of an owl that is too ignorant to live in healthy young tree farms. When we stop building dams that are the envy of the world.

'The critters are taking over and dragging this country down for the last count. Any nation that puts bugs before people is endangered, and that is the US today. Bad science, unfunded mandates, and taking private property all make good people the real endangered species. Why did this happen? Environmentalists are negative. They only know what they are against. They're always telling people: "Stop everything! You're no good!" They aren't for anything that has to do with people instead of their birds, briars and bugs. They are against growth and they are against private property. But they never met a critter they didn't like. They use endangered species as a gimmick to try to stop growth and progress. For many years, they fooled most of the people. But no longer. Now the people are taking back over from the birds.

"attitude problem"

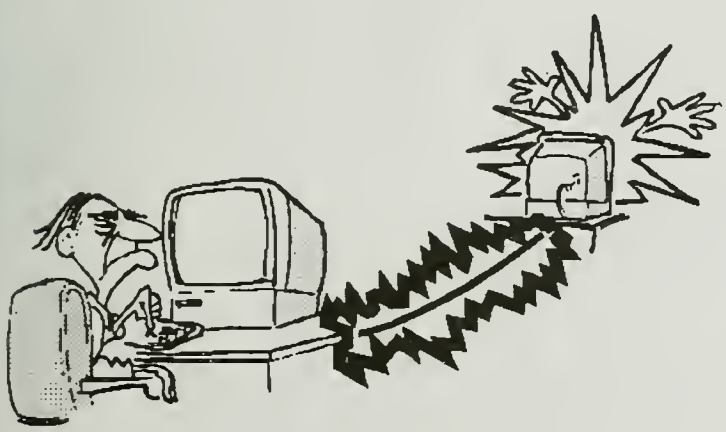
'How do we fix it? Now we control Congress. We must move fast to get rid of this crazy law before people get confused again by environmentalist propaganda.

OUR MODEST PROPOSAL

Never Re-authorize - The Endangered Species Act has already lost its authorization. It happened in the last Congress. That means it's already twisting in the wind. We must see to it that it NEVER gets re-authorized. Endangered Humans Act, yes, Endangered Species Act, never again.

Choke Off the Appropriations Money - Next, we must make sure our friends choke off all money to implement the evil act. This will be easy to do. Starvation diet time! Easiest budget cut ever made.

Attack the Bureaucrats - We will attack the pointy-headed bureaucrats who inflict the law on people. We have a golden opportunity to get rid of the Fish and Wildlife Service and the Nationalistic Biological Serbia. And guess what, we've got help! The enviros don't like them either! Without the feds, the law is dead. But we must move fast before they fool people into supporting them.



"fast moving cybernaut"

Attack the Science - ALWAYS call the science bad. It works! The media always cover it if there is an opposing view. So tell people that endangered species is a fiction, that all species die at the end of their cycle. Demand proof that any species is really endangered. Talk about how the species that go are the defective ones that couldn't make it and needed to be culled. Talk about how new species are always evolving. Talk about how, if there are millions of species out there, losing a few can't make any difference. Talk about how the list of species is full of mistakes and has hybrids and other things that shouldn't be there. Science mixes people up. It scares them. Americans want things simple. The Know Nothings were right. We can help."

Interview with the FWS Director

Mollie Beattie is the first female director of the U.S. Fish and Wildlife Service (FWS), the federal agency charged with establishing national policy on many issues which effect interjurisdictional rivers. Both State and Federal fish and wildlife management agencies have traditionally been male dominated agencies, and *The Land Letter* recently published an interview with Director Beattie where they solicited her views on several current controversial issues.

The Land Letter interview described Director Beattie as "...something of an anomaly, her quiet style and unassuming air, belieing her passionate ideology, cut from the mold of conservationist Aldo Leopold."

What Director Beattie had to say in that interview made a lot of sense. Reasonable people could learn from her "common sense" approach and perhaps quell the "fast moving cybernauts" (FOES) and other radicals who are trying to dismantle decades of environmental progress by polluting the wires and the air waves with their non-sensical gibberish.

What follows are excerpts from *The Land Letter* interview with FWS Director Beattie:

Reforming the Endangered Species Act - "We went through a round-maybe a year, year and a half ago of coming up with a list of changes that we could make within our own authority, and we've addressed every one of those," she said. "We're now brainstorming another list to see what kind of further changes we can make ... we're going to continue this process until we believe we've exhausted all the flexibility that's in the act and answered the criticisms and the calls for improvement as best we can." "... when you ask about the future of the Endangered Species Act, obviously the Congress, the courts and our own skill at applying the act will determine it," Beattie said. "Relative to private land, we are still examining the potential of three or four categories (of actions) incentives, exemptions from the act or from the penalties in the act, and 'de minimis' sorts of provisions, which are really exemptions where, below a certain acreage (or impact), people wouldn't be held to the stricture ... I think if we sat down and came up with a statutory proposal ... I would be surprised if it didn't include more flexibility for habitat conservation plans, (including) more ability to do them for multiple species, whether they're on the list or not," Beattie said. She envisions a situation where agency officials go into a community, look at the whole ecosystem and its needs, and then get the state, towns, and local landowners to the table. "If we can get all those people to come to the table, and we all agree on long-term conservation - that's not preservation - that's conservation planning...," she said, "... I think you'll see us trying to push the act more toward the anticipatory side."

The Farm Bill - "We will be deeply involved because, since 1985, the farm bill has offered tremendous potential for wildlife habitat improvement that really hasn't cost farmers anything. It's a very powerful synergy between farmers and wildlife interests," Beattie said. "We support the Conservation Reserve Program, (and) we figure that with a little tailoring, which really wouldn't cost any more, we could have even greater impacts for wildlife. The farm bill is a great vehicle for essentially non-regulatory and generally cost-neutral wildlife conservation."

The National Biological Service (NBS) - "The Fish and Wildlife Service's original name was the U.S. Biological Survey. But the name conjures up images of phalanxes of researchers out running around the countryside surveying everything, and in fact that was never the intent." "(It was intended to be) a science service organization for the other bureaus," Beattie said. "It's given us a lot of credibility in the sense that we now can refer questions to people who understand our organization, its mission and its scientific basis, as well as anyone in the world and yet are a step away from us," she said. "We can have a lot more credibility by saying, 'Well, we don't really know what the answer is. We're going to ask the National Biological Service.'" "These issues of science and policy take a lot of thought to try to understand. Policymakers really need to have the science come through fairly pure. They can choose to override it and say, 'Thank you for the science, but there are social and economic reasons why we're going to do the other thing instead.' But they still have to have (science that is) not at all shaped by political and budgetary considerations." "When we gave the resources to the NBS, they took the funding with them. So if the funding disappears - and (Congress) gave us back the charge - we wouldn't be able to run it, because we wouldn't have any resources to do that," Beattie said.

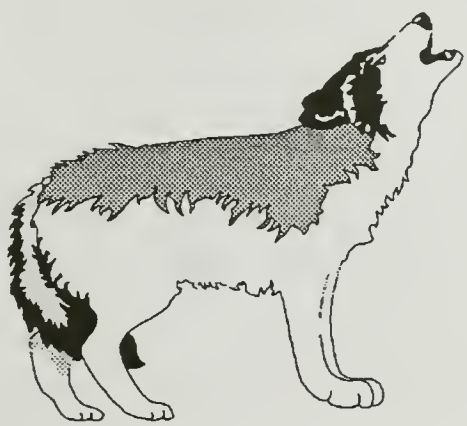
Wildlife Refuges - "I am very straight-forward in saying that the balance falls to the conservation of wildlife," Beattie said. "I don't say that to exclude the other uses. But I firmly believe that what goes on in a wildlife refuge should be wildlife-related, whether that's wildlife-oriented recreation or conservation ... I do not support the notion that these are multiple-use public recreation lands to be used for the same purposes, for instance, as a national park or a national recreation area is used for. Refuges are set aside for the protection of wildlife. Wildlife has to remain first in

the system," she said.

Land Acquisition - "We're in a tight bind," Beattie said. "This is a very crude comparison and one in which a lot of caveats have to be applied, but the Park Service has roughly $14 an acre if you divide its budget by its acreage, and the National Wildlife Refuge System has $1.81. We're in a serious operations funding shortfall." "A lot of people ask us why we're still buying land, and the answer is ... we've been very sure to stick to our highest priority and only buy from the top of the list down. In many cases the alternative is that the land will be developed and the habitat lost. Even if we can't at the present time adequately staff a new refuge, it's still better to have the land in public ownership where the habitat still exists and people can enjoy it and hunt on it," she said. "It may not be staffed and there may not be a visitor's center or a parking lot. But it still seems preferable to us than having lost highly valuable habitat."

Downsizing - "The streamlining is an effort not to get rid of jobs, but to move them out to the field level." "So it should help us to get work done at the field level, on the refuges, out in the fisheries offices, because we'll be sending resources to them." "There is at the same time a downsizing effort going on as well, which is actually getting rid of jobs. We are aiming for that balance point where you can compensate for lost jobs with efficiencies, with automation - which (means) doing things better," Beattie said. "There is a balance point past where you are actually doing less things, and the downsizing initiatives are trying all the time to find that balance point ... The challenge for us is always that the priorities our statutes set - our principle statute being the Endangered Species Act - are really sort of crisis oriented ... yet the mission of the Service is probably in the long run better served by non-crisis oriented stuff like getting out and talking to private landowners and making sure that their stewardship is really good, so they never get to an endangered species listing."

The Legacy of Aldo Leopold - "I was just reading Aldo Leopold last night because there's a chance - a very small chance - that wolves could be reintroduced tomorrow (Jan. 11) ... and tomorrow is Aldo Leopold's birthday. I don't know if anyone else around here knows that, but I observe it every year. Aldo Leopold's consciousness of what he called the biotic community - and we call ecosystems - and how they work came out of an epiphany he had about the relationship between wolves and deer ... Leopold ... rarely got anything wrong when you consider he was writing 50 years ago. He talks about everything we're talking about right here. He talks about endangered species, he talks about the wise-use movement - although he obviously doesn't use those words - he talks about short-term economics and that kind of thing. The two things that he really got right more than anything are, first of all, stepping back and looking at the fact that we're part of this ecosystem and that really you can't separate the human interest from the fate of the earth or the fate of the animals. It's really all of a piece. Second of all that there's an ethical dimension here ... (it) basically says that the relationship we have with the earth and with the land has got to be an ethical one." "We can do all the regulating we want, but if we're not changing people's relationships with the land into an ethical one through other means, then we're not going to get anywhere. I think (Leopold) got it exactly right that government can only do so much in terms of buying land and regulating. And ... he's got that wonderful line about how if a thing is wrong and a thing is right. In this business, if there's anything you've got to remember at all times its right from wrong, and that is such a wonderful guideline." "On the wolf reintroduction there are people who want us to do it one way or another for political or publicity or whatever reasons. I mean, everybody has an interest in this outside the bureau right now. There's lots of pressure one way or another, and you can pick up Aldo Leopold and say, 'Hey wait a minute, what about what the wolves need?' That's all there is to it. Reading Aldo Leopold gives one backbone."



Goals as Director - "This organization has gone in a very short amount of time from one relatively insignificant among federal agencies to being where roughly 75 percent of the news-clips we get in here every day are (about) fish and wildlife issues," Beattie said. "In the time I've been here ... say, every 20th listing package that went through created a controversy. Now its every listing package ... and at the same time ... we're downsizing and streamlining. So leaving a legacy of an organization that thrived through that and managed to see it as an opportunity rather than a time of diminishment, I think would be really important."

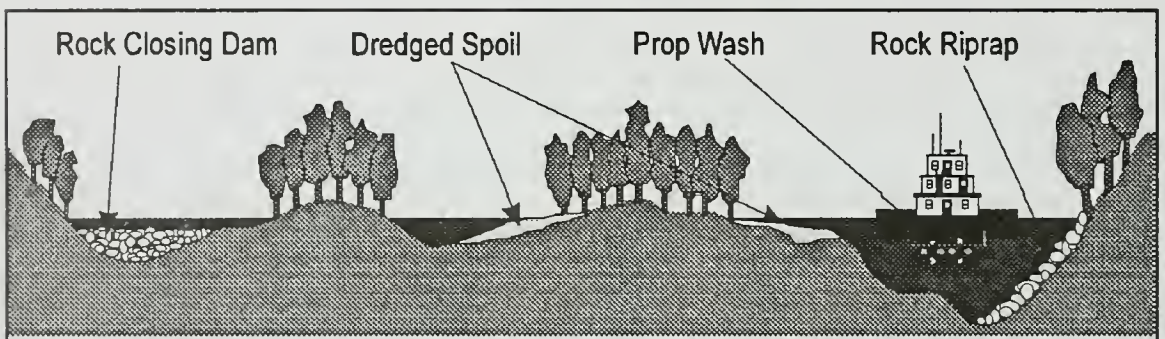
Personal Goals - "We need to take the lead in helping people who live in downtown Manhattan and the middle of Los Angeles to understand that this has something to do with them, even if they don't hunt and fish, even if they never go out and bird-watch," Beattie said. "Fish and wildlife and all their appeal are key to having people begin to think about their own dependence on the ecosystem and how fish and wildlife are both indicators and pieces of that system. (We also need) to help those people who are responsive to fish and wildlife understand that you can't love bears without loving salmon, and you can't love salmon without loving a lot of things that are not cuddly and cute. I mean, I've had more people say to me, 'We didn't pass the Endangered Species Act in order to save little rodents,' and I say, 'Well, do you have any idea what wolves eat?'" "One of my personal goals is to change the way people look at fish and wildlife and also

to keep the momentum and creativity that the service has towards that end going."

Source: Land Letter, SPECIAL REPORT, Vol. 14. No. 3

Upper Mississippi River (UMR) Navigation Study

The U.S. Army Corps of Engineers is funding yet another study to expand UMR navigation capacity. This time by enlarging several locks and dams between St. Louis and Dubuque. Lock and Dam 26 was enlarged at St. Louis in the late 1980's and early 1990's at a public cost of $1.2 billion.



Slackwater navigation dams disrupt natural hydrographs, and create shallow wetlands which fill with sediments and dredged spoil, while tow traffic impacts water quality and fish production.

The present study alone will cost $43 million.

The current study will also examine eight locks on the Illinois Waterway, which connects Chicago to the Mississippi River through the Chicago, Des Plaines and Illinois rivers. Construction of any new locks would cost the taxpayer billions more.

Three of the eight locks on the Illinois Waterway are regarded as congested, as are Mississippi River locks 22, 24 and 25 between Quincy, IL, and St. Louis. According to the Corps' study, "Many of the locks were designed to accommodate a fraction of the traffic that currently transits the system...most of the locks on the system are 600 feet long... many of the tows using the river are 1,200 feet long...Tows must lock through in two steps...This process takes at least 1.5 and often over two hours."

Barges and navigation traffic impact fish and wildlife resources and habitats in many ways. These include directly killing fish larvae and eggs, eroding shoreline habitats, filling backwaters with sediments, and reducing productivity by increasing turbidity levels. Expanding lock size from 600 to 1200 feet will reduce lockage times, eliminate bottlenecks, and put more barges on the river, thus increasing navigation and wildlife conflicts.

The current navigation expansion study is made up of a series of expensive basic research projects — examining a range of environmental engineering and economic questions. Reconstruction of the UMR locks may include the three most congested locks, or all 14 locks between the already completed locks at Alton, IL, and Dubuque, IA.

Whatever happens on locks 25 through 11 will "... impact the whole upper river system, there's no doubt about it," said Ron Nargang, deputy commissioner of the Minnesota Department of Natural Resources in St. Paul. Nargang is also a member of the governor's liaison committee made up of Minnesota, Wisconsin Illinois, Iowa and Missouri representatives. Those states insist that the Corps has never adequately studied the environmental impact of its plans.

Despite the passage of more than a decade since completion of the Upper Mississippi River System Master Plan (1981), which outlined the impacts of navigation on fish and wildlife resources and identified the needs for further study, few impact studies have been completed. Environmental interests are recommending that the Corps spend an additional $25 million on environmental research — in addition to the $13 million the Corps already plans to spend. Col. Richard Craig, commander of the Corps North Central Division in Chicago, says he is open to additional study, but he worries about finding the money to fund it.

The Corps is in the second year of the $43 million navigation study — to determine what the river will look like for the next 50 years. Shipping interests very much want to see vast expenditures made. But many in the public are skeptical, even hostile. In fact, some feel that environmental studies have been blocked by navigation supporters - for fear that documenting the actual magnitude of impact on fish and wildlife resources would raise serious concerns about navigation.

Source: La Crosse Tribune, December 4, 1994

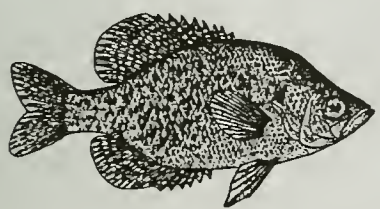
Fish Response to Lower Illinois River Flooding

Life history strategies of large river floodplain plants and animals have evolved around a predictable, seasonal cycle of flooding and drying. Floodplain fishes migrate to inundated terrestrial habitats to feed, spawn, and seek refuge from main channel currents. Channelization, impoundment for navigation, and floodplain constriction through levee construction have disrupted these annual hydrologic cycles.

Extreme and extended flooding during spring and summer 1993 offered a

rare opportunity to observe the migration of riverine fishes into flooded terrestrial habitats. Fish communities were sampled at three separate areas of the lower Illinois River floodplain. Each area contained four separate habitat types: (1) a floodplain depression lake adjacent to the main channel, (2) a forested area around the lake, (3) an open area outside the forested area which was primarily agricultural, and (4) the shoreline. A combination of gears was used to sample the fish community in each habitat type. Trammel nets, experimental gill nets, and large- and small-diameter hoop nets were used in all habitats. Shoreline and forested habitats were also sampled with an AC electrofishing boat and Wisconsin style fyke nets. Young-of-the-year fishes were collected in shoreline habitats with mini fyke nets and seines.

A total of 52 species was collected in the three study areas. Fish density and species richness were highest in shoreline habitats. Catch rates were highest in the shoreline habitats for bluegill (*Lepomis macrochirus*), followed by gizzard shad (*Dorosoma cepedianum*), black crappie (*Pomoxis nigromaculatus*), golden shiner (*Notemigonus crysoleucas*), and largemouth bass (*Micropterus salmoides*). Common carp (*Cyprinus carpio*) was the most abundant species in all other habitats. Channel catfish (*Ictalurus punctatus*) catch rates were highest in the forested areas.



black crappie

The duration of the flood allowed nest-building sunfishes enough time to successfully spawn. This was reflected in high catches of young-of-the-year largemouth bass and bluegill. Whether or not the young fish spawned during the summer flooding are recruited into the breeding population remains to be seen.

Contact: Cronin, F. A., and R. J. Maher. LTRM-Pool 26, P.O. Box 368, West Alton, MO 63386

Hexagenia Response to Upper Mississippi River (UMR) Flooding

Burrowing mayflies of the genus *Hexagenia* (family *Ephemerida*e) apparently capitalized on conditions provided by the 1993 flood in UMR backwater lakes.

It is hypothesize that 1993 flood waters precluded establishment of summer anoxic conditions which normally occur in the bottoms of McGregor and Lawrence lakes (as well as in other UMR backwater lakes). Consequently, the massive elimination of *Hexagenia* nymphs by anoxia which normally occurs did not take place, and unprecedented numbers of nymphs continued to develop.

hexagenia mayfly

Sampling was conducted over 3 years (July 1991, July 1992, and September 1993) from three dissimilar lakes in UMR Pools 8 and 10. Thumb Lake, a small, shallow lake, supported Hexagenia nymphs on each sampling occasion. McGregor Lake, a large, fairly deep lake produced a few nymphs in a few of the samples taken in 1991 and no nymphs among the 20 samples taken in 1992. In contrast, sampling in 1993 showed large numbers of nymphs. Mean density of nymphs was 904 Hexagenia/m^2 at the near-shore sampling sites, with mayfly nymphs present in all the samples. Similarly, Lawrence Lake, a large, shallow, heavily vegetated lake in Pool 8 did not yield any Hexagenia in 1992; yet nymphs were abundant in the 1993 samples.

Contact: D.C. Beckett, B. L. Green, A. C. Miller, or R. F. Gaugush, EMTC, 575 Lester Drive, Onalaska, WI 54650

Tree Mortality Due to Flooding

A survey of Upper Mississippi River (UMR) floodplain forests following the 1993 floods revealed that tree mortality varied greatly among species and size class, but that overall mortality was highly correlated to flood duration and amplitude. Mature trees in the northernmost reach of the UMR study (Pool 4) showed the lowest percent mortality (1.1%). As the degree of UMR flooding increased downstream, so did the degree of tree mortality. The forests of Pool 26, near St. Louis, MO, were the most severely impacted (37.2%). Further downstream, near Cape Girardeau, MO, the percent mortality of mature trees was similar (32.2%).

Sapling mortality was much higher than that of mature trees, and also increased downstream. In Pool 4, percent mortality of saplings was only 1.8%, but in Pool 26 and near Cape Girardeau, percent mortality of saplings increased to 80.0% and 77.2%, respectively.

Mortality varied among tree species in each river reach. Species most severely impacted by the flood were hackberry (*Celtis occidentalis*), Kentucky coffee tree (*Gymnocladus dioica*), white mulberry (*Morus alba*), river birch (*Betula nigra*), pin oak (*Quercus palustris*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), boxelder (*Acer negundo*), sycamore (*Platanus occidentalis*), and American elm (*Ulmus americana*). In Pool 26, 96.2% of mature trees and 99.4% of hackberry saplings were killed. Tree size class was an important factor related to flood mortality. Larger diameter trees showed better survival rates.

Vigorous regeneration of first year silver maple and boxelder seedlings was observed in each UMR study reach after the flood. In Pools 17, 22, 26, and the open river reach, patches

of first year seedlings of three pioneer tree species; black willow (*Salix nigra*), eastern cottonwood, and sycamore; were frequently encountered in areas where understory and overstory vegetation was severely impacted by the flood.

Extreme and infrequent flood events, may be important natural mechanisms for recruitment of early successional pioneer tree species.

Contact: Yao Yin, John C. Nelson, and Kenneth S. Lubinski, EMTC, 575 Lester Drive, Onalaska, WI 54650

Ohio Shrimp Found in the Upper Mississippi

Four species of *Macrobrachium* (large river shrimp) occur in the freshwaters of the United States, where *Macrobrachium ohione* is endemic. The Ohio shrimp is found in large rivers along the eastern seaboard from Virginia to Florida, on the Gulf Coast from Alabama to Texas, and in the Mississippi and Ohio River systems from Oklahoma to Ohio. It is the only species of *Macrobrachium* found in the Mississippi River.

M. ohione was common in the open (unimpounded) Mississippi River between St. Louis and New Orleans until the 1930's, and according to a 1985 Illinois Natural History Survey Bulletin, the species was "frequently eaten" by the residents of Cairo, Illinois. Females are rather large, growing to 100 mm, while average is about 60 mm. Commercial fisheries existed as far north as Chester, Illinois, where the shrimp was harvested primarily as bait for sport fishing.

Long-time residents of southeastern Missouri recalled catching large numbers of this species in the 1930's, but by the 1940's they were rare. The last known collection of M. ohione from the Upper Mississippi River was in 1962 near Cairo, Illinois.

In June 1991, biologists from the Environmental Management Program, Long Term Resource Monitoring Program (LTRMP) Field Station at Cape Girardeau, Missouri (Open River Field Station), began collecting shrimp from the Mississippi River as part of a long-term biological monitoring program. LTRMP biologists have collected specimens with mini fyke nets from wingdams and from side channels by electrofishing.

It is not clear why *M. ohione* declined rapidly in the open Mississippi River during the 1930's and 1940's, but it does seem to correspond to the accelerated loss of riverine habitats of that time due to channelization, levee construction, and drainage of sloughs. In the lower Mississippi River, which underwent similar habitat modifications, the Ohio shrimp catch declined from 900,000 kg/yr in the 1930's to 1,500 kg/yr in the early 1970's. However, no qualitative change has occurred in the shrimp population near Port Allen, Louisiana, since the 1930's.

Habitat requirements for Mississippi River populations of *M. ohione* are not well described. Based on LTRMP observations, *M. ohione* seem to prefer quiet water. Interestingly, six of the seven Ohio shrimp collected by LTRMP biologists were from wingdam habitats. Quiet water is found along the downstream side of wingdams and perhaps crevices in the riprap provide suitable refuge and feeding habitat. Higher numbers of large shrimp (presumably *M. ohione*) have been observed by staff members electrofishing at night, suggesting that feeding occurs in shallow water after sunset.

Contact: Lesly K. Conaway and Robert A. Hrabik, Missouri Dept. of Conservation, 2302 County Park Drive, Cape Girardeau, MO 63701

Illinois and Mississippi Rivers Zebra Mussel Update

Zebra mussel populations in the lower Illinois River exploded in 1993, achieving maximum densities of nearly 100,000/m^2; since then, populations have experienced high mortality, resulting in greater than 99% reduction at some sites. This crash is being attributed to poor environmental conditions resulting from overpopulation and fluctuations in water quality.

zebra mussel

During summer 1993, divers collected quantitative samples at five sites along the lower 181 miles of the Illinois River. Zebra mussel densities increased in a downriver direction, ranging from less than 1/m^2 at river mile (RM) 181 to 61,126/m^2 at RM 5.5. Downriver populations consisted almost entirely (> 99 %) of a single cohort which settled in the spring or early summer of 1993, while upriver populations consisted of both > 1-yr-old (39%) and newly settled (61%) cohorts. These dense populations of zebra mussels covered nearly all available hard surfaces (i.e. rocks, native mussels, glass bottles, tin cans, organic debris, etc.) and carpeted expansive areas of soft mud. Mortality was most severe at lower river sites which had the densest zebra mussel populations in 1993. This downward trend in average densities has continued through the 1994 sampling season, resulting in greater than 99% reduction at both RM 5.5 and RM 66.8. Most length frequency histograms indicate at least three recruitment events in 1993; no significant recruitment occurred at any sample sites during 1994.

Both mortality and poor recruitment may be attributed to stressful environmental conditions [i.e. low dissolved oxygen levels (1.7-3.0 ppm in the main channel)] which were first observed in late summer 1993 and became more severe in summer 1994. Extended periods of low D.O. created stressful conditions which may have caused mortality among zebra mussels, native unionid mussels, and several species of fish including gar, catfish, buffalo, and carp, which were floating dead in large numbers during July 1994. Initial calculations indicate

that under low water conditions, dense Illinois River zebra mussel populations (61,000/m^2) could consume 2.4 ppm of D.O. in a one-mile stretch of the main channel.

During summer 1994, the Illinois River dropped to extremely low levels, water temperatures in the main channel remained above 28°C for four to six weeks, and dissolved oxygen was consistently recorded below 3 ppm (low of 1.7 ppm) at main channel sites throughout July and August.

Since the discovery of the first Illinois River zebra mussel in June 1991, numbers of native unionids colonized by zebra mussels have increased steadily. By summer 1993, zebra mussel densities and infestation of native unionids had reached their highest levels. Since this peak, densities, infestation rates, and degree of infestation (number of zebra mussels per unionid) have declined at the majority of sites. However, the numbers of recently dead native unionids have continued to increase.

Unionid mortality was greatest in the lower Illinois River where the highest zebra mussel densities were reported in 1993. There is a significant positive correlation (r^2=0.9689) between June 1994 native mussel mortality and 1993 zebra mussel densities at the five Illinois River sites. Infested mussels were probably unable to obtain adequate food during the 1993 growing season and subsequently died over winter because they lacked sufficient energy reserves. Further native mussel mortality observed in fall 1994 may have been the result of the stressful environmental conditions persisting during summer 1994. The majority of mussels identified as recently dead were either severely infested or covered with "byssal tufts" indicating previous heavy zebra mussel infestations. Interspecific differences in mortality were evident among native species commonly collected at all sites. *Truncill truncata* (Deertoe) and *Leptodea fragilis* (Fragile papershell) suffered higher mortalities than *Amblema plicata* (Three ridge) and *Quadrula quadrula* (Mapleleaf).

This differential mortality may be due to distinct traits (i.e. burrowing behavior, shell morphology, etc.) which influence susceptibility to zebra mussel infestation. However, even the most resistant native species were suffering increased mortality. Infestation of native mussels dropped dramatically at most sites following the zebra mussel crash. At RM 5.5, average numbers of zebra mussels per unionid dropped from 254.5 in August 1993 to 3.9 in October 1994. This decline may offer native mussels a much needed reprieve, allowing them to resupply depleted energy reserves. However, continued presence of zebra mussels and the probability for additional explosions will continue to threaten native Illinois River mussel resources.

In riverine systems, dense populations of zebra mussels (> 1000/m^2) result from settlement of larvae produced by upstream populations. Given the man-made connection of the Illinois River with Lake Michigan and existing adult populations throughout the river, we expect zebra mussel numbers in the Illinois River will fluctuate dramatically over the next few years, with populations building under favorable conditions and then crashing when they reach levels which create stressful conditions.

Upper Mississippi River (UMR) zebra mussel populations are just now approaching the exponential phase. The first confirmed zebra mussel collection in the UMR, above its confluence with the Illinois, was at La Crosse, WI on 12 September 1991.

Sampling at three sites in Pool 15 (Rock Island, IL) during July 1994 revealed average densities of 1.5/m^2 at one site; 59% were between 8 and 10 mm long with the remainder greater than 17 mm. In August, densities had increased to 35.7/m^2, with 71% of the population being less than 15 mm long. By December, three cohorts were apparent in length frequency distributions, indicating that at least two settlements occurred during 1994. It is apparent that a substantial adult population has been established and the stage is set for a population explosion in 1995.

U.S. Army Corps of Engineers employees working on a repair project at Lock and Dam No. 7 at Dresbach, WI found 2,000 mussels/m^2 in December, according to public affairs officer Ken Gardner. Last summer divers made estimates much lower than that, he said, based on samples of mussels taken on the concrete walls of the lock. Lock master Terry Jessessky said so far the mussels have not affected operation of the locks or dams. But there were so many zebra mussels on the floor of Lock 7, Jessessky said, that "it was like walking on gravel."

Average densities of native mussels ranged from 50-150/m^2 at the three UMR Pool 15 sites sampled in 1994. From 19 to 24 different species were collected at each site, including two federally listed species (*Lampsilis higginsi* and *Cumberlandia monodonta*). Infestation of native mussels at one site steadily increased from 0% in July to 2% in August to 14% in December. Only a few (1-4) zebra mussels were attached to each individual unionid. However, infestation of unionids and subsequent mortality are likely to increase in the UMR, following the pattern already observed in the Illinois River.

Contact: S.D. Whitney, K.D. Blodgett, and R.E. Sparks Illinois Natural History Survey, LTRMP Field Station, 704 N. Schrader Ave., Havana, IL 62644, A/C (309) 543-6000 or FAX (309) 543-2105

MICRA Mussel Relocation Study

MICRA is sponsoring a project between the Fish and Wildlife Service, the National Biological Service, and the states of Wisconsin and Minnesota to obtain quantitative data on the growth and survival of freshwater mussels following removal from the Upper Mississippi River (UMR) and subsequent relocation into an artificial pond at the Genoa National Fish Hatchery at Genoa, Wisconsin.

The purpose of this removal is to create a refugia at the hatchery to protect native UMR mussels from zebra mussel infestation and possible death. It is hoped that such refugia can be used to maintain a supply of brood stock until after the UMR zebra mussel infestation peaks and then crashes.

Treatments being used for this study include placing mussels in suspended substrate-filled trays, buried substrate-filled trays, hardware cloth cages, and vertically-suspended nylon mesh pockets. All mussels will be physically located in an artesian-well fed pond.

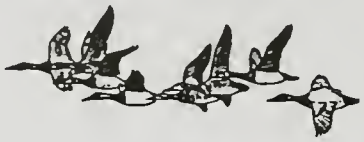
The study is being co-funded by the Mussel Mitigation Trust Fund, and the Shell Exporters Association.

Contact: Michael Davis, Minnesota Department of Natural Resources, Lake City, MN (612-345-3331); Teresa Naimo, National Biological Service, Upper Mississippi Science Center, LaCrosse, WI (608-783-6451); Pamella Thiel, USFWS, LaCrosse Fishery Resources Office, Onalaska, WI (608-783-8431); or Kurt Welke, Wisconsin Department of Natural Resources, Prairie du Chien, WI, (608-326-0233).

Zebra Mussels and Ducks

An article in the Manistee (Michigan) News Advocate (10-31-94) reports that, Dr. Brian Allen, a local birdwatcher and optometrist, thinks that white wing scoters and old squaw ducks (normally found only on the coasts) may have moved into Lake Michigan to feed on zebra mussels. The scoter duck feeds mostly on mollusks, Allen says, but it's not clear whether old squaw ducks also feed on the mussel.

Allen said he counted 35,000 of the sea-going ducks off of Pierport on one winter day. The ducks stay far offshore even on inland lakes like Portage Lake, and don't really compete with native species Allen said. The ducks are attracted to Pierport because it is one of only three spots where the Great Lakes didn't completely ice over this winter, Allen said.



Allen and Tim Granger, a fisheries biologist for the U.S. Fish and Wildlife Service have been studying the situation with the help of Fred LaPoint and Art Krause of the Manistee Search and Rescue dive team. LaPoint and Krause surveyed Lake Michigan's bottom about 40 feet below the area where the ducks were sighted, and found every rock on the bottom covered with zebra mussels, including clusters of the mussel rolling on sandy portions of the lake bottom. Zebra mussels have been in the area for at least four years, and Krause said they are four six inches deep around the two piers at the mouth of the Manistee River channel. They're all over the bottoms of Manistee and Portage Lake, and they completely cover a rock bed used by spawning perch offshore from the Orchard Beach State Park. The impact on the perch is unknown.

Zebra Mussels and Boats

The first zebra mussels to break through barriers put up by state and federal agencies to protect the St. Croix River from invasion have been documented. National Park Service officials inspected a boat being pulled from the water at a Hudson, WI marina and found 35 mussels attached. Divers found no others in the marina.

The boat had been taken to Lake Pepin on the Mississippi River, which has large colonies of the mussel, for three days in June. According to Park Service officials the boat owner boated back to Hudson without stopping to wash off the craft before entering the St. Croix.

The National Park Service has been trying to keep zebra mussels out of the St Croix, which is designated a federal wild and scenic river and is the only known place in the world where the winged maple leaf mussel resides. It and other species could be wiped out by the zebra mussel.

The Park Service has asked boaters who have been in the Mississippi River not to go north of the "Narrows" of the St. Croix, about 5 miles north of Prescott, WI and Hastings, MN, without pulling their boats out of the water and washing them off. No boats that have been in the Mississippi are allowed north of the Arcola sand bar, about halfway between Stillwater and Marine on St. Croix, without being cleaned.

Hudson is in the area in which boaters are asked to clean their boats but are not required to do so. Anthony Andersen, superintendent of the St. Croix National Scenic Riverway, said the incident at Hudson while isolated, shows the threat that recreational boaters pose to the river. Boaters have the right to navigate in public waterways, but those rights also carry a responsibility to protect riverway resources, even if it is inconvenient he said.

Source: (Minneapolis) Star Tribune, Sept. 24, 1995

Alabama Creates Urban Stream Fisheries

Alabama's Department of Conservation is working to make recreational fisheries immediately available to the urban population in Jefferson and Shelby counties, which encompass and border the state's largest city, Birmingham.

Under a new initiative, the state explored the sportfishing potential offered by a network of small streams in these two counties. Studies indicated the waterways contained adequate populations of prey species, but only limited populations of native predator species to support recreational fisheries.

Armed with this information, the department has taken steps to enhance the population structure in a number of the streams by planting 20,000 bluegill and shellcracker. Larger size specimens were planted to ensure spawning next spring and summer, and the local angling community is being asked to release the fish it catches to help protect the spawning stock. Later, catfish and largemouth bass will be planted to further diversify the fish communities and provide added sportfisheries.

The program, will bring local sportfishing opportunities to urban areas, and create a mechanism to "connect" urban residents to the natural streams of the suburban area. This, in turn, will engender a better understanding of the natural world by young Alabama residents. The result will be a better informed public more likely to adopt a personal responsibility for stewardship of natural areas as a lifelong commitment.

Accordingly, local Alabama businesses are exploring the program as a public/private partnership opportunity. The partnership not only provides new sources of healthy, outdoor recreational experiences, but also an opportunity for corporations to express their cultural commitment to stewardship of Alabama's land and waters through the young residents of a major suburban area.

Research conducted by the American Sportfishing Association's Sportfishing Promotion Council indicates that 90% of young people who do not fish by age 14 will never fish.

Source: ASA Bulletin, No. 455, October/November/December 1994

Will Privatization Kill Big Dams?

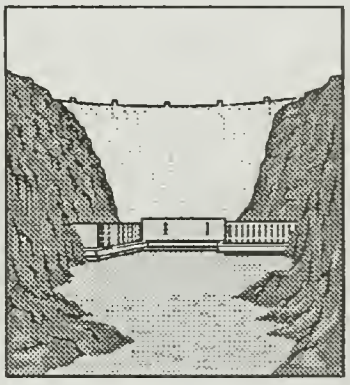
Dam builders who recently attended a conference in Frankfurt, Germany, entitled "Financing Hydro Power Projects '94" heard financiers tell them what they have known all along but have never wanted to admit: that in spite of decades of rhetoric about "cheap hydropower", big dams are expensive, high risk, low return investments that would not be built without huge public subsidies.

Until now it has not mattered much that dams were uneconomic, but in the new world of shrinking government expenditure, and the rapid move toward private sector infrastructure development, economics do matter, and the dam builders are scared. John Besant-Jones, Principal Energy Economist at the World Bank, told the conference that "the traditional large centrally planned, capital-intensive, publicly financed" hydropower schemes are "seen by critics as outmoded in the new era for power markets that is characterized by competition, private participation, decentralized decision making, and commercial attitudes to investment risks for power sectors."

Several speakers at the conference, sponsored by the Journal of International Water Power and Dam Construction, emphasized that private hydrodam investors are faced with high initial construction costs, long capital payback periods, a terrible record of construction time and cost overruns, and high operating risks, especially because of their vulnerability to drought.

It was also clear from the speakers that the dam industry feels greatly constrained by opposition from local people and environmentalists, and that financiers are dissuaded from funding dams because of "environmental risks": delays because of opposition to resettlement and anti-dam campaigns, and new environmental legislation to regulate how dams are built and operated.

Several speakers agreed that, with a few exceptions, the only dams likely to be built on a wholly private sector basis in the near future are small to medium-size run-of-river hydro dams. Compared to storage dams, run-of-river projects displace relatively small numbers of people and flood relatively small amounts of land.



Large multipurpose projects are even less appealing to investors than large hydrodams due to the problems of collecting revenues on non-power functions such as water supply, navigation, recreation and flood control, and the fact that such functions compete with power production, for example, by diverting water from the reservoir or by the need to keep the reservoir low to provide storage capacity for floodwaters

Build Operate Transfer schemes (BOTS) are an increasingly popular form of infrastructure project financing, in which private consortia build a project and run it for a certain period before handing it over to the host government. BOOs and BOOTs, where the extra "O" stands for "Own", are essentially the same concept.

Although there has recently been a lot of hopeful discussion of BOTS in the dam industry press, energy lawyer

Michael Taylor carefully explained to the dam builders in Frankfurt that because of the inherent risks and long payback periods of large dams, BOTS are "generally not suitable for hydro" other than small and mini schemes.

Source: World Rivers Review, Vol. 9, No. 2/3, Second/Third Quarter 1994

The Fate of Toxic Substances in Watersheds

The U.S. Geological Survey's (USGS) Toxic Substances Hydrology (Toxics) Program recently conducted two studies in the Mississippi River Basin. These projects studied the occurrence, movement, and fate of agricultural chemicals in the Mississippi River Watershed and of metals in a small mountain watershed in Colorado.

In 1991, an estimated 100,000 metric tons of pesticides and 6.3 million metric tons of nitrogen fertilizer were applied on cropland in the Mississippi River Watershed. A series of regional reconnaissance studies were conducted to determine the temporal and spatial patterns of occurrence of nitrate and selected herbicides in surface water and reservoirs.

A regional reconnaissance of 147 Mississippi River watershed streams was conducted from 1989 to 1990. Water samples were collected from the streams to determine the concentrations of nitrates and selected herbicides before and after spring applications of agricultural chemicals. The data resulted in a series of "snapshots' that demonstrated a spring "flush" of herbicides from agricultural fields into the watershed's streams.

This was followed by an intensive temporal sampling of 9 stream's selected from the original 147 and a series of temporal samplings of the main stem of the Mississippi River and its major tributaries. These subsequent samplings demonstrated that the spring flush of herbicides from agricultural fields is observable across a range of spatial scales throughout the watershed, from small streams to the entire Mississippi Watershed.

The Reservoir Reconnaissance was designed to determine occurrence, temporal distribution, and persistence of selected herbicides and herbicide metabolites in the outflow from 76 Mississippi River Watershed reservoirs. Preliminary results show that concentrations of herbicides in reservoirs remained relatively high throughout the year in contrast to streams, which have high concentrations only in the spring. However, the concentrations in reservoirs are not as high as the concentrations in streams during the spring flush. The higher reservoir concentrations throughout the year are caused when reservoirs are filled during the spring flush of herbicides and water from the flush is stored in the reservoir.

USGS researchers have also been investigating the transport of metals in St. Kevin Gulch-a small mountain watershed in the Upper Arkansas River Basin. St. Kevin Gulch is affected by acid mine drainage from abandoned silver and zinc mines in the Leadville, Colorado area. The chemistry and cycling of colloidal aggregates of iron oxyhydroxides and iron oxyhydroxysulfates have been shown to control the transport of arsenic, copper, lead, and zinc in the stream by sorption.

In addition, photoreduction by sunlight exerts a control on the transport of metals in the stream. Photoreduction of the ferric iron in colloids to ferrous iron can release metal ions to the stream. These instream transformation processes have been studied by tracer-dilution experiments, which have defined the hydrologic transport processes, and allowed for identification of the controlling chemical processes.

Studies of St. Kevin Gulch have provided valuable insight into the mechanisms of metal transport and transformation in streams contaminated by mine drainage.

For more information on the Mississippi Watershed Streams Study contact Donald Goolsby, USGS, Box 25046, Denver Federal Center, MS 406, Denver, CO 80225-0046, (303) 236-5950 extension 209.

For more information on the acid mine drainage study contact Briant Kimball, USGS, 1745 West 1700 South, Room 1016 Administrative Building, Salt Lake City, UT 84104, (801) 9753384.

Source: Watershed Events, Fall 1994

New Publications

Rehabilitating Damaged Ecosystems, 2nd Edition: Edited by John Cairns, Jr., the new edition features 3 new chapters and 5 major revisions. Available from Lewis Publishers, 2000 Corporate Blvd., N.W., Boca Raton, FL 33431-9868, Price is $79.95.

Implementing Integrated Environmental Management: Edited by John Cairns, Jr., Todd V. Crawford, and Hal Salwasser, this book focuses on integrating fragmented management responsibilities of various organizations to better manage entire landscapes. Available from UCE&HMS, Attn: Barbara Falls, 1020 Derring Hall (Mail Stop 0415), VPI & State University, Blacksburg, VA 24061. Price is $10.00.

February 23-24, Water, Nitrogen, and People: An International Conference, Everett, WA. Contact Craig MacConnell, Washington State University Extension, Whatcom County,1000 North Forest St., Suite 201, Bellingham, WA 98225-5594, (206) 676-6736. Focuses on sustainability of the water resources and understanding the effect of nitrogen on water.

February 28-March 3, International Erosion Control Association's 26th Annual Conference and Trade Exposition, Atlanta, GA. Contact: John T. Price, IECA Program Chair, Price & Company, Inc.,425 36th Street, SW, Wyoming, MI 49548, (616) 530-8230. FAX: 530-2317. Topics include policy and management practices, methods and techniques, case histories, research and development, product introduction, and special topics.

March 15-17: "Upper Mississippi River Conservation Committee", Dubuque, IA. Contact: Tom Boland, Iowa Dept. of Natural Resources, RR 3, Box 1, Box 1, Bellevue, IA 52301.

March 23-24: "Ozark Cavefish Conference", Springfield Conservation Nature Center, Springfield, MO. Contact: Brian Canaday Missouri Department of Conservation, 2630 North Mayfair, Springfield, MO 65803.

March 24-29: "60th North American Wildlife and Natural Resources Conference", Minneapolis Hilton and Towers, Minneapolis, MN. Contact: Richard McCabe, Program Coordinator, Wildlife Management Institute, 1101 14th Street, N.W., Suite 801, Washington, D.C. 20005, (202) 371-1808.

April 3-7: "National Wetlands Workshop", Clarion Hotel, New Orleans, LA. Contact U.S. Army Engineer Waterways Experiment Station, Wetlands Research & Technology Center, Attn: CEWES-EP-W, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, (601) 634-2569/4217; FAX (601) 634-3664.

May 4-6: "Mississippi River Basin Conference, Memphis, TN. Contact: Suzi Wilkins, Mississippi River Basin Alliance, Box 3878, St. Louis, MO 63122 (314) 822-4114.

May 14-18, Water Resources at Risk - 1995 Annual Meeting of the American Institute of Hydrology, Denver,CO. Contact James R. Kunkel, Advanced Sciences, Inc.,405 Urban Street, Suite 401, Lakewood, CO 80228. (303) 980-0036. FAX: (303) 980-1206. Purpose: describe issues, management strategies, and technologies in hydrology, hydrogeology, and mining hydrology.

May 15-17: "International River Basin Management for Sustainable Development", Kruger National Park, South Africa. Contact: Alan Vicory, Jr., International Program Committee, Ohio River Valley Water Sanitation Commission, 5735 Kellog Avenue, Cincinnati, OH 45228, (513) 231-7719

May 21-24: "Fourth National Watershed Conference", Charleston Civic Center, Charleston, WV. The conference will take a comprehensive look at (1) Flood prevention while protecting natural resources, (2) On-farm and watershed-wide water quality protection, (3) Nonstructural flood control measures, and (4) Riparian corridor management and restoration. Contact: National Watershed Coalition, 9150 W. Jewell Ave., Suite 102, Lakewood, CO 80232, (303) 988-1810

May 31-June 2: "East Coast Trout Management and Culture Workshop II", Penn State University, State College, PA. Contact Marty Marcinko, 450 Robinson Lane, Pennsylvania Fish Commission, Bellefonte, PA 16823, (814) 359-5223. Theme of the workshop is "Looking to the Future: How Can We Meet the Need?", Co-sponsored by the American Fisheries Society's Northeastern Division and Southern Division's Trout Committee, Duke Power Co., National Park Service, Pennsylvania Fish Commission, and Tennessee Valley Authority.

June 5-9: "Sustainable Forests: Integrating the Experience International Conference", Sault Ste. Marie, MI, and Sault Ste. Marie, Ont. Contact Joan Jaffit, Conference Manager; (705) 759-2554; FAX (705) 256-6156.

June 12-14, 1995: "Third Reservoir Fisheries Symposium", Chattanooga Marriott at the Convention Center, Chattanooga, TN. Contact Steve Miranda, Chair, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish and Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762; FAX (601) 325-8726.

July 16-19, Interdisciplinary Conference on Animal Waste and the Land-Water Interface, Fayetteville, AR. Contact Patti Snodgrass, Arkansas Water Resource Center, 113 Ozark Hall University of Arkansas, Fayetteville, AR 72701. (501) 575-4403. FAX: (501) 575-3846. The purpose of the conference is to provide a forum for interdisciplinary, holistic discussion of animal waste, soil and water interactions.

September 28-30, Watersheds '94 Expo. Bellevue, Washington. Contact Andrea Lindsay, U.S. Environmental Protection Agency WD-125, 1200 Sixth Ave., Seattle, WA 98101; (800) 424-4EPA.

October 16-18, "The Conservation and Management of Freshwater Mussels II: Initiatives for the Future", Embassy Suites Hotel, St. Louis, MO. Contact: Alan Buchanan, Missouri Department of Conservation, (314) 882-9880

Agriculture.

H.R. 67 (Bereuter, R/NE) extends the conservation reserve program for 10 years and the wetlands reserve program for 5 years to protect valuable soil and water resources through long-term conservation easements.

Appropriations.

The House Interior appropriations panel took testimony January 11 from the Heritage Foundation, CATO Institute and other groups on the subject of budget rescissions for the department.

Fish & Wildlife.

S. 191 (Hutchison, R/TX) and H.R. 490 (Smith, R/TX) amends the Endangered Species Act to ensure that private property rights are not infringed until adequate protection is afforded by reauthorization of the act by imposing a moratorium on new listings and critical habitat designations.

Government Affairs.

On Jan. 10, House Government Reform Committee approved **H.R. 5**, which is aimed at curbing unfunded mandates. On Jan. 9, the Senate Budget and Government Affairs committees approved **S. 1**, aimed at curbing unfunded federal mandates.

S. 1 (Kempthorne, R/ID) and **H.R. 5 (Clinger, R/PA)** a bill to curb the practice of imposing unfunded federal mandates on states and local governments.

S. 169 (Grassley, R/IA) curbs the practice of imposing unfunded federal mandates on states and local governments.

HJ. Res. 27 (Franks, R/NJ) proposes a Constitutional amendment barring federal unfunded mandates to the states.

Parks.

H.R. 260 (Hefley, R/CO) provides for the development of a plan and management review of the National Park System, and reforms the process for considering for addition to the system.

Public Lands.

S. 93 (Hatfield, R/OR) a bill to amend the Federal Land Policy and Management Act to provide for ecosystem management on public lands.

H.R. 91 (Sensenbrenner, R/WI) prohibits the acquisition of land or waters for the National Wildlife Refuge System if wildlife refuge revenue sharing payments have not been made for the preceding year.

H. Res. 25 (Orton, D/UT) a resolution requesting that the Interior Secretary withdraw proposed regulations concerning right of way granted under section 2477 of the revised statutes.

S. 193 (Campbell, D/CO) establishes a forage fee formula on lands under the jurisdiction of the Agriculture and Interior departments.

Recreation.

H.R. 104 (Emerson, R/MO) rescinds the fee required for the use of public recreation areas at lakes and reservoirs under the jurisdiction of the Army Corps of Engineers.

Takings.

S. 135 (Hatch, R/UT) a bill to establish a uniform federal process for protecting private property rights.

S. 145 (Gramm, R/TX) a bill to provide for the protection of private property rights.

H.R. 9 (Archer, R/TX) a bill to create jobs, enhance wages, strengthen private property rights and reduce the power of the federal government.

Water and Wetlands.

S. 49 (Stevens, R/AK) a bill to amend the Clean Water Act to provide for exemptions to wetlands regulations and the protection of property rights in Alaska.

H.R. 226 (Dingell, D/MI) amends the Safe Drinking Water Act to assure the safety of public water systems.

H.R. 198 (Smith, R/MI) amends the Food Security Act of 1985 to permit the conversion of wetlands that are I acre or less in size.

Source: Land Letter, STATUS REPORT, January 15,1995, Vol. 14, No. 2

Mississippi Interstate Cooperative Resource Association
608 East Cherry
Columbia, MO 65201