River Crossings

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Asian Carp Controversy Continues

MICRA Chairman Bill Reeves on 7/31/00 in a letter to Jamie Rappaport Clark, Director of the U.S. Fish and Wildlife Service (USFWS), said on behalf of the Mississippi Interstate Cooperative Resource Association that, "We simply cannot allow such damaging and rogue species as the black carp to escape to the wild."

Further, Reeves said that this is "...truly a federal matter, and it deserves swift and decisive federal action beyond what is currently authorized under the Lacey Act. If such action includes purchase of all existing black carp stocks, MICRA supports that. If such action includes some form of emergency Presidential or Congressional order to acquire and destroy all existing black carp stocks, MICRA supports that. If such action includes new legislation and expanded authority of the federal government over such matters, many MICRA member states are ready to support that – others may with additional consideration and limitation of such authority, on a case by case basis to specific injurious species such as the black carp."

"In other words", Reeves said, "MICRA and it's member states support almost any action necessary to eliminate this species from the map of the United States!" He urged Ms. Clark to, "... elevate this matter to Presidential and Congressional levels where emergency measures beyond the Lacey Act can and should be taken." "MICRA will support you in taking such action", he said.

The problem with black carp and its Asian carp relatives appeared on everyone's "radar screen" last fall when a fish kill in the backwaters of an Upper Mississippi River National Wildlife Refuge near St. Louis

Bighead Carp (50 lbs.) Caught in the Cumberland River, TN on 5/20/

revealed a fish population composed of 97% Asian carp and only four native fish species, represented by only one individual each (See the Nov./Dec. 1999 issue of *River Crossings*. At about the same time, the Asian carp problem surfaced in Missouri and Indiana where river backwaters are filled with bighead and silver carp, and some commercial fishermen have had to abandon traditional fishing sites because the carp are so large and abundant that fishermen can't even lift their nets!

Now the problem has appeared in Reeves' own home state of Tennessee where on 5/20/00 a 50 lb. bighead carp (See photo at left) was caught by an angler in the Cumberland River (above Barkley and Kentucky Lake dams) near Cumberland City, TN. So Asian carp have invaded the "fisheries-rich" Tennessee River system, and Reeves reports biologists have captured the bighead as far upstream as Nickajack Dam, near the point where the states of Alabama, Tennessee and Georgia meet.

One might think, "So what's wrong with catching a nice big fish?" The problems with it are numerous:

- There are now four species of Asian carp inhabiting public waters of the U.S., and each has a slightly different feeding habit,

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and all compete for food and habitat with native fish.

- **Common Carp -** Everyone is familiar with this species, brought to the U.S. by German immigrants for food in the 1800's. It is known for eating almost anything, and for stirring up bottom sediments while destroying the habitats of other aquatic organisms. Today it is so widely distributed in the U.S. that most people think of it as a native species.
- **Grass Carp -** This species, imported from Asia in the early 1960's, is known for devouring large quantities of aquatic vegetation and has been widely used by fish managers to control dense stands of aquatic weeds. But in some cases grass carp have been responsible for literally cleaning a lake of aquatic plants. And once the vegetation is gone, grass carp eat whatever else is available, including aquatic invertebrates – the food of other small fish.
- **Bighead Carp -** This species was brought to the U.S. by fish farmers in the early 1970's to help control suspended materials and plankton populations in fish farms – mostly catfish farms in the Southeastern U.S. It escaped, or reportedly, was released to the wild when no longer needed, and now competes for food with the ancient, threatened and native paddlefish, as well as with all young native fish. Because of its feeding habits (i.e. filter-feeding on plankton), it can only be caught in nets or by snagging; and because it grows to very large sizes (see cover photo) it consumes tremendous quantities of food (including larval fish) that would otherwise be available for food to small native fish.
- **Silver Carp -** This species, similar to the bighead and imported at the same time, also feeds on plankton, as well as detritus, and may be even more efficient than the bighead in filtering small food items (including bacteria) from the water column. It also grows to large sizes and can only be caught in nets or by snagging.
- **Black Carp -** This species is presently being held on fish farms in Arkansas and Mississippi to control snail populations, and has not yet escaped to the wild. But if it does escape to the wild, and this is almost certain, it could decimate our already threatened native mollusk (mussel and snail) populations, making it the most damaging Asian carp of all!
- Finally, the presence of bighead carp in Tennessee River system reservoirs (i.e. above navigation dams, where no catfish aquaculture operations are located) demonstrates that Asian carp, including the black carp, can ascend locks and dams, and in the process enter some of the most rich and threatened mollusk habitat in the Southeastern U.S. (i.e. dam tailwaters and small rivers).

Complicating this issue, is the fact that none of these carps are popular as game fish or, in this country, as human food, so there is no established human use or market for them. Nor is there any real natural predator because they grow so quickly to large sizes (i.e. 3-4 ft. in length) nothing is large enough to eat them.

When the grass, bighead, and silver carps were first imported into this country, the sales pitch was that none of them would be able to reproduce in U.S. rivers. As a consequence many were reportedly discarded by fish farmers into nearby rivers when they became too large to handle, were no longer needed for the fish culture operation, or when it was determined that their intended purpose was not being met. Well guess what – they are now in the wild, they are reproducing, and they have become everyone's problem! With this kind of track record the catfish farming industry shouldn't expect people to accept the use of the black carp for snail control in their ponds.

Snails and pelicans are the intermediate hosts of a trematode parasite that infects farm-raised catfish, taints their meat, and reduces or destroys their marketability. Everyone can sympathize with the farmers' problem and everyone wants to do what they can to help out, but not if another resource has to be put at risk. Other methods of snail control have been suggested, such as the use of native fish, chemical treatments, and various forms of prophylactic pond management measures. But the industry has

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shown no interest in these measures. Apparently because they are expensive and the costs would be "internalized" to the fish culture operation. Therefore the preferred, and least expensive, option seems to be to use the black carp which would "external-ize" costs, but place the publicly owned endangered mollusk populations at risk. That is the issue here!

If black carp continues to be used in farm pond environments, they will escape to the wild. There is no doubt about that. All it will take is one careless farmer or one flood event in the right location. When that flood occurs, the ponds will overtop and out will go the black carp. Once in the wild, black carp will consume tremendous quantities of mollusks, and in the process become the most damaging Asian carp of all!

At the present time, to our knowledge all black carp in this country remain in captivity on a few fish farms in Arkansas and Mississippi. So there is still time to prevent the species from escaping. As noted earlier, MICRA is asking everyone who cares about the aquatic resources of the U.S. to help in taking whatever action is "necessary to eliminate this species from the map of the United States!"

But if our collective efforts are unsuccessful and the black carp escapes captivity, putting our native mollusk resources at risk; we will have at least clearly documented who was responsible!

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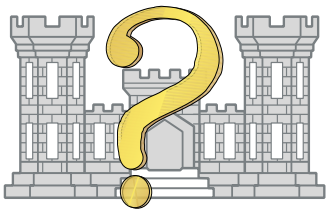
Making Crooked Ways Straight

By now regular readers of *River Crossings* are familiar with Donald Sweeney, the Corps of Engineers' Ph.D. economist who "blew the whistle" to the Office of Special Counsel (OSC) when his Corps' superiors pressured him to "cook the books" in order to justify a major Upper Mississippi River System (UMRS) navigation expansion project. Readers also know that the OSC determined Sweeney's charges to have merit, and that an investigation by the Army Inspector General is under way. The proposed navigation project expansion would enlarge several UMRS locks to allow 1,100-foot tows of 15 barges each to pass through the locks without uncoupling, thus saving about an hour/lockage. The cost of the project was estimated at about $1 billion, the benefits at about $750 million.

What most readers don't know are some of the details of Sweeney's experience as a Corps' "whistleblower". According to his sworn affidavit, Sweeney was ordered by Corps' officials to "ignore" and "alter" data and "arbitrarily reduce expenses" in order to produce a seemingly favorable benefit-to-cost ratio for the project. Sweeney also reported that on 9/18/98, the deputy for project management of the Corps' St. Louis District told him "to find a way to justify large-scale measures in the near term for the [study], or the Mississippi Valley District office would find an economist who would" and that he would be out of his job as technical manager. Sweeney replied that he was constrained by professional integrity, and a week later he was removed as leader of the economic study team.

The new team leader, economist Richard Manguno, also found that the lock expansion was not economically justified. But according to his sworn, written testimony given to Senate investigators in April, Manguno said that under pressure from his superiors, eventually he complied with orders and altered the data.



Attached to Sweeney's affidavit were internal memos from Corps' military brass revealing a secret plan to further engorge the annual civil-works appropriation of the Mississippi Valley Division by $100 million per year for the next five years. "If that goal is met, we are going to be very busy," effused the Division's Lenard Ross in a summary of a meeting with Corps' military commanders. "To grow the civil works program, [headquarters] and the Division have agreed to get creative. They will be looking for ways to get [studies] to 'yes' as fast as possible. We have been encouraged to have our study managers not take 'no' for an answer."

Also according to Sweeney's affidavit, on 9/25/98, team member Dudley Hanson, Rock Island District, summarized orders from Major General Russell Fuhrman, then the Corps' Director of Civil Works, in a memo to the team: "If (data) do not capture the need for navigation improvements, then we have to figure out some other way to do it... He [Fuhrman] directs that we develop evidence or data to support a defensible set of capacity enhancement projects. We need to know what the mechanism is that drives the benefits up."

After Sweeney was taken off the study he had nothing to do, so despite the fact that he is an economist, Corps officials ordered him to oversee construction of a harbor on the Mississippi in southeastern Missouri. "Fine," he said. "Teach me how." His superiors agreed that training would be prudent, but somehow they didn't get around to providing any. Sweeney was told to do the project anyway, and when he said he wouldn't because he couldn't he was given a three-day suspension for "insubordination." That's when he wrote his whistle-blower affidavit.

Today, Sweeney continues to "put in his time" with the Corps, but he says his relationship with management is "coldly professional" and that he is no longer allowed to do anything important. "We can't have the Corps doing its own feasibility studies," he said. "It's like having my 11-year-old son do a study about how much ice cream he should have after dinner. I know what the answer's going to be. Your readers should view with skepticism anything the Corps proposes to do. The current system is structured to give a biased answer."

When asked if civilians still control the Corps, as federal statute requires, Sweeney replied, "Absolutely not, I would say more than ever it's a military-run organization." The Corps' military pooh-bahs have traditionally used trick arithmetic to justify environmentally hurtful, make-work projects, but Sweeney says they're getting more brazen: "There has always been this subtle, unstated pressure. But when I first started 22 years ago, if it really wasn't a feasible project, it was okay to say so. And if the politician wanted to go ahead and build it anyway, that was his call, and he'd have to pay the price without our support. In those days you would give a project as many breaks as you reasonably could, but nobody would ask you to go past the line where you just said professionally, 'I can't do this anymore.' Now it's not okay to say no", Sweeney said.

When asked if he was going to keep working for the Corps, Sweeney said, "I don't see how I can." That's a shame, because there aren't many Corps employees with the guts to fight the system. For every Don Sweeney who won't break the law,

even to keep a job, there are a 100 who flout it just because that's the way the outfit does business. In fact, many UMRS biologists feel that the real problem with the Corps in the past has not been with the "green suiters" (i.e. the military), but with the grey suiters (civilian employees). The green suiters come and go about every three years, but some UMRS biologists say it's the grey suiters who hang around for career-long assignments that have maintained the "institutional memory and prevented the Corps from changing it's ways despite changing legislation and orders from various presidential administrations.

But perhaps Sweeney has not sacrificed his career in vain. "If there is any good that can come of my disclosure," he says, "it would be a truly independent evaluation of Corps proposals. Maybe the creation of some sort of really independent study authority. Maybe make the Corps of Engineers just be engineers."

Sweeney is right – the Corps of Engineers should be just engineers. Why do they also need to employ economists, biologists, foresters, recreation specialists, archaeologists, etc. Why aren't those services contracted by the Corps to their sister agencies (i.e. Fish and Wildlife Service, Forest Service, etc.) who are better equipped to give federally funded projects a fair appraisal from the respective points of view of the resources those agencies were created to defend. In light of Sweeney's allegations, one can only conclude that the Corps maintains a broad staff of biologists and economists in order pressure them from inside the agency to provide the answers needed to justify engineering projects.

Reform is definitely needed! In fact in the July-August 2000 issue of *Audubon* magazine, Ted Williams says, "For all on earth who advocate the conservation of fish, wildlife, and tax dollars, that's a consummation devoutly to be wished for. And for the great engineer in the sky, it may be the best of all prescriptions for making 'crooked ways straight.'"

While Donald Sweeney will likely remain with the Corps for a while, one career that may have already been sacrificed over this scandal is that of Col. James V. Mudd, Rock Island District Engineer, a 26+ year career military officer. Col. Mudd seems to have been caught in the crossfire between orders sent down from his Washington and Division office superiors, the wishes and demands of a few aggressive industrial advocates for the project, and the data of Donald Sweeney and his team of economists. At any rate this was probably a no-win situation for Mudd, and after being passed over for promotion in January of this year, he has opted to retire from the military in September. Mudd denies any connection between his retirement and the UMRS scandal, insisting instead that he is leaving the military at the top of his game. Whatever the case, we wish him well!

Sources: Ted Williams, *Audubon*, July-August 2000; and Barb Arland-Fye, *Quad-City Times*, 7/3/00

On-going Reaction to the UMR Navigation Scandal

Scott Faber of *American Rivers*, a Washington, D.C.-based river conservation advocacy group, describes the Upper Mississippi River (UMR) as one of the Corps' sacred cows. He says they have treated it as "their personal turf", and for years "they've run it like a military junta runs a third-world country."

In addition to the Donald Sweeney case, consider the case of Major Charles Hall, a district engineer at Rock Island, IL in the late 1920's. Hall was ordered in 1927 to study the economic feasibility of dam construction for navigation. Like Sweeney, he presented accurate calculations showing costs to outweigh benefits, and like Sweeney he was overruled by his superiors when special interests complained. Two years later Hall was ordered to study the impacts the dams and locks would have on fish and wildlife. He found that making a nine-foot-deep barge canal out of the UMR would "radically change" the ecosystem by creating a "succession of stagnant or sluggish pools." Businessmen in Minneapolis complained to Hall's superiors, asserting that commerce was being stifled by an individual "not in sympathy with the project". The *Minneapolis Journal* called Hall's findings "gratuitous opinions" and described his duties as "neither floral nor faunal, but engineering." Hall was taken off the study, then too, and on 6/3/30, Congress authorized the dams, even though the Corps' final report wasn't out. Ever since, such tactics have been standard operating procedure for UMR projects.

These days the special interests pressuring the Corps to disregard its own economic data are the barge owners. Their lobby, the *Midwest Area River Coalition 2000 (MARC 2000)*, is claiming that the Corps didn't cook the books at all, but is being victimized by the "pernicious attacks" and "hyperbole" of environmental extremists whose "orchestrated effort apparently aims at reversing the vision our forefathers had in harnessing the power of rivers." So the barge advocates aren't very happy, their armor has been tarnished and they have volleyed their own "pernicious attacks" and "hyperbole" at the environmental and conservation groups who stand in their way.

Faber responded to such industry rhetoric (broadly circulated over the internet) in his own recent email. Faber said, "Conservation groups like *American Rivers* support barge navigation on the Mississippi River. However, more barges would have serious impacts on the Mississippi that must be carefully assessed. In particular, more barges would kill thousands of fish, and more barges would generate wake waves that fill side channels with sediment and uproot aquatic plants...In isolation, a single tow pushing barges does not seem to do much harm. But, hundreds of tows, pushing thousands of barges will accelerate the slow, steady decline of the Mississippi."

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"No one disputes that barges kill fish and accelerate the decline of habitat", Faber said, "But, barge boosters cite the old canard that barges are better than trucks. They're wrong for three reasons.

- First, grain that does not move by barge will almost certainly move by rail – trucks are used to move grain to terminals (where it is moved either by rail or barge, whichever is cheaper) and no one would ship grain from Illinois to New Orleans by truck.
- Second, recent studies show that rail is more fuel efficient than tows.
- Third, barge boosters are implicitly (and sometimes explicitly) saying that we should destroy the Mississippi because it is more important to have clean air. (Of course, the same interests typically oppose regulations that would improve air quality). More and more, they are saying that we should destroy

the Mississippi to save the Amazon, which they believe will be plowed under unless America becomes a grain colony for Asia (Again, the beneficiaries of longer Mississippi River locks are also building processing facilities in South America. They're going to try to plow under the Amazon regardless of what happens in the Midwest)", Faber said.

"Let's be honest", Faber said, "Barge boosters care about clean air and the Amazon about as much as I care about the price of diesel fuel. 'The difference is simple – conservation groups recognize that Mississippi River navigation is important to the economy of the Midwest, and have not proposed anything that would interfere with the industry's use of the river. Until recently, we negotiated in good faith with industry representatives to seek ways to balance economic and environmental uses of the Mississippi at an annual Summit. We think the navigation industry should live by the same standard – do no harm to the river's other users, including the 12 million people who recreate on and along the Mississippi every year. And, the 18,000 people whose jobs depend upon that recreation."

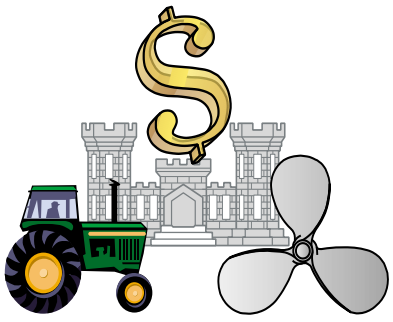
"Of course", Faber says, "barge boosters are the first to tell you how much they care about the Mississippi's wildlife. We spend every day on the river, they'll tell you. But, if they care so much about Old Man River, why are they willing to allow more barges to use the Mississippi regardless of the environmental impacts? They began pushing Congress to authorize longer locks before the Corps' environmental studies were even complete."

"If the navigation industry really cares about the long-term health of the Mississippi", Faber said, "they should reverse course and insist on an adequate environmental analysis of additional barges. In particular, they should demand that the Corps assess the water quality impacts of large increases in grain production, determine how many fish are now using the Mississippi (so we'll know whether the fish killed by additional barges is significant), adequately assess the impacts of barge wakes, and develop proven mitigation measures".

Faber said, "We don't quibble with the economic importance of barge navigation. It's important...but no more important than recreation and river wildlife. More barges and longer locks may not ultimately make more sense – for economic as well as environmental reasons. Even the Corps' own economists say expected demand for the Mississippi is not great enough to justify spending $1 billion to install longer locks. Whether the Corps – whose leaders who are now being investigated – can be trusted to answer these questions is now in doubt. Steps are needed to rebuild our trust in the Corps, but the Corps has circled the wagons. Too bad. I hope the barge industry will recommit itself to seeking balance between the river's economic and environmental uses. No single industry or interest should decide the fate of the Mississippi. And, I hope the Corps will own up to its mistakes and reach out to conservation groups".

Dr. Richard A. Levins, Professor of Applied Economics at the *University of Minnesota* and senior fellow with the *Institute for Agriculture and Trade Policy* (*IATP*), in addressing benefits of the proposed project to farmers, says that further commercialization of the river will mean more environmental damage, taxpayers will hand over billions to the Army Corps of Engineers, and grain companies will have lower transportation costs. This much we know, Levins says. Far less clear is whether our old friend "trickle-down economics" is up to the task of helping farmers. Will lower transportation costs for grain companies improve farmer profits? Not likely.

Levins says farmers are sandwiched between much more powerful business interests. On one side, farmers sell their products to a handful of very large buyers such as *Cargill* and *Archer Daniels Midland (ADM)*. On the other side, farmers buy



supplies from the likes of *Monsanto*, *DuPont* and *John Deere*. Each of these multinationals vastly overshadows any individual farm in size and economic power. Farmers must also have access to land, and since land is in fixed supply, nonfarm landlords are able to bargain on very favorable terms with farmers.

In short, the story of "transportation costs will go down, so farm income will go up" is too simple for a global agricultural economy that farmers share with powerful corporations and nonfarm landlords. A recent study by the *IATP* concluded that the immediate winner from the river project is clear: the global corporations that transport and sell grain on world markets will have lower costs. There are a handful of grain companies, and there will be even fewer as mergers are approved. *ADM*, one of the world's largest grain buyers, has already been convicted in a high-profile price-fixing trial. *Cargill*, the nation's largest privately held corporation, has annual sales of $50 billion. These companies didn't get where they are by passing profits down to farmers.

Even in the unlikely event that benefits trickle-down to farmers, the question becomes one of "why should the trickle-down buck stop with farmers?" By using a computer simulation model, the *IATP* study found that higher farm costs would quickly keep the benefits trickling down past the farmers and into the pockets of landlords and other farm input suppliers.

Finally, the *IATP* study revealed another difficulty with the proposed navigation project. The Mississippi River project subsidizes corn, not farmers. To the extent any farmers will benefit, it will be those who sell the most corn. The river project does not reverse the long-run trend of fewer, larger farms.

Ralph DeGennaro, executive director of *Taxpayers for Common Sense*, declares that the Corps is "out of control" and that its credo is: "Damn the taxpayers and full speed ahead." Carl A. Zichella of the *Sierra Club* agrees. At a news conference in June he said, "Until the Corps of Engineers is brought under civilian control the environmental coalition refuses to work with the agency." Zichella's comments were made outside of a Corps' partnering conference and public listening session held in St. Louis. This was the first of 14 such sessions being planned by the Corps throughout the summer in cities around the country. Zichella's environmental coalition accused the Corps of only being interested in partnering with commercial interests. He said the partnering and listening sessions were a diversionary tactic to draw attention away from controversy surrounding the lock expansion project. But Corps officials denied that, saying, "It's important, during times of controversy, to raise the level of dialogue."

In response to all of this, Representatives

Ron Kind (D/WI), Tammy Baldwin (D/WI) and Earl Blumenauer (D/OR) have introduced the Army Corps Reform Act of 2000. If passed this legislation would:

- Require independent review for large ($25 million or more) or controversial projects;
- Require full, concurrent mitigation for project impacts;
- Empower the Corps' Environmental Advisory Board to oppose projects which have environmental impacts which cannot be cost-effectively or successfully mitigated;
- Require monitoring of completed projects;
- Create a stakeholder advisory group to advise the Corps during project planning;
- Make economic benefits and environmental restoration coequal goals of project planning; and
- Prevent the Corps from recommending a project until all studies are complete.

Environmental interests hope that some of these measures will be incorporated into the Water Resources Development Act of 2000, currently being considered by Congress.

Sources: Scott Faber, *American Rivers email*, 6/3/00; Ted Williams, *Audubon*, July-August 2000; Tina Hesman, S*t. Louis Post-Dispatch*, 6/17/00; Richard A. Levins, *Minneapolis Star-Tribune*, 7/17/00; American Rivers, *River Currents*, 6/23/00; and American Rivers, *Corps Reform Update*, 6/21/00

Missouri River Restoration

The U.S. Army Corps of Engineers has estimated that restoring more wildlife habitat along the Missouri River rather than increasing the river's Spring flows downstream could cost more than $700 million. The habitat restoration work, involving 118,650 acres over 35 years, is considered by some to be the best way to help the river's endangered pallid sturgeon, least tern and piping plover. The Corps and the states acknowledge that it would take a significant increase in what is currently being budgeted each year for such work.

Habitat expansion could play a significant role in helping endangered species, said Richard Opper, executive director of the *Missouri River Basin Association.* "We think we're worth the investment in terms of endangered species and the historical and cultural significance" of the river, Opper said. The cost for the proposed Missouri River habitat work pales in comparison with similar proposals for other waterways, such as the Florida Everglades, where last year the Corps proposed $8 billion for habitat restoration work.

Environmental groups and biologists argue, however, that Missouri River habitat improvements alone won't do the job. They say fish need the signal provided by a Spring water level rise in order to reproduce. "There are some things habitat won't give you," said Mark Brohman of the Nebraska Game and Parks Commission's administrative division. "It is part of the puzzle."

FWS Regional Director (Denver) Ralph Morgenweck agrees. In a letter to the Corps, Morgenweck wrote that a "Spring pulse," or rise in the river's flow, starting next year is needed at Gavins Point Dam on the South Dakota-Nebraska border, the farthest downstream of the Missouri's six major dams. The agency also wants a lower midsummer flow below the dam. Both flow measures are meant to mimic what the Missouri did before it was dammed (i.e. a surge of water resulting from Spring snowmelt runoff and rain scoured the channel, then a mid Summer drop in flow exposed sandbars and shallow marshes where birds and fish fed and bred.

Downstream river users have opposed the "Spring rise" saying it would keep farm fields from draining, harm the navigation industry, and reduce access to cabins and marinas. So the FWS letter quickly prompted an angry letter from Missouri's two U.S. senators, Christopher Bond (R) and John Ashcroft (R), who accused the FWS of "hijacking" the Corps' management role and conducting a "grand experiment of nostalgia." "If the purpose of this process was to engender division, mistrust and contempt for the Endangered Species Act and the distant people who administer it, then success is at hand," they wrote.

Mike Olson, Missouri River Coordinator for the FWS in Bismarck, ND thinks the senators are misinformed. "With the dams in place, no adjustments can ever match the natural ebb-and-flow conditions that existed on the river," Olson said. "The proposed changes may not be a perfect fix", he added, "but they unquestionably would increase wildlife habitat rather than threaten the sturgeon and rare birds". Olson argued that the changes in flow must occur, or the plover, tern, and pallid sturgeon will disappear. "The species that this great river has supported for eons will no longer survive. So it's a question of whether or not these changes are going to take place or whether the status quo management is going to be entrenched for another 50 years," he said.

The FWS first flagged the river flow problem back in 1990, and for the last ten years the Corps and river interests have been trying to forge a solution as part of a massive revision of the "master manual" for managing the Missouri. During that time Congress has given biologists only a very limited amount of funding and tools to address the issue, so the FWS is left with no choice but to fall back on the collective expertise of federal and state biologists to make the call.

What they are saying is that these species are in jeopardy of their very survival if river management continues for another 50 years as it has in the past. Who could ask them to do more? If a political compromise is to be made, biologists should not be expected to make it. That responsibility must fall with the politicians, and then they have to live with the consequences of their decisions. If the FWS is right, it seems to be a question of who is going to be the "poster child" for destruction of these ancient and endangered Missouri River species. Certainly that should not be a biologist; and certainly that is not a label any Congress person would want to carry into their next election campaign.

Meanwhile, a new federal study requested by Senators Tom Daschle (D/SD) and Max Baucus (D/MT) says the Corps has the authority to shorten the Missouri River navigation season. The report, conducted by the Congressional Research Service (CRS) , a nonpartisan analytical, research, and reference arm for Congress, was asked to review the issue of Corps discretion in Missouri River flow management. CRS attorneys concluded that the Corps "has discretion as to its management of the Missouri flows and navigation seasons" and likely has the ability to accommodate both Endangered Species Act duties and river management duties. CRS attorneys concluded that existing laws governing Corps' management of the Missouri River provide the agency with wide latitude in how it operates the river's dams.

"This is clear evidence that the Corps has all the authority it needs to properly manage Missouri River flows," said Chad Smith, *American Rivers*. However, Corps

spokesman Paul Johnston said federal law requires his agency to keep a stable flow on the river for eight months each year. Any permanent change of this policy would need Congressional approval. "We've been operating this way for 50 years," he said. "We think there is probably some precedent here." But Smith countered, "We're trying to accommodate the navigation industry but still do the right thing for endangered species." "You've got to achieve some kind of balance."

Chris Brescia, of *Midwest Area River Coalition 2000* (*MARC 2000*), a navigation trade association in St. Louis, said he questions the scientific basis of this so-called "split season" approach. Brescia said he wants the *National Academy of Sciences* to review the issue. Further, Brescia said he wants to know "is it scientifically based or politically based?" Brian Klippenstein, an aide to Senator Bond, said Bond was most concerned with whether the river is being put to its best use and less concerned with what agency has the most authority. Klippenstein said a court will likely decide both issues.

American Rivers has notified both the Department of the Army and the Department of the Interior that it may sue over "long-standing violations of the Endangered Species Act" and other issues. "If one group takes us to court, as sure as God made little green apples, somebody else will," Johnston said. "We could be in court for years."

As for now, the Corps' $702 million habitat restoration package has been sent to their headquarters office in Washington for review. It could see changes before it is passed on to Congress, which asked for the study when it approved additional acres last year to expand the Missouri River Mitigation Project, first authorized in 1986 for 48,000 acres. The expansion reflects what the states of Nebraska, Iowa, Kansas and Missouri sought. Several habitat projects already have been completed through the program, including Hamburg Bend (see photo at right) near Nebraska City, NE. Projects like Hamburg Bend provide valuable oases for fish and wildlife in an otherwise severely channelized river.

However, Chad Smith of *American Rivers* is concerned about focusing on habitat restoration because of the need to constantly fight for funding. Funding for the current fiscal year is $8 million, but that number has been lower in other years. A House of Representatives subcommittee in mid-June budgeted $12 million for such work next fiscal year.

Meanwhile, Senator Bob Kerrey (D/NE) reintroduced his Missouri River Valley Improvement Act in early June, legislation designed to revitalize riverfronts, attract recreation and tourism, and protect river wildlife. Kerrey's bill, first introduced in June 1999 and co-sponsored by Senators Daschle and Tim Johnson (D/SD), has undergone modest revisions to ensure it can properly help the Missouri support multiple uses and provide multiple benefits for the basin. It would provide $20 million/year for habitat expansion for 10 years, while the present Corps' estimate calls for $20 million/year over 35 years. It would also require the Corps of Engineers and the Department of Interior to consider whether to create a habitat restoration program for the Dakotas and eastern Montana, acquire land from willing sellers to expand the Missouri's refuge system, and study dam operations designed to aid cottonwoods along the 149-mile Wild and Scenic River segment in Montana. The bill also amends the Flood Control Act of 1944 to put fish and wildlife on an equal footing with navigation, flood control, hydropower, and irrigation. Kerrey's bill had gained important bipartisan support from Senator Bond. Parts of the bill may be incorporated into the Water Resources Development Act of 2000.

Hamburg Bend Habitat Restoration Project.

Sources: *Associated Press*, 6/21/00; Patrick O'Driscoll, *USA TODAY*, 7/20/00; Bill Lambrecht, *St. Louis Post Dispatch*, 7/20 and 7/23/00; *American Rivers press release*, 6/23/00; and Bill Bell Jr., *St. Louis Post-Dispatch*, 6/28/00; American Rivers, *RiverCurrents*, 6/9/00

Ohio River Restoration

The Ohio River Ecosystem Restoration program is a $200 million initiative designed to restore and protect river wildlife along the main stem of the Ohio River. The measure, included in the Senate version of the Water Resource Development Act of 2000 (WRDA 2000) was strongly supported by the Ohio River delegation and Senators McConnell (R/KY) and Voinovich (R/OH) were the main proponents. A companion amendment to the WRDA 2000 is being pushed in the House. "This is great news for the Ohio River, and its fish and wildlife," said Kelly Miller, *American Rivers*. "This legislation will restore vital river habitat and give river wildlife a fighting chance for survival."

The Ohio River Ecosystem Restoration Program would authorize the U.S. Army Corps of Engineers to restore, protect and enhance fish and wildlife habitat. The Corps has been working with the U.S. Fish and Wildlife Service and the states of Illinois, Indiana, Ohio, Kentucky, West Virginia, and Pennsylvania to develop this program and have identified over 300 possible projects. The restoration projects will create side channels, islands, sandbars, gravel spawning substrate, bottomland hardwoods and floodplain wetlands to aid fish and wildlife species. While restoring vital aquatic and floodplain habitat, this new program would not adversely affect the water related needs of the Ohio River, including flood control, navigation, recreation and enhancement of water supply.

Other indirect benefits of improved habitat are increased recreational opportunities such as fishing and hunting, increased tourism, and improved water quality. "This program, and other 'big river' environmental programs such as those on the lower Missouri and Upper Mississippi rivers, addresses a serious global problem – habitat loss," said Scott Faber, *American Rivers*.

Construction of dams on the Ohio River over the last century has submerged spawning habitat and undermined the health of floodplain forests and wetlands. Side channels, backwaters and islands – critical nurseries for river wildlife – were lost. "As we approach the bicentennial of *Lewis and Clark's Voyage of Discovery*, Americans are rediscovering the rivers they traveled, including the Ohio River, and it affords us a once-in-a-lifetime opportunity to restore and revitalize the Ohio River," said Miller. "This is a big step forward in helping us

work together to ensure the long-term health of a river so important to American history and our future."

Supporters of the Ohio River Ecosystem Restoration program are continuing efforts to ensure that the project is included in the House version of the WRDA 2000.

Source: *American River Press Release*, 6/29/00

Yellowstone River Restoration

State, federal and local officials have pledged to work together to preserve the Yellowstone River's free-flowing nature while heeding the rights of property owners, water users and other interested parties. Last May, U.S. District Court Judge Jack Shanstrom ruled that the U.S. Army, Corps of Engineers violated federal environmental law when it issued permits for bank stabilization projects along the Yellowstone.

Shanstrom ruled that the Corps had failed to adequately consider the cumulative effects of bank stabilization projects when 14 permits were issued in 1996 and 1997. Shanstrom's ruling resulted from a lawsuit filed by six conservation groups that joined forces to challenge the Corps' permitting process.

Joe Westphal, assistant secretary of civil projects said the Corps has been moving aggressively into areas of basinwide planning and conservation, but that the Corps is so understaffed that it doesn't have the ability to keep a close eye on the permitting process even though the organization's work load continues to grow. Senator Max Baucus (D/MT) described his role in the process as a catalyst, "I want to see if we can get people moving. But it takes time and money," he said.

Shirley Gammon, state conservationist for the Natural Resources Conservation Services, explained some of the management tools that can be used to maintain a healthy river system. Flood plain easements and riparian buffer zones are two tools that can help maintain the free-flowing nature of the Yellowstone without invasive flood controls, she said.

The *Yellowstone River Conversation District Council* (YRCDC) and the *Yellowstone River Conservation Forum* (YRCF) have agreed that they need to find ways to live with a complex, free-flowing river, while protecting the often competing interests of various water users and interest groups. The YRCDC is composed of members of 11 conservation districts along the Yellowstone, as well as five associate members representing other conservation districts. John Kirby, YRCDC co-chairman, said the group emphasizes the need for sound scientific information on which to base management decisions. The group also favors the need for broad local, regional and national support to address the issues of sustainable river use.

One study commissioned by the YRCDC found that four decades of control projects have altered the Yellowstone River between Laurel and Billings, MT. The study, conducted by two Montana engineering firms, examined "how wide, how deep, how steep, how crooked and how armored" the river has become over the past 40 years. Although some areas of the 30-mile study reach revealed "dramatic" changes, the report's authors conclude that overall, the river has "just been kind of tweaked." The report said the most profound change comes from dikes installed to prevent flooding and by increased shore armoring after the 1996 and 1997 floods. The study found that 41% of the channel has been armored, significantly more than researchers expected. The study recommends including revising permitting policy, limiting armoring and reviewing the effect of alterations on fisheries.

Mike Penfold, acting chairman of the YRCF, said the forum is an alliance of non-government organizations, mainly conservation and recreation groups. "There is consensus that we ought to work together with the YRCDC, but we're going to disagree on some things," Penfold said. He noted that conservationists are concerned about the number of bank stabilization permits that are being issued for the Yellowstone.

Meanwhile another group, the *Montana Rivers Coalition* (MRC) in late June filed suit against the U.S. Fish and Wildlife Service (FWS) to force the agency to decide whether to list the sicklefin and sturgeon chubs under the Endangered Species Act. In 1995, following a petition by environmental and Native American groups to gain listing status for the two species, the agency agreed that the fish could merit a status review and a listing decision, but then failed to meet its required 1995 deadline.

Matt Thomas, executive director of the MRC, said dams on the Lower Yellowstone river and its tributaries are killing the small fish and impeding migration. Federal legislation is pending that would transfer ownership of the lower river's Intake Dam to four irrigation districts, but the MRC said it does not include provisions for protecting fish affected by the dam.

The suit also could impact downriver states, which share the Missouri River as a border. If the FWS lists the chub species, it would have to revise its management policy for the Missouri. As noted in a previous article, the Corps and FWS are already considering management revisions to protect the endangered pallid sturgeon, least tern and piping plover. Also as noted earlier, the Congressional Research Service writes in a report prepared for Senate Minority Leader Tom Daschle (D/SD) and Sen. Max Baucus (D/MT) that there is "no statutory mandate for any particular flows, levels of navigation depths or for length of season operations" for the Missouri. The report gives the Corps "considerable leeway" in determining flows and navigation seasons for the river, something which could influence how "to meet the needs of endangered fish and birds."

Last year *American Rivers* named the Yellowstone, the longest free-flowing river in the contiguous U.S., one of the most endangered rivers in the country, largely because of armoring projects that "threatened to turn it into a ditch."

Sources: Clair Johnson, *Billings Gazette*, 6/24 and 6/26/00; Tom Howard, *Billings Gazette*, 7/7/00; Julie Anderson, *Omaha World-Herald*, 6/26 and 6/27/00; and *Greenwire*, The Environmental News Daily, 6/26 and 6/27/00

Lower Mississippi River Restoration Plan Proposed

Wrapping up years of discussions, the Lower Mississippi River Conservation Committee (LMRCC) has outlined a first-ever plan for rehabilitating the natural habitat of the waterway that drains nearly half of the continental United States. The five-state group; representing Louisiana, Arkansas, Missouri, Kentucky and Tennessee; also has set up a *Mississippi River Foundation* to carry out the restoration plan and raise funds for it.

Designed to improve habitat and water

quality, the prescribed improvements would reconnect the river with some of the swampy floodplain and back channels where fish and wildlife feed, grow and find shelter. Committee officials say the back-to-nature elements of the planned projects won't weaken work done by the Corps of Engineers over the decades.

Beginning at the confluence of the Ohio and Mississippi rivers at Cairo, Illinois, the Lower Mississippi flows 954 miles through an alluvial valley encompassing 34,000 mi^2. More than 90 fish species are found in the river. Nearly 40% of all waterfowl and 60% of all bird species in the U.S. migrate through the valley. Unlike the Upper Mississippi, the lower river is free of dams and is not nearly as constricted by levees.

For all its natural wealth, however, the Lower Mississippi isn't as rich as it was in past centuries, when an estimated 150 species of fish flourished. Four-fifths of the 22 million acres of forested wetlands that girdled the river have been cleared. Levees and drainage work have isolated the river from oxbow lakes and swamps. Navigation dikes have funneled water into the main channel and away from the secondary channels, or chutes, behind islands. As a result, many of these smaller channels, vital to young fish, have filled in with sand. A series of cutoffs, in which engineers blasted through sharp bends in the river, shortened the Mississippi and deepened its bed.

The main features of the LMRCC's Aquatic Resource Management Plan include:

- restoring 50% of the secondary channels, or chutes, that have filled in or otherwise become degraded;
- restoring 60% of the lakes within the part of the floodplain that is protected by levees;
- restoring water to 80,000 acres of wetlands that have been drained and degraded; and
- reforesting 130,000 acres of bottomland hardwoods and other wooded wetlands that have been cleared.

While the plan provides a broad blueprint for restoration, a more detailed "resource assessment" is needed to identify priorities for sites needing work. Proposed legislation in Congress would provide funding for the assessment. No cost estimates have developed for the work, which will be paid for through donations to the newly formed foundation. Officials expect most of the donors to be corporate.

Illinois River Restoration

Eight federal agencies have pledged to work together on long-term efforts to restore and protect the Illinois River basin, while maintaining the river as an efficient shipping artery. Brought together under the umbrella of the multi-agency *Midwest Natural Resources Group* (*MNRG*), members hope to address problems including erosion and the resulting silt in the Illinois River and adjacent bodies of water, largely through restoration of natural habitat.

"We hope to see a vastly improved Illinois River," said Bill Hartwig, regional director for the U.S. Fish and Wildlife Service (FWS) and *MNRG* chairman. "The Illinois River is the lifeline of Illinois and a great part of the Midwest." Involved in the agreement are the Army Corps of Engineers, Natural Resources Conservation Service, FWS, Geological Survey, EPA, Coast Guard, Federal Highway Administration and Maritime Administration.

The group plans to work with state and local governments and private groups, and the agreement outlines the responsibilities of each agency involved. The *MNRG* is working on projects in 12 focus areas in either the Great Lakes or Big Rivers basin.

Brent Manning, director of the Illinois Department of Natural Resources (IDNR), said the river's problems are serious and could get worse without attention. He said studies show that the equivalent of 17,202 two-ton truckloads of topsoil are washed into the river each day. Manning said, in conjunction with other efforts, we need to explore ways to reduce sediment buildup and prevent erosion along the river. "We have to address not the symptoms, but the problems themselves," he said. "We have to get into the uplands, we have to get into the watershed."

Meanwhile, preliminary studies show that Illinois River sediments could provide valuable topsoil for nearby urban areas. Dredging and shipping the sediment elsewhere is one of many possible solutions that will be the focus of a two-year, $1.9 million joint study announced in early June. The IDNR and Army Corps of Engineers officially joined forces at a downtown Peoria ceremony in hopes of restoring the river and the Upper and Lower Peoria lakes. U.S. Rep. Ray LaHood (R) hosted the ceremony which commenced the study. "It's a continued message to the people of central Illinois that this is a united effort making sure the Peoria lakes and Illinois River are navigable, recreational and available to the people," LaHood said. The effort's cost will be shared evenly between state and federal authorities.

In 1998, the Corps completed a reconnaissance study of environmental problems in the area. The results indicated that more research was needed, especially concerning sediment delivery and deposition. Col. James V. Mudd, commander of the Corps' Rock Island District outlined the following three steps needed to solve the sedimentation problem:

- Sediments need to be tested to make sure they contains no harmful chemicals and heavy metals. Results of those tests thus far have been positive, Mudd said.
- A hydraulic model of the area needs to be created to determine how sediment flows and from what directions it is deposited.
- Possible solutions for reducing sedimentation need to be determined. One such solution could be to export the sediment as topsoil.

John Marlin, assistant to the director of IDNR's Waste Management Center, said samples of sediments taken from the river have proved to be as fertile as topsoil after a period of weathering, in which the sediment regains oxygen. Such fertile material would be a valued commodity for cities that are in need of topsoil, such as Chicago and East St. Louis.

"You'd be solving two environmental problems simultaneously by getting it out of places where it's not needed and getting it somewhere it is needed," Marlin said. But turning one of Peoria's greatest ecological problems into one of its greatest natural resources still is a few years off, Marlin said. First, the sediment must pass more tests to make sure it's environmentally sound. Then, officials would have to determine the logistics of gathering and exporting the sediment. "If everything works out like we hope it will...there's no reason not to do it," he said.

Source: Jay Hughes, *AP*, 6/14/00; and Brad A. Burke, *Peoria Journal Star*, 6/6/00

Stream Corridor Restoration Project Showcase

Among the many assignments President Clinton gave to federal agencies under his Clean Water Action Plan was the direction

to "...showcase the application of stream corridor restoration technology in 12 demonstration project areas for water quality improvement." Nominations for showcasing were accepted during 1998, final selections were made in early 1999, and now a new web site spotlights 12 sites that were selected for their ability to showcase the application of stream corridor restoration technology and for improving the community, the environment, and water quality as endorsed in the Clean Water Action Plan.

The showcased projects include:

- Duck Creek Watershed (Alaska)
- Big Nance Creek Watershed (Alabama)
- Gila River Corridor Recovery Project (Arizona and New Mexico)
- Suwanee River Watershed (Georgia/ Florida)
- Bear Creek Watershed (Iowa)
- Sun River Basin (Montana)
- Blackfoot Watershed (Montana)
- Carson River Watershed (Nevada)
- McCoy Creek Watershed (Oregon)
- Lititz Run Watershed Alliance (Pennsylvania)
- White River Partnership Watershed Restoration Project (Vermont)
- Duwamish-Green River Watershed (Washington)

The selected projects represent a variety of geographic locations and conditions; a balance of management and design; strong local, tribal, and state leadership; public and private land use mix; and partnerships in stream corridor restoration. The web site provides information such as location, partners, scheduled events, contact information, and other links for each showcased watershed. Also available is a 12-month calendar featuring a description and photo of each of the 12 watersheds.

For more information, visit the National Showcase Watershed web site at: www.epa.gov/owow/showcase

Managing Snags and Large Woody Debris

Snags and large woody debris (LWD) are the sticks, branches, trunks and whole trees that fall into rivers and streams. LWD is important in streams and rivers from both an ecological and a geomorphic/hydraulic viewpoint. LWD provides important in-stream habitat for aquatic animals, as well as stable sites for the processing of carbon and nutrients. Through its impact on channel structure and flow, LWD also assists in the formation of habitat (such as scour pools).

This latter process has led to the misguided belief that LWD also causes significant channel erosion. Another false belief is that snags significantly reduce channel capacity, leading to overflowing of banks during flood events. These misunderstandings have meant that snag removal programs have continued, even after the initial rationale for snag removal (safer river transport) had ceased to be relevant. The problems that exist in managing LWD are, therefore, not so much its negative impact, but the long and widely-held perceptions of its impact.

It is now apparent that de-snagging has had a significant negative environmental impact on stream ecosystems. Major effects include the loss of habitat for fish and other aquatic and terrestrial organisms, to the point where some native species are threatened or locally extinct. Removal of snags has also had a significant impact on channel morphology. De-snagged rivers typically become uniform drainage channels, with fewer channel features such as scour holes and bars that retain, or act as substrates for the processing of carbon and nutrients by instream organisms. Furthermore, extensive research on the hydraulic effects of snags has indicated that snags, especially in large rivers, have little adverse impact on channel capacity and snag removal does little to reduce the height of major floods.

The challenge in achieving 'best practice" LWD management lies in maximizing the positive contribution of LWD in both of its major roles; including, where appropriate, the restoration of snags in de-snagged rivers. Fortunately, this challenge has been made easier by recent research that confirms the real (as opposed to the perceived) impact of LWD on streams, rivers and riparian land. LWD is very significant in the ecology of streams and, by reason of the linkages between water and land, in other ecosystems.

LWD as habitat for fish - Woody debris provides important habitat for direct use by a number of aquatic and terrestrial organisms. Such uses include shelter from high current velocities, shade, feeding sites, spawning sites, nursery areas for larvae and juvenile fish, territory markers and refuge from predation. Snags are most effective as habitat if they have a complex structure providing a number of different-sized spaces, including hollows within the debris piece and spaces between branches.

Branches extending into the water column and above the water surface provide habitat at the different water levels required by different fish species. Single large trees that fall into a river can often provide the full range of complex spaces required.

Snags as habitat for other organisms - In general, the types of snags that provide habitat for fish also provide habitat for other aquatic and terrestrial organisms. Submerged wood, with a complex surface structure of grooves, splits and hollows, provides space for colonization by a range of invertebrates, microbes and algae. Some invertebrates feed directly on the wood while others graze the biofilm (that is, the combined microbe and algal community). The species composition within the biofilm community depends on the position of the wood substrate within the water column. The shallower the water in which the substrate occurs, the higher the density of algal species compared with substrate located deeper in the water column where light does not reach. Species composition of both biofilm and invertebrates also depends on the substrate type. Introduced tree species appear to have a less diverse invertebrate community compared with native/indigenous tree species. Similarly, community composition varies according to the type of substrate (for example, wood compared with concrete pipes). Birds, reptiles and mammals also use woody debris for resting, foraging and lookout sites. Birds commonly use the exposed branches of snags as perch sites, while turtles often climb out of the water using snag surfaces. Snags spanning the channel may also be used by mammals and reptiles as stream crossing points. Many aquatic invertebrates have a terrestrial adult stage and require snags extending above the water surface to provide sites for emergence from

their larval to adult stages.

Snags as sites for carbon and nutrient processing - Another important, but often overlooked function of snags is their role in carbon and nutrient processing. Snags provide important substrate for the development of biofilms. The bacterial and fungal components of biofilm contribute to the decomposition of the woody substrate and, hence, to the supply of dissolved and particulate organic material (carbon) to the water column. Organic matter is a major source of food for invertebrates and fish. The algal component of biofilm may also produce a significant amount of carbon and, hence, food through photosynthesis. Many invertebrate species and some fish eat the algae that are growing on wood surfaces. In sandy, turbid rivers where woody substrate may be the only hard substrate available for colonization, or in rivers that have been isolated from floodplain carbon inputs by river regulation and clearing, most of the food for aquatic animals is found on snags. In upland streams, debris dams (large accumulations of woody debris that often span the entire channel) retain large amounts of particulate organic material. This material decomposes into smaller pieces and is then transported downstream. (As stream size increases, large debris dams become less common and the ability of woody debris to retain these small particles may decrease). However, retention of organic material and stabilization of sandy substrate by snags may still be significant in lowland rivers. Water flowing over snags also helps to re-oxygenate the water and prevent stagnation that can cause fish deaths, odors and other water quality problems.

The role of snags in habitat formation - As well as providing habitat for a range of aquatic and terrestrial species, snags also contribute to the development of other habitat types by their impact on channel structure. The main types of habitat formed by snags depend on snag orientation and stream power. Scour pools formed by snags spanning the channel are particularly important for wildlife, especially in streams with low or no summer flow. When flow ceases, these pools provide the only habitat available for aquatic species, and are a source of recruitment for re-colonization when normal flow returns. Stream power is an important determinant of whether snags influence habitat development. Stream power is a function of gradient and discharge and often peaks in middle reaches where high flows and high gradients occur. In lowland reaches, stream power typically declines because of the decrease in stream gradient, even though total discharge may increase. Where stream power is high (in middle reaches and in some tropical streams with high cyclonic discharge), snags will tend to be flushed out of the main channel and deposited along the bank or downstream where stream power is lower.

The role of snags in erosion - In particular situations, snags may contribute to some erosion of banks. However, similar patterns of erosion can also be found in de-snagged rivers, so removal of snags will not necessarily prevent bank erosion. Snags help to stabilize the bed, and there are many instances recorded where removal of snags has resulted in severe degradation of the channel bed and, eventually, the banks. A river channel needs to be substantially blocked by LWD before there is a significant effect on the movement of floodwaters. Only LWD which is large (i.e. covers more than 10% of the channel cross section) and is oriented across (perpendicular to) the direction of water flow causes substantial local water level increases, and increases the chance of water overflowing stream banks during flood flows. Smaller items have little or no impact on local water levels. LWD has the least effect on water flow when it is aligned with the flow (at 140-l80^{o} to the direction of water flow), is located on the channel margins or in other areas of low flow velocity, and is streamlined in shape. Snags are involved in the normal erosion and deposition processes that result in channels changing their shape, but these processes occur whether snags are present or not. The actual amount of erosion caused by snags is usually small. In most cases, flood height is not controlled by snags but by some other channel constriction such as a perched channel or bridge abutment. It is common for a bridge and its approaches to be smaller than the natural channel cross-section. This leads to flood water being backed-up above the bridge.

The overall LWD management objective should be to manage snags and large woody debris in such a way that the ecological health of the river is enhanced at the same time that risks of flooding and streambank erosion are diminished.

More information can be obtained from: Treadwell, S. (ed.) 1999. *Riparian Lands Management Technical Guidelines*. Land and Water Resources Research and Development Corporation (LWRRDC) , Canberra, Australia.

Source: *RipRap*, Edition 16, 2000, LWRRDC's Riparian Lands Management Newsletter, Canberra, Australia. Web Page: www.lwrrdc.gov.au

States Not Addressing Runoff Issues

Three-fourths of the states (38) are failing to address water pollution caused by runoff from farms and forests, and ignoring a provision in the federal Clean Water Act according to a survey conducted by the *National Wildlife Federation* (NWF).

''States have not stepped forward to systematically deal with polluted runoff and contaminated rain,'' the group said. Michael Murray, the report's co-author, attributed the states' reluctance to "a combination of political intimidation...and bureaucratic inertia'' and said "our lakes, streams and coasts are paying the price.'' The group evaluated compliance with a provision of the Clean Water Act aimed at protecting watersheds from pollution pesticides, excessive nutrients and other chemicals that come primarily from agriculture and forests as opposed to a specific smokestack or discharge pipe.

States are required to designate waterways impaired by such pollution, prioritize the severity of the problems and develop a plan to curtail the pollution. Murray said most states have done little beyond compiling lists. A number of lawsuits have been filed challenging the USEPA's authority to limit pollution from non-point sources, while other lawsuits claim the agency has not been aggressive enough to implement the law.

"In a significant ruling," a federal judge this Spring upheld the right of the EPA to set limits for polluted runoff into waterways. The opinion by U.S. District Court Judge William Alsup in San Francisco upheld the EPA and the states' rights to identify which waterways are polluted from non-point source pollution from urban areas, farms and timber operations. The ruling also gives EPA the power to set Total Maximum Daily Loads (TMDLs), or the maximum amount of pollutants that can enter specific waterways from non-point source pollution.

Alsup also said Congress intended to include non-point source pollution in the Clean Water Act, "noting such pollution is the dominant water quality problem in the nation today". The ruling stemmed from a lawsuit on the Garcia River filed against the EPA by California landowners, the

American Farm Bureau and state and local farm organizations. The ruling is not binding on other courts, "but it was hailed by the Clinton Administration as a national precedent." A copy of the decision in the case, Pronsolino v. Marcus, can be found at http://www.epa.gov/owow/tmdl/lawsuit.html.

In Montana, another federal judge ordered state and federal environmental officials on 6/21 to establish cleanup plans for polluted lakes and rivers. U.S. District Judge Donald Malloy said the EPA and Montana Department of Environmental Quality (DEQ) must establish TMDLs of pollutants for waterways on Montana's list of damaged waters by 5/5/07. Malloy also told the agencies to develop a schedule by 11/1/00 showing how they plan to meet the deadline. The order results from a lawsuit filed by five environmental groups against the EPA and Montana DEQ for their failure to establish the standards nearly 20 years after they were required to by the Clean Water Act.

Then in "direct defiance" of Congress, on 7/11/00 the Clinton Administration issued new water pollution rules that will require the states to make comprehensive pollution surveys of more than 40,000 bodies of water over the next 15 years. The rules require the states to develop their first lists of polluted lakes and rivers by April 2002, and then develop cleanup plans. Cleanups would be based on TMDLs for each body of water and cover nonpoint pollution sources. By announcing the rules, which were published in the Federal Register on 7/13/00, the EPA "effectively sidestepped" a legislative rider prohibiting funding for new TMDL regulations that was attached to a military construction spending bill. In effect, the regulations would no longer be "new", but the rider would still delay full implementation of the program until 10/1/01.

The EPA move sets the stage for a possible fight with Congress, which has 60 days to overturn the rules, a fight the administration says it welcomes. Carol Browner, EPA Administrator, "all but dared Congress to overturn" the rules. Sen. Tim Hutchinson (R/AR), who coauthored the rider, vowed to fight the rules in Congress, but said he did not know if "we can get the votes or not." Hutchinson said, "It's a tremendous thumb in the eye to the U.S. Congress." But Congress is unlikely to overturn the rules because few lawmakers want to be labeled anti-environment in an election year.

Senate Environment and Public Works Committee Chairman Bob Smith (R/NH) said, "Republicans and Democrats alike are united in condemning the Clinton-Gore Administration for ignoring Congress and the states, and circumventing the administrative process. Presidential politics, not the public interest, are guiding the administration's decisions at this point. That is no way to govern."

Bob Stallman, *American Farm Bureau Federation* president said, "Farmers and ranchers have made much progress in improving water quality through voluntary, incentive-based programs. This progress would be halted by EPA's unworkable proposal – a plan that runs counter to many successful local initiatives." Bob Mitchell, *National Association of Home Builders* president said, "In its rush to regulatory judgement on the final TMDL rule, the Environmental Protection Agency has willfully ignored the intent of Congress." Thomas Donohue, president of the *U.S. Chamber of Commerce* said, "EPA's end run around congressional authority is a clear example of an agency out of control."

But Mark Van Putten, president of the *NWF* said, "Thanks to President Clinton's strong actions in defense of clean water and against backdoor legislative maneuvering, we can look forward to continued efforts to reduce polluted runoff and contaminated rain that has impaired 20,000 of the nation's rivers, lakes and streams."

Van Putten's *NWF* report, mentioned earlier, said 19 states, Puerto Rico and the District of Columbia have largely ignored the law and another 19 states have demonstrated ''poor'' compliance. Twelve states were found to meet ''minimum'' requirements: Connecticut, Kentucky, Maine, Massachusetts, Montana, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, and West Virginia. States with the worst compliance were: Alabama, Alaska, Arkansas, California, Georgia, Hawaii, Idaho, Iowa, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, New Mexico, New York, Texas, Virginia, Washington and Wisconsin.

Sources: H. Josef Hebert, *Associated Press*, 4/6/00; Paul Rogers, *San Jose Mercury News*, 4/6/00, *Reuters/Planet Ark*, 4/6/00; Bob Egelko, *AP/Seattle Times*, 4/6/00; Justice Dept. Release, 4/5/00; Erin P. Billings, *Billings Gazette*, 6/23/00; Morgan/Eilperin, *Washington Post*, 7/12/00; Robert McClure, *Seattle Post-Intelligencer*, 7/12/00; Wald/Greenhouse, *New York Times*, 7/12/00; Doug Thompson, *Little Rock Arkansas Democrat-Gazette*, 7/12/00; John J. Fialka, *Wall Street Journal*, 7/12/00; Steve Schmadeke, *Detroit News*, 7/12/00; Jerry Hagstrom, *Congress Daily AM*, 7/12/00; Seth Borenstein, *Philadelphia Inquirer*, 7/12/00; H. Josef Hebert, *AP/San Francisco Chronicle online*, 7/12/00; Traci Watson, *USA Today*, 7/12/00; *Public Works Committee release*, 7/11/00; *AFBF release*, 7/11/00; *NAHB release*, 7/11/00; *NWF release*, 7/11/00; *U.S. Chamber of Commerce release*, 7/11/00; and *Greenwire*, The Environmental News Daily, 4/6, 6/23 and 7/12/00

Miscellaneous River Issues

Edwards Dam Removal Upheld - The Federal Energy Regulatory Commission upheld in early June its previous order to tear down the Edwards Dam at a rehearing requested by the hydroelectric industry. Sources: Patrick Connole, *Reuters/PlanetArk*, 6/2/00; and *Greenwire*, The Environmental News Daily, 6/1/00

Gold Mine Cleanup - The State Department of Environmental Quality requested in early June that *Canyon Resources Corp.* pay another $11.6 million for pollution cleanup at its closed *CR Kendall* gold mine near Lewistown, MT. Sources: Erin P. Billings, *Billings Gazette*, 6/2/00; and *Greenwire*, The Environmental News Daily, 6/1/00.

Conestoga River Shad Return - American shad have shown up in the Conestoga River in Lancaster City, PA for the first time in 88 years. Two adult male shad were recently caught at a new shad passageway at a water treatment plant. This follows six years of a massive effort to restore the fish to the Susquehanna river and its major tributaries, which has included stocking of some 1.5 million shad fry into the Conestoga. Shad restorers had hoped that the young shad would become imprinted with the river, and thus return after swimming down the Susquehanna, through the Chesapeake Bay and into the Atlantic Ocean. After five years, the fish should return to the Conestoga to spawn. It's hoped that the two adult males caught are the first of those to return. The Pennsylvania Fish Commission will be able to determine for sure if these adults are the result of the stocking after they dissect the fish's heads and examine them for tags. Alternatively, the fish might be from the Susquehanna, or part of a batch of adult shad that were captured at the Conowingo Dam this spring and released in

the Conestoga. Sources: *Lancaster New Era*, 6/7/00; and American Rivers, *River Currents*, 6/9/00

San Pedro River Beaver - State and federal wildlife officials are encouraged by the recent beaver activity in the San Pedro River in southeastern Arizona. Over the past year, six out of nine beavers captured elsewhere in the state and reintroduced into the San Pedro have taken mates and built dams. Experts say that beaver activity diversifies aquatic habitat of the San Pedro Riparian National Conservation Area by creating deeper pools and rippling streams, improving habitat for other animals. Beavers, once plentiful in the river, were destroyed in the 1800s by trapping, woodcutting, livestock grazing and hunting. Beaver dams improve water quality and help prevent flooding by keeping the water from blasting straight through the river. Sources: *AP*, 6/6/00; and American Rivers, *River Currents*, 6/9/00

Kootenai River Flow Control - The Army Corps of Engineers has begun raising water levels dramatically below Libby Dam on the Kootenai River in Washington to help sturgeon recovery. It is believed that increased river flow triggers spawning in endangered white sturgeon. The intention is to increase discharges from 4,000 cfs to approximately 25,000 cfs by 6/12/00. Sources: *Spokesman Review*, 6/6/00; and American Rivers, *River Currents*, 6/9/00

Colorado River Delta Restoration - A coalition of eight Mexican and U.S. environmental groups are planning to sue the federal government in an effort to help the Colorado River Delta receive additional water. The U.S./Mexican coalition intends to sue the U.S. Fish and Wildlife Service, Bureau of Reclamation, National Marine Fisheries Service, Interior Department and Commerce Department for violating the Endangered Species Act. They are hoping the suit will result in Nevada and six other Colorado Rivers states allowing more river water to reach Mexico's suffering Colorado River Delta. The Delta has shrunk from 1.9 million acres to about 150,000 acres as federal water projects have diverted river water to Las Vegas, Phoenix, Los Angeles and other booming Sunbelt metropolises. Populations of native, endangered fish have suffered, as have human communities that depend on sustenance fishing. But *Stanford University* professor Barton Thompson says the suit "...could have huge implications for the lower Colorado River states because they have just begun to come to terms with the limited (water) supplies available right now". Bill Snape of *Defenders of Wildlife* said, "Our lawsuit aims to have these U.S. agencies change their ways and reconsider what they're doing to endangered species in the Colorado River Delta and the Gulf of California." The Delta was declared by *American Rivers* as the 6th most endangered river of 1998, since so much of the Colorado River's water has been blocked by dams or diverted out of the riverbed into farm fields that fresh water no longer flows to the once lush Colorado River Delta. Sources: Michael Weissenstein, *Las Vegas Review Journal* 6/28/00; and *Defenders of Wildlife release*, 6/28/00; and *Greenwire*, The Environmental News Daily, 6/28/00; and American Rivers, *River Currents*, 6/30/00

St. Croix River Zebra Mussel Alert - A return of zebra mussels to the Lower St. Croix River in Wisconsin and Minnesota is causing concern that the clams could clog water intake systems and threaten the river's native mussels. Nick Rowse, a U.S. Fish and Wildlife Service biologist, and two divers from the National Park Service (NPS) in early June searched the bottom of the river for the small, non-native clams. The divers found 20 of them from Stillwater, MN, south to Prescott, WI. Despite their worst fears, they did not find any reproducing populations. Had they done so, it would have been a big blow to protectors of the national scenic river on the Minnesota-Wisconsin border. Even so, what the divers found is cause for concern. The river, part of the National Wild and Scenic River system, contains 38 native mussel species, including two – the Higgins' eye and the winged mapleleaf – that are on the federal endangered species list. "I would say if zebra mussels get in the St. Croix, it is going to cost millions (of dollars) to taxpayers," Rowse said. " You've got cooling plants, power plants, city intake pipes. And then you've got the biological issues, with the native mussels." In May, divers from the Minnesota Department of Natural Resources found 10 zebra mussels in a bed of relocated native mussels north of the Interstate 94 bridge near Hudson, WI. Federal divers found 14 more in a second dive. The plan in early June was to check the relocation bed thoroughly, as well as other mussel beds, marinas, buoys and bridge supports that might yield evidence of the exotic invader. In all, the divers hit 20 sites, and checked 300 boats. All but two of the zebra mussels found this year were the same size and were scattered, an indication that no reproductive colonies have been established, as has occurred in the Mississippi River. Unlike other rivers, the St. Croix still has as many mussel species as it had centuries ago, said Byron Karns, NPS diver and biologist. "That's an indication of the water quality here," Karns said. Zebra mussels were discovered in the St. Croix in 1994 on the hulls of boats entering the river from the Mississippi. In the early – and mid – 1990s, federal and state officials imposed a series of measures to hold off an infestation. In addition to aggressive education efforts along the river, the NPS also sets up a houseboat at the Arcola sandbar north of Stillwater and does not allow unclean boats north if they've been in infested waters. Laws also were passed making it illegal to transport zebra mussels into uncontaminated waters. Sources: *Associated Press Newswires*, 6/19/00; *Knight Ridder/Baltimore Sun*, 6/25/00; and *Greenwire*, The Environmental News Daily, 6/26/00

Concentration Camp Effect - Marian Havlik, *Malacologial Consultants*, of Prairie du Chien, WI has observed that zebra mussels may be reducing food intake in some, if not many, Upper Mississippi River (UMR) mussels to the point that some mussel bodies only do basic survival functions. This is what Havlik calls "the concentration camp effect". Havlik said she "tumbled" onto this in 9/99 when she looked at a number of living specimens (several species including *Lampsilis higginsi*) that should have had eggs but didn't. Havlik said this would result in a "decline line" that directly results from lower glycogen levels ,which is the only thing any researcher has ever looked at, but none went far enough, or even speculated (in print) as to the ultimate end result. In other words, Havlik speculates that zebra mussels may not kill mussels directly, but down the road reproduction may be greatly reduced.

Gulf of Mexico Dead Zone - A White House plan to reduce the dead zone in the Gulf of Mexico would boost funding for buffers and restore 5 million acres of lost wetlands to intercept polluted runoff from farms and city streets. The draft plan, released in June by the *Mississippi River/ Gulf of Mexico Watershed Nutrient Task Force*, concludes that nutrients found in polluted runoff must be reduced by 20-40% by 2010 to combat an 8,000 mi^2 section of the Gulf where dissolved oxygen levels are too low to support aquatic life. To meet this goal, the White House plan would increase funding for financial and technical assistance for landowners implementing conservation measures, develop new partnerships to establish buffers, and set pollution budgets for some waterways. The

plan also calls for additional water quality monitoring and public education. Each basin draining into the Mississippi – including the Ohio, Upper Mississippi and Missouri river basins – would develop basinwide polluted runoff reduction plans. Each basin would set numerical goals for nutrient reduction before 2002. Five million acres of lost wetlands would be restored and the amount of fertilizer being washed off farm fields would be reduced by 20%. The dead zone is caused when excessive nutrients – including nitrogen and phosphorous – trigger the growth of algae. When the algae die and decompose, dissolved oxygen levels plummet. Source: *American Rivers release* 6/14/00

Green Milk - The sale of "green milk"; has proven a success, as test marketing in Pennsylvania, Maryland, northern Virginia and Washington, D.C have shown consumers were willing to pay more for the milk produced by farmers trying to clean up the Chesapeake Bay by running "clean" farms. Farmers were paid an extra 10 cents per gallon for participating in the program, and allowing their farms to be regularly inspected for how well they protect water quality. Inspections included evaluation of barnyard runoff, pesticide storage and how diligently cows were kept out of streams. The program is being evaluated and may be extended or expanded to include other dairy products. Sources: *Lancaster Intelligencer Journal*, 6/25/00; and American Rivers, *River Currents*, 6/23/00

Kissimmee River Dam Demolished - In late June a lock and dam on the Kissimmee River in Highlands County Florida was dynamited as part of a $500 million river restoration plan. Many have called the concrete dam perhaps one of Florida's worst environmental mistakes. The dam was built about 40 years ago to provide flood control for developing residential and business areas in the upper reaches of Central Florida, including *Walt Disney World*. Through the project, the Army Corps of Engineers "turned the meandering Kissimmee River into a 30 ft. deep by 300 ft. wide, 56 mi. long canal," destroying 30,000-35,000 acres of wetlands. State and federal governments are now a year into a 50/50 restoration of 22 of those 56 miles of river and surrounding wetlands. The hope is to restore wetlands which act as natural filters, with a goal of reducing the amount of harmful nutrients going into Lake Okeechobee by about 20%. Three hundred and twenty species of fish, birds and other wildlife are expected to benefit from the project. Sources: *Miami Herald*, 6/20/00; and American Rivers, *River Currents*, 6/23/00

Tribal Water Rights - In mid June the US Supreme Court granted Arizona's Quechan Tribe the right to pursue a claim on 25,000 acres of land and the 78,000 acre-feet of Colorado River water that may go with it. Though the claim involves less then 1% of the river's annual flow, the states of Arizona and California have been trying to block the tribe's claim fearing that it could aggravate future water shortages as the region's supply dwindles. Because of the tribe's 19th century treaty with the federal government, it will now have to argue its case before a court-appointed hearing officer, who will decide how much water, if any, the tribe will control. The high court's ruling may help resolve some questions left in the wake of Arizona vs. California, a 1963 decision that divided Colorado River water between Arizona, California, Nevada, and area tribes. Sources: *Arizona Daily Star*, 6/20/00; American Rivers, *RiverCurrents*, 6/23/00; Matt Kelley, *AP/ Tucson Arizona Daily Star*, 6/20/00; Shaun McKinnon, *Phoenix Arizona Republic*, 6/ 20/00; and *Greenwire*, The Environmental News Daily, 6/20/00

Charles River Pollution Curtain - The state of Massachusetts in late June installed a 150 ft. long fabric curtain around Magazine Beach that is intended to keep pollution out of the lower Charles River after more than 60 years. The *Gunderboom*, as the curtain is called, is part of a program aimed at increasing water clarity and decreasing bacteria at the Cambridge beach. The beach has been closed to swimmers since 1938, but hopes to reopen if the curtain works in filtering pollution. The black felt curtain hangs from flotation devices attached by fabric to the sea floor with anchors. Water is then pumped out of the area and passed through the polypropylene and polyester curtain for filtration. Millions of gallons a year of sewage and storm water run into the Charles River, especially after heavy rains. Sources: Megan Scott, *Boston Globe*, 6/20/ 00; and American Rivers, *River Currents*, 6/23/00; and *Greenwire*, The Environmental News Daily, 6/23/00

White River (IN) Fish Kill Update - An auto parts manufacturer, cited for causing a huge fish kill on Indiana's White River plans to sue the city of Anderson, shifting the blame to a faulty wastewater treatment plant. *Guide Corp*. of Anderson, IN, says its mid-December chemical discharge, considered "one of the worst environmental disasters in Indiana" history, should have been rendered safe by Anderson's treatment facility. But the company stresses that the suit should not be misinterpreted as an admission of guilt for the release. *Guide* lawyer Arthur P. Kalleres said, "We're saying, hypothetically, if it gets proven – and we don't think it will – the city should've caught it." Inspection records reveal the city neglected to alert state officials of the "foamy discharge" that slipped through the treatment system and fouled one of Central Indiana's primary water sources. Sources: Kyle Niederpruem, *Indianapolis Star,* 6/10/00; and *AP*, 6/12/00

Illinois River Refuge - *The Nature Conservancy* (*TNC*) has big plans for a large tract of land in the Illinois River valley that the group recently acquired, but it will be at least three years before their vision will start to take shape. *Wilder Farms*, the agricultural corporation that sold the land, will continue to farm the area for three more years with an option to lease it for an additional seven years. Despite the delay, *TNC* officials are excited about the $16.4 million purchase of 6,661 acres. The organization now owns more than 7,500 acres in Fulton County. Paired with pockets of land owned by the U.S. Fish and Wildlife Service (FWS), the group's holdings complete most of the proposed 11,000-acre Emiquon National Wildlife Refuge. The purchase includes Thompson and Flag lakes, a pair of flood plain lakes that were prized as fisheries and as havens for waterfowl before they were drained in the 1920s so the land could be converted to agricultural uses. A private, nonprofit conservation group, *TNC* traditionally has purchased property for restoration and then sold it to the government for management. Michael Reuter, associate state director for the group, said up to half of the newly acquired land could be sold to the FWS, but no agreement has been reached and the entire property may remain in the hands of *TNC*. The FWS has already purchased about 1,300 acres for the Emiquon project. Reuter said no matter who owns the land, it will be opened to public use, including hunting and fishing. "We would have differing uses depending on the area," he said. As soon as *Wilder Farms* quits the land, officials said, Thompson and Flag lakes will be reconnected to the Illinois River through the levees that were used to drain them. "There's a lot of different habitat types out there potentially," said *TNC* area director Doug Blodgett. "The wetlands, we think there's a good chance

they'll come back on their own." He said other portions of the project, such as restoration of upland woods and prairie, could take up to 10 years. Source: Jay Hughes, *AP Newswires*, 5/02/00

Acid Rain Monitoring - The U.S. EPA said in early June that it will restore federal funding for the only three sites in the U.S. that monitor acid levels in clouds. The EPA had let funding lapse for the program that maintained sites in New York's Adirondack Mountains, Tennessee's Great Smoky Mountains and Virginia's Shenandoah Mountains. The New York site is expected to be operating in late June, and the Virginia site's plans are still being worked out. The Tennessee site continued to operate as other agencies provided money. Sources: Shannon McCaffrey, AP/*San Francisco Chronicle*, 6/3/00; and *Greenwire*, The Environmental News Daily, 6/5/00

Flaming Gorge and Glen Canyon Dam Removal? - Fifty environmental groups argued at a Bureau of Reclamation hearing in mid July that Lake Powell and Flaming Gorge Reservoir should be drained. The groups say Glen Canyon Dam, which holds Lake Powell, and the dam that holds Flaming Gorge Reservoir threaten the survival of four endangered fish species in the upper Colorado River. But local residents say the environmentalists are "carpetbaggers" whose demands would ruin Page, AZ, and other local communities. The Bureau of Reclamation is seeking input on the dam's operations and its effects on the razorback sucker, the Colorado pikeminnow, the humpback chub and the bonytail chub. David Orr, spokesman for the *Glen Canyon Action Network* said, "It's well known that the endangered fish...are endangered in part by construction of dams and reservoirs. It seems a logical thing to consider decommissioning the dam." But Kerry Schwartz, Flaming Gorge EIS team leader, said such a move "is not within the scope of this project." The team is looking only at the impacts of operating the dam to achieve flows recommended by the Recovery Implementation Program for Endangered Fish in the Upper Colorado River Basin, an effort by Utah, Colorado and Wyoming to increase fish populations and improve habitat. In the escalating conflict over the dams, pro-dam interests have solicited corporate donations to post billboards and other signs. Environmentalists have opened an ice cream store in Moab, UT, to raise money for their cause. Accusations of illegal activity abound. Sources: Brent Israelsen, *Salt Lake Tribune*, 7/9/00; *AP/Billings Gazette*, 7/10/00; Judd Slivka, *Phoenix Arizona Republic*, 7/13/00; and *Greenwire*, The Environmental News Daily, 7/10 and 7/14/00

Coeur d'Alene River Cleanup - Mining companies have offered to pay $250 million toward the cleanup of the Coeur d'Alene River Basin, Idaho Gov. Dirk Kempthorne (R) announced in early July. The funding would pay for removal of cadmium, lead, and other mining wastes from up to 1,500 square miles of land and water contaminated from a century of mining activity. Kempthorne said federal agencies would be asked to contribute additional funds. The deal, which would require approval from the Interior and Agriculture departments and the Coeur d'Alene Indian Tribe, would shield the mining companies, *Hecla Mining Co*., *Asarco* and *Coeur d'Alene Mines Corp*., from litigation. Kempthorne said he has urged federal officials to finalize the plan within 60 days. A plan for a public review process is expected by late July. Kempthorne said, "The proposal will move us from decades of discussions and litigation to actual cleanup, which will protect public health, the environment and the economy of the Coeur d'Alene area." Sources: John K. Wiley, *AP/Portland Oregonian*, 7/6/00; and *Greenwire*, The Environmental News Daily, 7/6/00

Indiana Septic System Pollution - Expensive sewer cleanup plans in Indiana will not solve the problem of river and stream pollution, because up to 70% of Indiana's septic systems are considered inadequate and failing, state officials report. The 800,000 "deteriorating" septic systems, upon which nearly a third of Indiana families depend, are causing problems throughout the state. And failing septic systems bring humans into contact with sewage far more often than the state's sewer overflow problems. Plans to spend a billion dollars on sewer repairs make little sense, some officials say, as septic problems could be fixed at a "fraction of that cost." Former state and federal environmental regulator Glenn Pratt said, "Compared to how many people get ill from combined sewers...a lot more people get ill from septic system problems." Meanwhile, some areas are building wetlands to cleanse water leaving septic systems. Oxygen from wetland plants causes aerobic digestion of pollutants, leaving the water clean enough to swim in, but not drinkable. Sources: David Rohn, *Indianapolis Star*, 7/17/00; and *Greenwire*, The Environmental News Daily, 7/17/00

Bioprospecting in Yellowstone - Over the objections of environmentalists and some scientists, a deal between Yellowstone National Park and bioprospectors is "poised" to become reality. The partnership between the park and *Diversa Corp.*, a biotechnology company, gives the company the right to plumb the park's organismic resources in exchange for some of the profits and park employee training. In recent years, researchers have found microbes in Yellowstone's hot springs and geysers that produce enzymes thought to have potential for use in products such as industrial detergents and a water treatment that can "gobble up" oil spills. But critics denounce the partnership – the first between a national park and a private company – as exploitation of "a public treasure." A coalition of environmentalists and scientists challenged the deal in court, but a federal judge in Washington upheld the agreement in May. However, the contract will not be active until the park service conducts an environmental impact statement. As many as 15 other national parks are potential bioprospecting sites, officials say. The Yellowstone agreement is expected to provide a blueprint for deals at other parks. MIT molecular biologist Jonathan King said, "Bioprospecting in our national parks represents a private expropriation of these public resources." Sources: Julie Cart, *Los Angeles Times*, 7/10/00; and *Greenwire*, The Environmental News Daily, 7/10/00

Deformed Frog Update

The U.S. Fish and Wildlife Service (FWS) in early July launched a national investigation into pollution sources and other environmental threats that may be contributing to a countrywide population of deformed frogs. Jamie Rappaport Clark, FWS director, said environmental investigators will focus on 43 national wildlife refuges in 31 states from Alaska to Maryland. Clark said sample studies in the Midwest and Northeast have found malformations in as much as 17.9 % of some local frog populations. Normally, deformities occur in about 1% of a refuge's frogs.

Frogs and toads, among other amphibians, are considered good indicators of significant environmental changes because they breathe partly through their skin. The first high incidence of malformation was noted in Minnesota in 1995, and it has since been particularly noticeable in Northeastern, Mid-

Atlantic and Midwestern states. Problems are also being reported on refuges in Hawaii, California, New Mexico, Texas, Oregon, Washington, North Dakota and Utah. The deformities include missing legs and feet, abnormal numbers of legs, webbed hips, immobile joints, missing eyes, multiple pelvises with extra legs, blunted snouts and multiple toes. Salamanders also have been affected by the deformities.

Scientists recognize that habitat destruction is a leading cause for the decline in frog populations, but the reported deformities are much more difficult to explain. Leading theories include chemical pollution, increased ultraviolet radiation from loss of the ozone layer, or even parasites. FWS biologist Sherry Krest said acid rain, poor water quality, viruses, bacteria and funguses also are suspected. She said further that 18 species of frog, toad or salamander are on the U.S. "threatened" or "most endangered species" lists. She said the phenomenon of mutated frogs has recurred throughout U.S. history, going back two centuries, "but never before in these numbers."

Scientific search for possible causes will be conducted by volunteers, wildlife refuge staffs, university experts and FWS biologists, in cooperation with a national task force made up of the Interior, Agriculture, Justice, Defense and State departments; the Environmental Protection Agency; the *National Science Foundation*; and the *Smithsonian Institution*. The teams are to determine the extent of the problem on each refuge as well as the cause. In any area where pollution is found to be the cause, action against the source of contaminant will be taken by state or federal agencies, Krest said.

Clark said average homeowners also may be to blame for the plague. "Homeowners use up to 10 times more chemical pesticides per acre on their lawns than farmers use on crops," she said. "We can all help by choosing non-chemical weed controls whenever possible, minimizing our use of fertilizer and reducing our dependence on pesticides."

Similar studies on why American bald eagle populations declined dramatically in the late 1960s helped bring about a ban on the use of DDT in 1972. Since then, eagles have rebounded.

Source: Michael Kilian, *Chicago Tribune*, Washington Bureau, 7/7/00

Aquatic Exotics Symposium Planned

A symposium entitled, "Aquatic Exotics in the Mississippi River Basin is being planned for the *2000 Midwest Fish and Wildlife Conference* to be held in the Twin Cities, MN in December. Planned presentations include the following:

- *Heterosporis sp.* (*Microspora: Glugeidae*): A New Parasite from *Perca flavescens* in Wisconsin and Minnesota
- Are Mute Swan Really as Bad as Purple Loosestrife and Zebra Mussels?
- A Message to the Midwest from Michigan. (Joe Johnson)
- Recreational Activities as a Pathway of Aquatic Exotics Spread (Jay Rendall/Beth MacKay)
- Where to get ANS info and products to help get the word out (Doug Jensen)
- Natural, Herbicide, and Biological Control: Effects Of Fish Predation on Zebra Mussel (*Dreissena polymorpha*) Colonization in Pool 8 of the Upper Mississippi River (Dr. Steve Gutreuter)
- Evaluation of Sonar A.S. Herbicide for Selective Control of Eurasian Watermilfoil (Wendy Crowell)
- Biological Control of Purple Loosestrife in North America – An Emerging Success Story (Luke Skinner)
- Exotic Zooplankton in The Mississippi River Basin: A Two-way Street (Pat Charlebois)
- Asian Carp in the Mississippi River Basin (Wayne Stancill)
- Observations of the Impacts of Zebra Mussels on the Water Quality of the Upper Mississippi River (John Sullivan/ Ron Benjamin)
- Status of Three Recently Introduced Exotic Species in the Thunder Bay Region of Western Lake Superior (Walter T. Momot)

Going to Work Each Day to Fail

One of our readers sent in a series of copyright articles published on *alloutdoors.com* by outdoor writer Bob Aslan. In this series entitled, "Who's Watching Our Wildlife", Aslan takes a rather critical look at the condition of fish and wildlife management agencies in the U.S. today, and is worth a read by anyone serious about the future of fish and wildlife resources in this country.

Aslan says that some people say fish and wildlife employees "go to work each day to fail." While that is a harsh indictment, he says "there's an element of truth here". "Many of our agency personnel although well-meaning in their jobs, go to work each day in a system that practically guarantees their failure".

In Part II, Aslan says that "In recent decades we've witnessed a rate of change unparalleled in human history. Although high-tech federal agencies such as NASA have kept pace with the rapidly changing landscape, bureaucracy has prevented most fish and wildlife agencies from remaining up-to-date. These agencies have been burdened with more and more administrative layers, while at the same time crippled by slashed funding – there has been an 86% cut in environmental and conservation programs since 1980".

"To make matters worse", he says, "many of these agencies have unintentionally (perhaps) attracted and promoted nontraditional, resource-oriented staff. Believe it or not, today there are MANY wildlife agency employees who aren't just ambivalent about fishing and hunting, but are actively opposed to it. The management tools of hunting, killing (animal or plant), and habitat manipulation are taboo to them."

Aslan says that, "Among staff who aren't 'anti,' many adopt a complacent view of resource management that equates process with real work. In short, a large portion of resource professionals believe their primary job is to give every member of the general public equal say in all management decisions. This means that even if a special interest group promotes a management theory based on bad science, they are given equal time and value in the process."

He says further that, "This contrasts with the post-war wildlife biologist or forester highly motivated to change and improve the habitat for fish, wildlife, and recreational use, and who gave zero credit to the animal rights advocate who didn't want a single animal to die on public land. The old off-the-farm resource professional knew that animals are a renewable resource and (more importantly) that in today's world of shrinking habitat, animal populations must be controlled."

Aslan lists the following 10 action items that

wildlife workers can use when they find themselves trapped in a do-nothing agency that refuses to keep up with change:

• **Be resource minded -** Go to work each day determined to do what's best for the resource and not for politically-motivated upper management. Ask yourself, "Why was my agency established in the first place and what can I do to help attain that goal?"

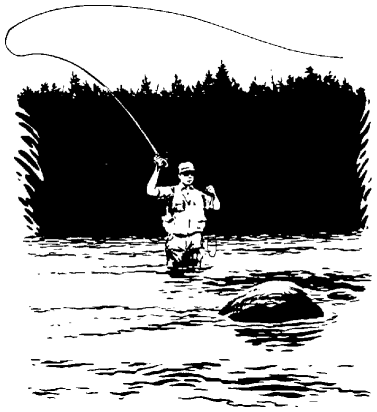
• **Think locally -** Get to know and work with local people. Develop relationships with these people and start treating them as friends. They are your allies, not your enemies.

• **Make sound decisions -** Ascertain the motivation behind special interest groups. Those with a philosophy based on bad science should be politely ignored during the decision-making process.

• **Speak your mind -** Don't let resource lies have undue time in public settings. If, in your opinion, it's sound resource management to cut a tree or harvest an animal, say so – with confidence.

• **Be creative -** Anyone can find a reason to say, "No, we can't do that." Try to find new ways to work outside the little box that many agencies want to play it safe in.

• **Take risks -** This doesn't mean being careless. It does mean to be willing to bend the rules on occasion and do what is practical and makes sense. The only way to avoid error 100 percent of the time is to sit on your keester.



• **Develop outside partnerships -** Build relationships with non-traditional resource-related groups in an effort to get real work done for the agency. This may require working evenings and weekends on occasion. Be flexible with your work week.

• **Be cost-conscious -** Manage your work place and time like you were paying for it. Think about the real cost behind what your agency does. How much did that environmental review really cost in salary and travel? Could that money have been saved with no loss of quality? Could the time and money be used for real work accomplishments?

• **Take control -** Your mother did her job, don't let your agency mother you. Stand up for your rights.

• **Shun meetings if possible -** Many agency employees equate real work with going to meetings. Seldom does meeting attendance have anything to do with real work. Set a goal next year to reduce the number of meetings you go to and use that time to do real work for wildlife.

Aslan says that, if wildlife agency employees sincerely followed these management principles, taxpayers would be more supportive of programs, and would be more apt to become advocates for them instead of proposing their elimination. Aslan concludes Part II of the series by saying that resource agency people would be well served by following the motto, "In life it is much easier to get forgiveness than permission."

The entire series of articles can be found at www.alloutdoors.com

Meetings of Interest

Sept. 6-8: Riversymposium - 3rd International River Management Symposium, Brisbane, Queensland Australia. This year's theme is Sustaining Rivers – defining the new international agenda and will feature case studies from Australia, Asia, Europe and North America. *Riversymposium* also includes *Riverprize*, the world's richest award for river management. Contact: www.riverfestival.com.au or email symposium@riverfestival.com.au

Sept. 15-20: 90th International Association of Fish and Wildlife Agencies Annual Conference, Hyatt Regency, Indianapolis, IN. Contact: Hannah Kirchner, (812) 723-0088, hannahk@kiva.net

Sept. 16-17: Annual MICRA Meeting, Hyatt Regency, Indianapolis, IN. Contact: Coordinator/Executive Secretary, (309) 793-5811, ijrivers@aol.com

Sept. 22-24: Environmental Problem Solving with GIS, Cincinnati, OH. Contact Lisa Enderle, (412) 741-5462, email lisa.e.enderle@cpmx.saic.com; web site: www.epa.gov/tthnrmrl/

Sept. 25-28: 9th Annual Fish Screening and Passage Workshop, Yakima, WA. Contact: Tom Leonard or Connie Morgan, screens@pn.usbr.gov

Oct. 11-13: Brownfields 2000 - Research and Regionalism: Revitalizing the American Community, Atlantic City Convention Center, Atlantic City, NJ. Contact: (877) 343-5374 (toll free), brownfields2000@dyncorp.com

Oct. 23-27: International Conference on Ecology and Management of Wood in World Rivers, La Sells Stewart Center, Oregon State University, Corvallis. Contact: Stan Gregory, (541) 737-1951, Stanley.Gregory@orst.edu

Oct. 28-Nov 1: 54th Southeastern Association of Fish and Wildlife Agencies Conference, Radisson Hotel, Baton Rouge, LA. Contact: Janice Collins, collins_jh@wlf.state.la.us; or Marianne M. Burke, burke_mm@wlf.state.la.us.

Oct. 31-Nov. 2: Florida State University/ Mote International Symposium: "Targets, Thresholds, and the Burden of Proof in Fisheries Management, Sarasota, FL. Contact: Felicia Coleman, (850) 644-2019; coleman@bio.fsu.edu

Dec. 3-6: 2000 Midwest Fish and Wildlife Conference, Hyatt Regency Hotel, Minneapolis, MN. Contact: Jack Wingate, (651) 296-3327; jack_wingate@dnr.state.mn.us

Dec. 3-6: Walleye Management Symposium: Recruitment, Stocking and Regulations. 2000 Midwest Fish and Wildlife Conference, Hyatt Regency Hotel, Minneapolis, MN. Contact: Joe Larscheid, (712) 336-1840, FAX (712) 336-0921, joe.larscheid@dnr.state.ia.us

July 8-11, 2001: 4th International Symposium on Sturgeon, Oshkosh, WI. Contact: bruchr@dnr.state.wi.us, www.sturgeonsymposium.org

Feb. 12-15, 2002: International Large River Symposium II, Phnom Penh, Kingdom of Cambodia. Contact Robin Welcomme, welcomme@dial.pipex.com

Aquatic Nuisance Species

H.R. 4191: P. Hoekstra, R/MI. Requires issuance of regulations for disposal of ballast water and sediment in the Great Lakes.

Endangered Species Act

H.R. 3160: D. Young R/AK and 31 cosponsors. Reauthorizes and amends the Endangered Species Act of 1973.

Environment

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

S. 481: Environmental Crimes and Enforcement Act of 1999, C.E. Schumer, D/NY. Increases penalties and strengthens enforcement of environmental crimes.

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

S. 1090: J. Chafee, R/RI and H.R. 2956: F. Pallone D/NJ and 30 co-sponsors. Reauthorizes and amends the Comprehensive Environmental Response, Liability, and Compensation Act of 1980.

S. 1426: T. Harkin (R/IA) and 5 co-sponsors. Amends the Food Security Act of 1985 to promote the conservation of soil and related resources.

S. 1622: B. Lincoln (D/AR) and 5 co-sponsors. Provides economic, planning, and coordination assistance for the development of the lower Mississippi River region.

S. 1762: P. Coverdell R/GA and H.R. 728: K. Lucas, D/KY. Amends the Watershed Protection and Flood Prevention Act providing cost share assistance for rehabilitation of structural measures constructed previously by the Secretary of Agriculture.

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

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

H.R. 3448: J. Greenwood R/PA and 3 co-sponsors. Improves management of environmental information and encourages innovation in the pursuit of enhanced environmental quality

Fish Management

S. 1653 and H.R. 4010: J. Chafee, R/RI and E. Faleomavaega, D/Am.Sam. Reauthorizes and amends the National Fish and Wildlife Foundation Establishment Act.

S. 2609: L. Craig, R/ID and H.R. 3671: D. Young, R/AK. Amends P.R. and D.J. programs to enhance funds available for grants to States by eliminating opportunities for waste, fraud, abuse, maladministration and unauthorized expenditures for administration and execution of those Acts.

H.R. 3810: R. Ney, R/OH. Permits any individual 62 years of age and older to engage in recreational fishing in navigable waters of any State without obtaining a license.

Forests

S. 1368: R. Torricelli, D/NJ. Amends the Forest and Rangeland Renewable Resources Planning Act of 1974 to strengthen protection of native biodiversity and ban clearcutting on Federal lands, and to make various special designations.

Hydropower

S. 740: L. Craig, R/ID and E. Towns, D/NY. Amends the Federal Power Act to improve hydroelectric licensing processes by granting the FERC statutory authority to better coordinate participation of other agencies and entities.

Property Rights

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

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

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

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

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

H.R. 2263: N. Johnson R/CT. Amends IRS Code of 1986 to encourage contribution of capital gains real property for conservation purposes.

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

Public Lands

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

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

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

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

S. 1049: F. Murkowski, R/AK, and H.R. 1985: B. Cubin, R/WY. Improves adminis-

tration of oil and gas leases on Federal lands.

H.R. 701: D. Young, R/AK. Conservation and Reinvestment Act (CARA) provides investment of offshore oil and gas revenues in parks, wildlife, historic preservation, and coastal and restoration programs, as well as a variety of other conservation programs.

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

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

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

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

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

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

H.R. 3002: D. Young, R/AK. Provides for preparation of certain useful reports concerning public lands, Native Americans, fisheries, wildlife, insular affairs, and other natural resource related matters.

H.R. 4299: N. Deal, R/GA. Requires federal agencies to enhance recreational opportunities at federal lake projects.

Regulations

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

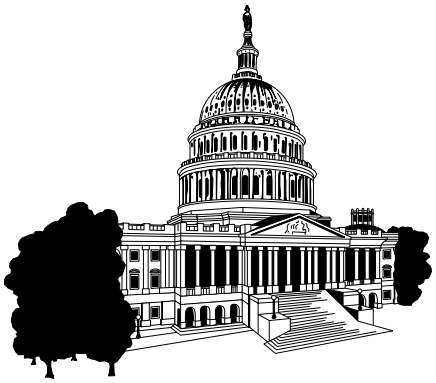
H.R. 1864: J. Hansen, R/UT. Standardizes public hearing processes for Federal agencies within the Dept. of the Interior.

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

Water Resources

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

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



S. 2027: C. Burns, R/MT. Authorizes the Secretary of the Army to design and construct a warm water fish hatchery at Fort Peck Lake, MT.

S. 2074 (Missouri River Valley Improvement Act): R. Kerrey, D/NE and five cosponsors; and companion bill in the House sponsored by K. McCarthy (D/MO) and 2 cosponsors. Revises S. 1279 to improve environmental quality, public use and appreciation of the Missouri River and provide additional authority to the Army Corps of Engineers to protect, enhance, and restore Missouri River fish and wildlife habitat.

S. 2291: T. Daschle, D/SD. Provides for improved conservation of, recreation in, erosion control of, and maintenance of fish and wildlife habitat in the Missouri River in the State of South Dakota.

S. 2309: T. Daschle, D/SD. Establishes a commission to assess the performance of the civil works function of the Secretary of the Army.

S. 2437: B. Smith, R/NH. Provides for conservation and development of water and related resources (WRDA).

H.R. 1186: E. Blumenauer, D/OR. Directs Secretary of the Army to include primary flood damages avoided as benefits for C/B analyses for Federal nonstructural flood damage reduction projects.

H.R. 2297: M. Crapo, R/ID. Reauthorizes the Water Resources Research Act of 1984.

H.R. 3002: D. Young R/AK. Provides for the continued preparation of certain useful reports concerning public lands, Native Americans, fisheries, wildlife, insular areas, and other natural resources-related matters, and to repeal provisions of law regarding terminated reporting requirements concerning such matters.

H.R. 4013: Upper Mississippi River Conservation Act, R. Kind R/WI and 9 co-sponsors. Establishes a water quality monitoring network and an integrated computer modeling program to reduce the river's sediment and nutrient intake, and expands various USDA incentive programs.

H.R. 4123: B.G. Thompson, D/MS. Modifies Yazoo Backwater Project to make payments to local interest as compensation for certain reductions in local tax revenues.

H.R. 4185 and 4186: R.E. Andrews, D/NJ. Directs the Secretary of the Army to establish a market for dredged material; and USDOT to use dredged material in construction of federally funded transportation projects.

H.R. 4879 (Army Corps Reform Act of 2000): R. Kind (D/WI) and two cosponsors. Revises U.S. Army, Corps of Engineers procedures for project review, impact assessment, mitigation, monitoring. and other items.

Water Quality

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

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

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

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

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

S. 1621: M. Landrieu D/LA and H.R. 2957: D. Vitter R/LA and W. Jefferson D/LA. Amends the FWPCA to authorize funding to carry out certain water quality restoration projects for Lake Pontchartrain Basin, LA.

S. 1787: M. Baucus D/MT, and 2 co-sponsors. Amends the FWPCA to improve water quality on abandoned or inactive mined land.

S. 2441: Fishable Waters Act of 2000, C. Bond R/MO and H.R. 4278: J. Tanner D/TN. Amends FWPCA to establish a program for fisheries habitat protection, restoration, and enhancement.

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

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

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

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

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

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

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

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

H.R. 4013: R. Kind, D/WI. Establishes USDA/USDI effort to reduce sediment and nutrient loss in the Upper Mississippi River Basin.

River Crossings

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