River Crossings

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H.R. 2500, Cooperative Interjurisdictional Rivers Fisheries Resources Act of 1993 Update

Thomas Manton, Chairman of the Subcommittee on Fisheries Management of the Merchant Marine and Fisheries Committee followed up on the hearing held on August 3rd on H.R. 2500, the Cooperative Interjurisdictional Rivers Fisheries Resources Act of 1993, by sending written questions to the various persons who testified on behalf of the Bill.

This was encouraging, but to our knowledge no further action has occurred. Those interested in H.R. 2500 should once again contact their respective Congressmen urging early action on this Bill.

MICRA Paddlefish/Sturgeon Strategic Plan

The MICRA Paddlefish/Sturgeon Committee's Strategic Plan was reviewed at the Steering Committee meeting held in late June in Kansas City. Since all members were unable to attend that meeting, Chairman Fry sent the document out to all Steering Committee members for final review and approval.

To date, Fry has received letters of support from about half of the 33 member states and entities.

As soon as all members sign on in support of the document, the Coordinator will proceed with further networking with other groups under the National Paddlefish/Sturgeon Framework Plan developed over the past year by the U.S. Fish and Wildlife Service.

Pallid Sturgeon? Still Being Held in Missouri

About 9000 pallid sturgeon hatched in 1992 at the Blind Pony State Fish Hatchery in Sweet Springs, MO are still being held, pending the results of genetics evaluation to determine if they are pure pallid sturgeon or a hybrid between pallid sturgeon and shovelnose sturgeon.

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The fish are now 15-20 inches in length and food costs have become a major problem. The Missouri hatchery experiment was conducted as part of the Pallid Sturgeon Recovery Team's efforts to develop culture techniques for the endangered species. The Recovery Team has not recommended stocking the offspring of the experiment for fear of genetic swamping if they are a hybrid rather than pure pallid sturgeon stock.

Feed expenses may soon force Missouri to take action to either stock or destroy the fish.

Proposed Rule for Alabama Sturgeon

The Tuesday, June 15 issue of the Federal Register, Vol. 58, No. 113 included the "Proposed status and designation of critical habitat for the Alabama sturgeon".

> "The Fish and Wildlife Service proposes to list the Alabama sturgeon as an endangered species and to delineate areas of critical habitat. This small sturgeon is endemic to the Mobile River system, Alabama and Mississippi. Its current range is restricted to the lower Alabama River and the Cahaba River in Alabama. Both of these areas and the free flowing portion of the lower Tombigbee River are proposed as critical habitat. Factors in the sturgeon's decline include dams, and possible adverse effects from altered water flows, channel maintenance and gravel dredging. The Service needs data and comments from the public on this proposal.
>
> Comments from all interested parties must be received by October 13, 1993. A public hearing will be held to answer questions and gather additional information on the biology of the Alabama sturgeon and the proposed listing and critical habitat designation. The date, time, and location of the public hearing will be announced as soon as possible under a separate Federal Register notice and in newspapers of general circulation within the counties that may be affected."

The Alabama sturgeon was included as a target species of the MICRA Paddlefish/Sturgeon Committee's Strategic Plan.

Contact: James H. Stewart, U.S. Fish and Wildlife Service, 6578 Dogwood View Parkway, Suite A, Jackson, MS 39213, (601) 965-4900.

The Floods of 1993

From mid-June through early August 1993, flooding was severe in the upper Mississippi River Basin following a wet-weather pattern that persisted over the area for a least 6 months before the flood. The magnitude and timing of several intense rainstorms in late June and July, combined with wet antecedent climatic conditions, were the principal causes of the flooding.

Flood-peak discharges that exceeded the 10-year recurrence interval were recorded at 154 streamflow-gaging stations in the upper Mississippi River Basin. At 42 gaging stations, the peak discharge was greater than the

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previous maximum known discharge. At 14 additional gaging stations, peak discharges exceeded the previous maximum regulated peak discharge. At 46 gaging stations, peak discharges exceeded 100-year recurrence intervals.

At two sites on the Mississippi River, the 1993 peak discharges reached record or near-record levels. The 1993 peak discharge for the Mississippi River at Keokuk was substantially greater than previous record peak discharges in 1973 and 1851. Although the 1993 peak discharge for the Mississippi River at St. Louis was not a record discharge (by volume), it was substantially larger than that for the large flood of 1973. The 1993 peak discharge for the Mississippi River at St. Louis was also slightly greater than that in 1903 and only slightly less than the estimated record peak discharge in 1844 (Table 1).

However, the 1993 flood was the flood of record by stage; more than 6 feet higher than the 1973 flood and more than 8 feet higher than the 1844 flood. It is generally agreed that increased flood heights in modern times are caused by floodplain development and constriction of the river by extensive levee development.

Figure 1. Top ten floods of record by volume, and by stage on the Mississippi River at St. Louis, MO.

By Volume of Water

Rank	Date	Cubic Feet Per Second	River Stage (in feet)	Type of Flood	River-stage Rank
1	June 27, 1844	1,300,000	41.32	500-year	3
2	August 1, 1993	1,030,000	49.47	?	1
3	June 10, 1903	1,019,000	38.00	100-year	10
4	May 19, 1892	926,500	36.00	50-year	#
5	April 26, 1927	889,300	36.10	40-year	#
6	May 3, 1883	862,800	34.80	30-year	#
7	July 15, 1909	860,600	35.25	30-year	#
8	April 28, 1973	852,000	43.30	30-year	2
9	June 20, 1908	850,000	34.95	25-year	#
10	April 30, 1944	844,000	39.14	25-year	7

By River Stage Readings

Rank	Date	River Stage (in feet)	Cubic Feet Per Second	Type of Flood	Volume Rank
1	August 1, 1993	49.47	1,030,000	?	2
2	April 28, 1973	43.23	852,000	30-year	8
3	June 27, 1844	41.32	1,300,000	500-year	1
4	July 21, 1951	40.28	782,000	20-year	#
5	July 1, 1947	40.26	783,000	20-year	#
6	May 4, 1983	39.27	708,000	10-year	#
7	April 30, 1944	39.14	844,000	25-year	10
8	October 9, 1986	39.13	728,000	15-year	#
9	May 24, 1943	38.94	840,000	25-year	11
10	June 10, 1903	38.00	1,019,000	100-year	3

Not listed in top 10 of this category

Source: U.S. Army, Corps of Engineers/St. Louis Post-Dispatch/USGS

Effects of the Floods of 1993 on Fish and Wildlife

Much has been written in the press and in the various newsletters and communications about the dramatic impacts of the flood of 1993 on wildlife species. These include rather dramatic pictures of young deer separated from their mothers to various small mammals stranded in trees. Impacts discussed range from displacement to drowning and destruction of bottomland forest habitats.

Unfortunately, very little has been said about the flood's positive effects. All river biologists and the general public should understand that periodic flooding is a natural event for rivers, and as important to maintenance of a river ecosystem as the sun is to photosynthesis.

Perhaps one of the most important features of a flood is that it provides a "*reset mechanism*" that renews and often creates side channels and

backwaters, and stops plant succession which if left unchecked would destroy the diversity of riparian habitats necessary to maintain cover and nesting habitat for many native fish and wildlife species.

The floods of 1993 along the Missouri River provided an excellent example of the reset process. Despite man's extensive efforts to create and maintain stable farm fields, the river has reset them, reclaiming many as fish and wildlife habitats by creating huge scour holes and new side channel habitats, and covering ag fields with extensive sand deposits.

As for the fish themselves, they quickly moved onto the floodplains with the rising flood waters. According to Scott Gritters, Iowa Department of Natural Resources, fish density was quite low in the Upper Mississippi River channel this summer, while it was quite high in flooded terrestrial areas. "It's surprising, he said, we're finding large numbers of fish in a variety of areas...parks, cornfields, and railroad ditches."

This is not unusual. In their natural environment (unimpacted by man's activity) fish moved onto the floodplain annually to spawn, nurse their young, and feed. The hydrological concept involved is described by scientists as the natural hydrograph, which on most rivers includes both a spring and fall rise. Virtually all of our rivers and their native species evolved under conditions of a natural hydrograph. On most of our rivers the natural hydrograph has been greatly disrupted, if not destroyed, and this is one of the primary reasons why many of our native species are in trouble and find themselves listed on threatened and endangered species lists.

The concept was perhaps most simply put by an "old timer" in Columbia, MO who was old enough to remember the flooding that occurred along the Missouri River before all the levees were put in. He said, "The river used to 'get up' twice annually. In the spring it would rise and 'put water and fish in the backwaters', and then in the fall the river would rise and 'come back to get them'".

When the river came back in the fall, all the young that were raised in these backwaters recharged the river system with a new year class of fish. If the river failed to rise, and the backwaters dried up or froze solid, the stranded fish were simply consumed by scavenger species of wildlife who also evolved under, and relied on, these conditions.

So the bottom line is, that for once in many years, river fish were given a reprieve by the flood and were given access to their natural floodplain habitat. We think it was about time, and hope the flood will cause some lasting positive benefits by allowing reverted habitats to be maintained as part of the natural functioning river system instead of being leveed off once again as part of man's futile attempt to fight rather than live with mother nature.

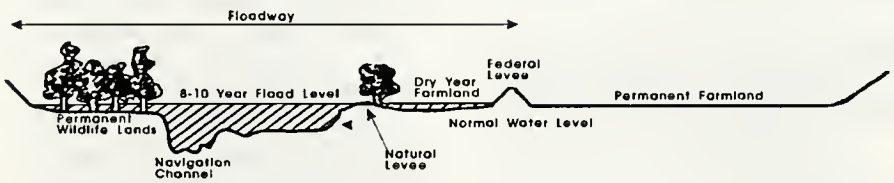
Response to the Floods of 1993

Since mid-July State and Federal construction agencies, led by the Federal Emergency Management Agency (FEMA), Corps of Engineers (COE), and Soil Conservation Service (SCS), have been in a frenzy, rushing to provide what assistance they can, within existing authorities, to flood victims in nine midwestern states. The floods of 1993 have been and continue to be a major national disaster. Many large rivers in the midwest remained in flood stage all summer. In fact, in late September, 6-11 inch rains fell again in Missouri, Iowa, and Kansas, causing the Missouri River to leave its banks, and flood bluff to bluff for at least the third time this year.

Initial federal response to the flood seemed to be a desire to rebuild all of the broken levees to pre-flood condition as soon as possible. In essence, this would reset the clock and the stage for the next great flood. History has shown that our society's traditional response to flooding has been to "rebuild broken levees higher and stronger"; and this has done little more than to increase stages and future floods making resultant damages even greater and more devastating.

This flood, however, may have caused so much damage and broken so many levees that the government simply won't have enough money to rebuild all the levee systems. Since 1952 so many levees have been built along both the lower Missouri and Mississippi rivers that the flood stage necessary to breach them was elevated so high that when they did break, awesome forces were released causing record damages to floodplain homes and farmland.

Huge scour holes, some as large as 100 acres or more in size and 20-40 feet deep, were created at levee breaks as the impounded water rushed through. The force of this rushing water carried away much of the topsoil and moved massive amounts of sand over the land, burying impacted farmland under as much as six feet of sand.



Environmental and conservation groups, as well as those simply wishing to reduce the federal deficit, have responded to the flood with their own frenzy of activity trying to bring common sense to the federal flood response. Coordination meetings have been and continue to be held throughout the basin and in Washington, including meetings with Vice President Gore and Interior Secretary Babbitt at the White House.

Those concerned with the environment and those simply concerned with the economy continue to pursue development of a coordinated, consistent, common sense response to the flood.

The article we presented in the last issue of River Crossings describing the Floodway Concept (shown above) as a reasonable and common sense approach to flood control has received significant attention from both environmental and economic interests across the country.

Various decision making options are currently being considered, including: (1) establishment of a Presidential Commission to review federal flood control policy, (2) establishment of a science advisory team to develop short term action strategies based on the best science available, and (3) development of a long term strategy or plan to review and improve the national role in flood plain management and disaster assistance.

The fundamental goal of the federal government is to develop a set of comprehensive policy and programmatic options that reduce risks associated with floodplain management and unify federal, state, and local floodplain management policies and practices with other national goals (e.g., endangered species recovery; no-net loss of wetlands; swimmable, fishable and drinkable water; etc.).

Specific items being reviewed include the following:

- state and local floodplain regulations, zoning and building codes, and development policies;
- the true long-term financial costs associated with current operations along the river (e.g., crop subsidies, insurance, repetitive flood fight and repair costs, transportation costs);
- nonstructural means to provide protection or compensation for properties protected by levees ineligible for federal assistance;
- the need for storm water retention ponds in urbanized and sub-urbanized areas to assist in addressing non-point source water quality issues and synchronization of flood peaks;
- floodproofing and relocation programs;
- flood flow control;
- drought flow response;
- endangered and threatened species;
- recovery flows;
- navigation flows;
- alternative levee design and construction methods;
- environmental opportunities and sensitive environments;

- reducing the rate of inflow from the watershed (e.g,, restoration of wetlands, improved soil and water retention practices);
- aquatic and floodplain habitat values;
- guidelines or requirements that runoff and flood storage capacity be built into projects qualifying for public assistance and/or federal or state permits or licenses;
- the need for additional federal and state legislation to coordinate authority for floodplain activities (e.g,, a floodplain management act similar to the Coastal Zone Management Act) or multiple use/sustained yield management for interstate river systems (e.g., a program similar to the federal timber land policy);
- identification of federal, State, tribal, and local programs and practices that work at cross-purposes to, or could better facilitate or recognize flood loss reduction and floodplain management goals,
- sewage treatment plant siting, construction and enhancement priorities and opportunities;
- solid and hazardous waste monitoring, management or removal
- actions/policy changes that reduce overall taxpayer support of activities conducted in floodplains;
- agency recovery responsibilities,
- flood loss damage and floodplain management incentive programs;
- funding necessary to effectively implement options to levee repair;
- local government commitments on floodplain management;
- federal assistance eligibility policy that is consistent across agencies and states (e.g., levee eligibility, cost-sharing, and replacement cost vs. market valuation)
- public involvement

All of these items need to be addressed both for the short and long term. The debate over the appropriate Federal role in flood protection will likely continue for many months, or perhaps years to come. Most seem to feel that we simply can't continue to repeat the mistakes of the past and set ourselves up for larger losses when the next flood occurs.

Reevaluating Government Flood Assistance Policies for Agricultural and Open Spaces Lands

Duane Sands, speaking for the Iowa Natural Heritage Foundation, at a workshop held on September 27-29 in St. Louis, MO jointly by the Association and State Wetland Managers and the Association of

State Floodplain Managers, proposed redirecting flood assistance programs (other than aid to households and individuals) to help accomplish economically and environmentally sustainable land use.

Sustainable land use for *frequently flooded areas* includes , grasslands, wetlands and undeveloped recreation lands. According to the Foundation assistance programs for these areas could include:

- fee title purchase for public use by federal, state or local government;
- purchase of conservation easements to assure sustainable use and prevent other uses or investments;
- cost-sharing grants or loans to convert to a sustainable use, with a long-term maintenance agreement recorded and attached to the land title (tree planting, seeding, fencing, water improvement);
- technical assistance, education, and demonstration funds to improve the economic returns and environmental benefits of sustainable uses (forest management, wildlife management, grazing systems, alternatives to enable livestock grazing).

Sustainable land use for *occasionally flooded areas* includes , pastures, rotation cropland with emphasis on hay production, and wildlife habitat. The Foundation proposes the same assistance programs for these areas as for frequently flooded areas.

Sustainable land use for *infrequently flooded areas* may include uses listed above; plus row crop agriculture, and buildings and improvements designed or planned with realistic expectations of flood frequency and costs. Lands behind substantial levee systems are considered to be in this group, as not fully protected.

The Foundation proposes that assistance programs for these lands could include:

- levee improvements where taxes generated because of the improvements repay the government subsidies for the land use;
- technical assistance, education, and demonstration funds to improve risk management and environmental protection (sustainable agriculture systems, best management practices, farmstead planning, evacuation planning).

In summary, the Heritage Foundation believes the role of government is to encourage private enterprise to keep investments out of harm's way, and public policy should assist only those land uses that are economically and environmentally sustainable.

In essence, they are promoting the floodway concept discussed in the last issue of "*River Crossings*", and shown at the bottom of 4 of this issue.

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Influence of Wetlands on Streamflow in Illinois

A draft report of the Illinois State Water Survey summarized systematic studies conducted to quantify the influence of wetlands on flooding and low flows.

Streamflow records from 30 gaging stations monitoring watersheds with variable wetland areas were analyzed. The main objective of the analysis was to determine if streamflow parameters of streams draining watersheds with varying percentages of wetland areas were related to the percentage of wetlands in the watersheds.

Streamflow parameters analyzed included peakflow, floodflow volume, and low flow. From the results of this analysis, in general, it can be concluded that peakflow and floodflow volume decrease, and low flows increase with increasing percentage of wetlands in the watershed. The influence of wetlands was more noticeable on peakflow and low flow than on floodflow volume.

For all the gaging stations analyzed, the peakflow to average precipitation ratio decreased on the average by 3.7 percent, floodflow volume to total precipitation ratio decreased by 1.4 percent, and low flow increased by 7.9 percent for an increase of one percent wetland area in a watershed. There were, however, significant regional and seasonal differences in the rate of change.

Regionally, wetland influence was more noticeable in central and northern Illinois than in southern Illinois for both peakflow and floodflow volume. The influence of wetlands on low flow was more noticeable in southern and northern Illinois than in central Illinois, however. The peakflow to average precipitation ratio decreased by 5.9 to 7.9 percent, while floodflow volume to total precipitation ratio decreased by 4.5 and 2.3 percent in central and northern Illinois, respectively. For low flow, Qgs increased by 15.9 and 15.0 percent in southern and northern Illinois, respectively.

Seasonally, for the state as a whole, wetland influence was the most prominent in fall for the peakflow to average precipitation ratio (5.7 percent decrease) and in summer for the floodflow volume to total precipitation ratio (3.1 percent decrease). For low flow, the influence of wetlands was equally noticeable in fall (8.4 percent increase in Qgs) and summer (8.0 percent increase in Qgs).

Source: Demissie, M., and A. Khan. 1993. Influence of wetlands on streamflow in Illinois (Draft). Illinois State Water Survey, Hydrology Division, 2204 Griffith Drive, Champaign, IL 61820-7495.

Clinton Administration Unveils Comprehensive Wetlands Proposal

The Clinton administration's wetlands policy received mixed, if not somewhat favorable reviews, after its August 24 unveiling. The wide-ranging policy, contains 40 provisions, and borrowed heavily from the Bush Administration's 1991 proposal, but avoided controversial changes to the wetlands delineation manual.

Under the new policy mechanized land clearing, ditching, and channelization of wetlands, activities thought to account for up to 80 percent of the nation's wetlands loss, will require a Clean Water Act Section 404 permit.

The new rule, published in the August 25 Federal Register, settled one lawsuit–North Carolina Wildlife Federation v. Tulloch but prompted another. The National Association of Home Builders, American Mining Congress, American Road and Transportation Builders Association and the National Aggregates Association filed suit August 25 in U.S District Court in the District of Columbia, claiming the Army Corps of Engineers did not have legal authority to regulate the new activities.

The new rule also made final a Bush Administration proposal to exempt from Clean Water Act wetland regulations for more than 53 million acres of wetlands that were converted to farmland prior to December 1985. The "prior converted croplands" have been exempt from the swampbuster provisions of the farm bill and now will be exempt from the Clean Water Act's Section 404 regulation as well.

Farmers also were happy to see a proposal to give the Soil Conservation Service the power to determine what is or isn't a wetland on agricultural land. Existing enforcement and permitting powers would remain with the Corps and the Environmental Protection Agency.

Conservationists, who long have been unhappy with the Soil Conservation Service's enforcement of the swampbuster program, are leery of giving that agency more authority to oversee wetlands. The administration also proposed that the Army Corps of Engineers develop a new Section 404 general permit for discharges that are exempt from swampbuster provisions, and that the wetlands reserve program be expanded when Congress takes up the 1995 farm bill.

Conservationists were enthused by Clinton's decision to reverse a Bush administration proposal to exempt 1.5 million acres of Alaska wetlands from a three-step mitigation process aimed at protecting wetlands. Bush proposed loosening the regulation because in areas of permafrost, it is difficult if not impossible to avoid damage to wetlands or find alternative wetlands to protect.

The administration also supported wetland categorization as part of a local or regional planning effort. EPA currently engages in such advance planning under which developers can find out in which areas Section 404 permits would or wouldn't be issued. The effect is that higher value wetlands are saved at the expense of lower value ones. The administration wants to encourage such an approach that would provide landowners with early identification and characterization of their wetlands. Landowners then could be rewarded with a streamlined Section 404 permit review and more flexible mitigation requirements to offset any wetlands damages.

The strongest denunciation of the Clinton proposal came from the National Wildlife Federation. "We believe the package is a net loss for America's wetlands," said Jan Goldman-Carter, a federation attorney. Citing the exemption of prior converted cropland, Goldman-Carter said the proposal was "steeped in rhetoric and laden with wetlands giveaways."

Steve Moyer of Trout Unlimited said he was pleased with the process but disappointed with the substance of the proposal. "It's not as aggressive as it needs to be" to meet the high standards and goals set by the Clean Water Act, he said. The proposal is laced with references to "appropriate environmental safeguards" that are not spelled out, Moyer said. For example, the administration gives a broad-scale endorsement of mitigation banking, a technology in its infancy that needs strong safeguards to avoid accelerating wetland destruction, he said. Likewise the proposal's emphasis on giving states greater control over the Section 404 program could lead to greater abuse unless it is tried on a tightly controlled basis.

Moyer also questioned the administration's administrative appeals proposal, which he said was weighted in favor of developers. They can appeal a denial by the Corps of a Section 404 permit but conservationists will not have the right to appeal issuance of a permit. The Clean Water Act is an "environmental law, after all," Moyer said.

Source: Land Letter, September 1, 1993, Vol. 12, No. 23

Administration Grazing Reform Could Double Fees

The Clinton administration announced its intent to bring federal grazing fees closer to market value and proposed a series of new regulations designed to improve the health of rangeland ecosystems. The new proposal, announced by Interior Secretary Bruce Babbitt in a press conference August 9, has drawn praise from

environmentalists and scorn from many Western lawmakers and ranchers.

The National Wildlife Federation's Cathy Carlson called the combination of fee increases and regulatory changes "significant reforms that will bring grazing management into the 20th century."

Under the new plan, the Bureau of Land Management and Forest Service –the two agencies responsible for overseeing the nation's 260 million acres of federal grazing lands–would replace their existing grazing fee formula with an "appropriate range" of fees, tied to an index of private land rental costs. Under the current formula, federal grazing fees decreased from $2.36 per animal unit month (AUM) in 1980 to a low of $1.35 per AUM from 1985 to 1987. The 1993 fee is $1.86 per AUM. An AUM is the amount of forage necessary to sustain a cow and her calf, or five sheep, for one month.

The new fees would range from $3.51 to $5.05 per AUM, averaging $4.28 per AUM, a 130 percent increase that would be phased in over three years to lessen the impact on ranchers, the administration said. In the first year, ranchers could expect to pay $2.76 per AUM, followed by a second-year fee of $3.53 per AUM. The administration's proposal, however, would still leave federal fees far below that of private lands, which averaged $10.03 in 1993. "Our belief is that the ranching community is getting a good deal, and they know it," Babbitt said.

Prior to issuing the plan, the Interior and Agriculture departments held five well-attended public meetings in the West on the topic of rangeland management. Those meetings, Babbitt said, had a significant impact on the plan's development.

The grazing fee formula currently in use expired in 1985 under the Public Range Improvement Act (PRIA). President Reagan, in lieu of congressional action, issued an executive order extending the PRIA grazing formula. Although Congress attempted to address the grazing issue on numerous occasions, a successful resolution has yet to be found.

In addition to the fee increase, the Clinton administration proposal would establish national rangeland standards and guidelines to ensure that land management is conducted in a manner consistent with ecosystem health. Special emphasis would be placed on management of riparian areas. Grazing seasons could be shortened, and pesticide use curtailed as a means of meeting management objectives.

Under the new plan, the length of future grazing permits will be determined in part by the of stewardship provided by the permit holder. Permits would be issued for up to 10 years, provided that the permit holder complied with permit terms and objectives, met grazing allotment objectives and helped achieve desired condition of the land resources.

A potentially controversial measure would authorize BLM to file and hold sole title to water rights associated with future public land range improvements. Since 1984, permittees have been allowed to control the title to water rights.

Resource advisory boards would replace the BLM's existing grazing advisory boards, which have been criticized because they are dominated by ranching interests. The new panels would include a broader spectrum of interests, including wildlife managers, fisheries experts, environmentalists, and local business owners, as well as ranchers.

However, in a 59-40 vote on September 14, during consideration of the fiscal 1994 Interior spending bill, the Senate voted to bar for one year the implementation of the Clinton administration's rangeland management reform package.

The administration still has a chance to head off the ban when House and Senate conferees sit down to reconcile differences between their respective spending bills in the coming weeks. But the House in recent years has deferred to the Senate on grazing matters during the House-Senate conference. Also, for the first time in years, the House didn't include a grazing fee hike in its spending bill this year because it was deleted on procedural grounds by Rep. Pat Williams (D-MT).

Senate opponents of the grazing proposal, led by Senators Pete Domenici (R-NM), Harry Reid (D-NV) and Malcolm Wallop (R-WY), argued that the administration was overstepping its authority by trying to reform the management of 260 million acres of Bureau of Land Management and Forest Service land through rule-making and executive orders and without Congress' help. The "government should not do this by fiat," Domenici told his colleagues.

Wallop, the ranking Republican on the Senate Energy and Natural Re sources Committee, which oversees grazing issues, said his intention is to help pass a grazing reform bill. Wallop cosponsored a rancher-backed bill that allows a 25 percent hike in grazing fees next year. "It is our purpose, in fact, to pass a law," he said. "I assert that." The ranchers' bill, S. 1326, would increase grazing fees as of March 1 to $2.33 per animal unit month compared to the administration proposal of $2.76.

An Interior Department official said the administration, which is looking

to the House for help in getting the Senate amendment deleted from the final bill, is not opposed to a legislative solution to the grazing issue if Congress can come up with one that meets Secretary Bruce Babbitt's rangeland management objectives. Congress has debated the grazing issue on and off for decades.

Meanwhile the Interior and Agriculture departments agreed to a request by Western governors to extend the initial public comment period on the administration's rangeland proposal for 30 days. The proposal appeared in the August 13 Federal Register, with comments now due about Oct. 19.

Source: Land Letter, September 1, 1993, Vol. 12, No. 23; and Land Letter, September 20, 1993, Vol. 12, No.25.

Natural Resource Provisions in Tax Bill

The massive half-trillion-dollar deficit reduction law that President Clinton signed August 10 included the following:

The law is expected to raise $345 million over the next five years by authorizing fees to be collected at some recreational sites run by the Army Corps of Engineers, Forest Service and the Bureau of Land Management. Golden Age passports, which let people 62 and older into all national parks for free, will cost $10 under the new law. The $25 annual Golden Eagle passes, which have been sold by the Park Service, can now be sold by non-federal organizations as well and can be used to gain entrance to other federal recreation areas.

The non-federal proceeds will go to the parks and recreation areas based on their entrance fee revenues. The money is to be spent on resource protection, rehabilitation and conservation projects carried out by the Conservation Corps. The law also allows commercial tour fees to be charged at certain national parks for planes, buses and other commercial operations.

The law scales back the Agriculture Department's conservation reserve program and stretches out enrollment in the wetlands reserve program. Enrollment in the conservation reserve is now capped at 38 million acres through the end of fiscal 1995, 1 million acres lower than before.

The wetlands reserve program also was trimmed significantly, with the old 1-million-acre target by the end of 1995 cut two-thirds to 330,000 acres. A new 975,000-acre goal was set by the end of 2000. Savings for these two programs is slated to be $469 million over five years.

Conferees also dropped a House provision that would have charged users of water from federal reclamation and Corps of Engineers projects an annual operation and maintenance fee. The money was to be used to restore fish and wildlife habitat that was adversely affected by the construction of water projects.

Source: Land Letter, September 1, 1993, Vol. 12, No. 23

ENTERING THE WATERSHED: An Action Plan to Protect and Restore River Ecosystems, A Report to Congress

The Pacific Rivers Council has produced a noteworthy document entitled "Entering The Watershed: An Action Plan to Protect and Restore America's River Ecosystems and Biodiversity, A Report to Congress".

One of the most interesting aspects of the report is that it calls our tendency to tackle the worst problem areas first backwards, from an ecosystem point of view. To the contrary, the report argues that we should preserve and save the high- quality, at-risk waters and other elements of the ecosystem first, so that riverine system restoration efforts will have something positive and stable to build upon. Watershed restoration then becomes an extension of that part of the ecosystem that is working. This recommendation is contrary to the Clean Water Act's historic approach of focusing on degraded water.

The report considers rivers as holistic ecological systems, with the mainstem, tributaries, riparian areas and floodplains as interdependent parts. The report's principal recommendation is the enactment of legislation establishing a national watershed restoration program.

The goal of the Clean Water Act itself would be expanded to "restore and maintain the chemical, physical and biological integrity of the nation's waters and the natural ecological integrity of riverine-riparian ecosystems and biodiversity."

The document details the degradation of America's riverine system and the steady narrowing of its range of biodiversity. It describes *ecosystem simplification* as a river system's reduced ability to repair itself and its weakened biological integrity. The causes of ecosystem simplification are described as:

- changes in hydrologic regime,
- hydromodification,
- nonpoint source pollution,
- loss of substrate quality and stability,
- point source contamination,
- overharvest or removal of native species, and
- introduction of exotic species.

The report says that these problems have resulted from decades of mismanagement and piece- meal attempts at restoration that largely failed because they neglected to understand and heal riverine system ecology. According to the Council, ". . . almost all watersheds nationwide are already highly degraded and

fragmented."

The Council points out that failure to stem the degradation of America's riverine systems is a failure at all levels of government:

> "The few riverine protection policies that exist... focus on discrete stream segments, not ecosystems, an approach that fails to address the actual processes and functions of riverine systems. The restoration policies that exist generally focus on single species (usually gamefish), the most degraded stream segments, or the chemical aspects of water quality....Existing protection and restoration strategies and policies at all levels of government are fragmented, extremely limited in scope, and generally ineffective. More effective tools and policies are needed in the national riverine protection and restoration tool box."

The report emphasizes the complexity of river systems and their inseparable relationship to their watersheds, principles that must be reflected in restoration policies.

> "Watersheds are ecosystems composed of a mosaic of different land or terrestrial 'patches' that are connected by (drained by) a network of streams. In turn, the flowing water environment is composed of a mosaic of habitats in which materials and energy are transferred, and therefore connected, through biologically diverse food webs. Human activities can therefore fragment and disconnect the habitat patches if management is not planned and implemented from an ecosystem and watershed perspective... In-stream conditions, then, are largely determined by the processes occurring within the watershed and cannot be isolated from or manipulated independent of this context...Management and conservation activities absent from the watershed context run the risk of being ineffective at best and can be counterproductive at worst."

In a degraded riverine system, according to the report, a few critical areas may remain healthy. These areas "play a vital role in supporting existing levels of health for the systems, and anchoring potential recovery efforts."

> "The small streams at the *headwaters* of riverine systems are the most vulnerable to human disturbance (especially timber harvesting, road building, grazing and related activities) because they respond dramatically and rapidly to disturbance to their riparian areas.

> '*Biotic refuges* . . . are discrete riverine areas which maintain habitat conditions conducive to at-risk biodiversity.
>
> 'The remaining undisturbed *Headwater Streams* also constitute many of the remaining benchmark streams with which to compare and monitor stream ecosystems over time.
>
> '*Riparian Areas And Floodplains* play a critical role in maintaining ecosystem health throughout the system, not just in headwater areas.
>
> '*Biological Hot Spots* . . . [are] smaller, intact riverine habitat patches that provide a critical function for the stream."

The protection of these areas is targeted as the crucial first step in restoration. In fact, restoration resources should aim at "securing" the remaining healthier areas before being applied elsewhere.

> The new approach, "simple in concept and pragmatic in application," to protecting and restoring America's riverine systems is based on the principles of watershed dynamics, ecosystem function, and conservation biology.
>
> The approach involves three interconnected components:
>
> - *Identification And Protection* of the remaining relatively healthy headwaters, biotic refuges, riparian areas, floodplains, and...biological hot spots. This places the emphasis on preventing impacts rather than on attempting to control or repair them after they occur. Prevention is more cost-efficient than control measures, which have failed in most cases.
>
> - *Restoration*...[focusing] on providing better management between the protected areas and eventually linking and expanding the healthy areas... [differing] considerably from the traditional restoration strategies that apply almost all resources to restoring the most degraded river reaches, single species, or to improving water quality with little awareness of the needs of the overall ecosystem

or of the opportunities for cost-effective rapid biotic recovery.

- *Participation of Local Communities and Citizens*...local jobs in restoration technologies, community revitalization projects and economic conversions such as changes in agricultural crops that are less water- and energy-intensive must be created. Open space preservation such as the protection of undeveloped floodplains must also be encouraged. Incentives and technical assistance must be provided to encourage local involvement in taking these steps and in designing and implementing watershed restoration action plans.

The report outlines a series of necessary federal actions to begin the ecological and riverine preservation and restoration for both federal lands and private lands. The long term policy solution envisioned by the Council is the enactment of a *National Riverine and Riparian Conservation Act*. According to the report, the Act would:

"...combine regulatory and non-regulatory approaches to protect and restore every riverine system, regardless of land ownership."

In this effort , the new Act would not parallel the Clean Water Act, but extend it and establish an EPA program to "administer state programs, distribute grants and funding, and establish standards and criteria." Such a program would require substantial participation of other federal agencies, and major leadership roles lodged at the state and local levels.

Under the proposed legislation, watershed interests and affected groups and citizens would be brought together through watershed councils to plan and implement Watershed Restoration Action Plans (WRAPs). Such plans would initially focus on the protection and restoration of riparian areas, floodplains, and biological hot spots. Dams, dikes, levees, and channelizations would be retired or modified, and sedimentation and runoff reduction strategies would be implemented.

The plan would provide for coordination and integration of all state and federally funded activities in the watershed.

The report concludes by outlining ten key issues that must be addressed:

- We must fully acknowledge the severely degraded state of riverine systems and biodiversity nationwide, and make a national commitment to change this.
- Riverine systems must no longer be defined as "renewable" energy and water resources.
- Larger numbers of riverine systems must be addressed simultaneously and comprehensively.
- Current assumptions, strategies and policies must be redesigned from the stream-segment and single-species focus to the watershed (landscape), ecosystem and biodiversity perspective.
- Local investment in river conservation must be encouraged.
- Long-term funding must be provided.
- Accounting procedures must be expanded to fully account for external costs of proposed riverine developments.
- The terms "sustainability" and "restoration" must be clearly defined.
- A commitment to prevention rather than repair or control is required.
- Most importantly, we must rapidly implement the comprehensive protective measures described in this report, along with the separate but connected set of recovery actions.

The appendices to the book provide an assessment of the nation's existing riverine policies and programs in four parts: (1) Riverine Management of Federal Lands Under Existing Resource Protection Statutes; (2) Riverine System and Biodiversity Management by the Federal Land Management Agencies; (3) Federal Policies and Programs Affecting Rivers that Flow Through Private Lands; and (4) State and Local Riverine Management Policies. Each section is packed full of important information for understanding where we are now, policy- and management-wise.

The Pacific Rivers Council is a regional and national conservation organization focused on restoring America's riverine systems and biodiversity, with offices in Oregon and Washington, D.C. The report was prepared over a period of two-and-a-half years by Council staff and consulting scientists and public policy specialists, and included several field workshops and meetings with scientists and other groups nationwide.

For more information contact: Bob Doppelt, Executive Director, Pacific Rivers Council, P.O. Box 309, Eugene, OR 97440, (503) 345-0119, FAX (503) 345-0710.

Source: Nonpoint Source News-Notes, c/o Terene Institute, 1717 K Street, N.W., Suite 801, Washington, D.C. 20006, August/September 1993, No. 31.

Reauthorizing the Clean Water Act

On June 15 Senators Max Baucus (D-Montana) and John Chafee (R-Rhode Island) introduced S. 1114, the Water Pollution Prevention and Control Act of 1993., a bill to amend and reauthorize the Federal Water Pollution Control Act (Clean Water Act).

Key provisions of the Senate Bill include the following:

- Existing state nonpoint pollution

control plans are to be revised and upgraded to address new activities causing water pollution, to prescribe best management practices for new uses, and to implement site-specific management plans for existing agriculture sources in impaired watersheds. Funding for nonpoint programs is increased substantially, and 50 percent of these funds are made available as cost-share grants to implement site-specific water quality plans.

- A new initiative is introduced for voluntary watershed planning to correct pollution in impaired watersheds. States may identify impaired waters and watersheds and develop watershed plans to assure that water quality goals are met. Significant percentages of loan funds are reserved for projects in watershed areas, and watershed plans allow the adjustment of pollution requirements and nonpoint sources.

- Authorized level of appropriations to the state revolving loan funds is increased to $2.5 billion in 1994. Thereafter, the level will increase $500 million per year to 2000 when the authorization will be $5 billion.

- The list of projects eligible for state revolving funds is expanded to include combined sewer overflows, stormwater, nonpoint pollution, animal waste management, and subsurface sewage disposal.

- A new pollution prevention planning initiative is established. EPA is required to identify 20 chemicals warranting intensive pollution prevention efforts.

- EPA is also required to develop a list of highly bioaccumulative and toxic pollutants. Discharges of the pollutants on the list are to be phased out over a five-year period, unless safe substitutes or treatments are not available.

- The bill adopts the EPA draft policy for control of overflows from combined storm and sanitary sewers. Long-range deadlines up to 15 years are authorized for complying with water quality standards.

- Stormwater permits will be developed for large and mid-sized communities beginning 3 years after adoption of the bill to assure compliance with national guidance on management measures and water quality standards.

On June 28, Representative James Oberstar (D-Minnesota) introduced H.R. 2543, the Nonpoint Source Water Pollution Prevention Act of 1993. This bill does not address the comprehensive reauthorization of the Clean Water Act, but looks exclusively at improvement of the nonpoint source control provisions contained in Section 319.

The Oberstar bill focuses on watersheds. Watershed implementation programs (WIPs) will begin with a watershed conference called by the WIP's state governor. All stakeholders in the watershed will have an active part: nonpoint sources, point sources, and all water users, including drinking water suppliers, federal, state and local governments and nongovernmental agencies. From the management conference would come an understanding of the problem, agreement on the causes, and on who is responsible and who should clean up.

The bill encourages "good actors," those who comply to carry out site-level clean-up plans, and requires states to have fall-back enforcement legislation for "bad actors," those who "refuse clean up and who try to profit while the good actor competitors comply."

The bill authorizes $500 million per year and sets aside from each state's apportionment 20 percent or $200,000...(whichever is greater), for state administrative costs. The bill also establishes, directly under the President, a program for the control of nonpoint sources on federal lands.

Hearings on S. 1114 were held by the Senate Environment Panel on June 16, June 23, July 1 and July 14.

In the first of the two-month series of Senate hearings, EPA Administrator Carol Browner testified that the administration intends to "expand emphasis from chemical properties of water to ecosystem and biodiversity protection . . . provide incentives to states to voluntarily prepare watershed plans . . . and [emphasize] site-specific polluted runoff plans."

Browner stressed voluntary, targeted approaches in non-point source pollution management, backed up by the ability to address repeated noncompliance.

Source: Nonpoint Source News-Notes

August/September, 1993, No. 31, and Runoff Report, Summer/ Fall 1993

Landmark Pennsylvania Law Mandates Nutrient Management

Pennsylvania has passed a first-of-its-kind law to stem the flow of nutrients into state waters and the Chesapeake Bay. Signed by Governor Robert P. Casey on May 20, the Nutrient Management Act links livestock density to mandatory nutrient management.

The Act's primary purpose is to establish criteria, nutrient management planning requirements, and an implementation schedule for the application of nutrient management measures on certain agricultural operations which generate or utilize animal manure.

Under the Act, farms with more than 2,000 pounds of livestock or poultry per acre are required to develop and carry out approved nutrient management plans. About 8,000 to 10,000 existing beef, dairy, hog, poultry, and horse farms in Pennsylvania meet the animal density criteria.

Ninety percent of the fresh water streaming into the upper Chesapeake Bay comes from Pennsylvania's Susquehanna River, and agricultural runoff is the largest source of nutrients in the river. Under the Chesapeake Bay Agreement with Maryland and Virginia, Pennsylvania has pledged to reduce nitrogen flow into the bay by nearly 20 million pounds per year.

The Pennsylvania State Conservation Commission, in conjunction with the state environmental and agriculture departments, has two years to promulgate regulations to implement the law and set minimum standards for nutrient management plans.

The law establishes an advisory group of 15 members to review the commission's regulations. The advisory group will consist of: five farmers, one feed industry representative, one commercial agricultural lender, one fertilizer industry representative, one local government representative, one academic agronomist or plant scientist, one veterinary nutritionist, one representative of environmental groups, two citizens, and one hydrologist.

In addition to regulating farm practices, the Act also directs the Department of Environmental Resources to evaluate the water impacts of pollution from storm water, septic systems, wells, nonagricultural fertilizer use, and atmospheric deposition.

The U.S. Environmental Protection Agency applauded the law. William Matuszeski, director of EPA's Chesapeake Bay Program said, "I hope it's the first of...a new generation of legislation to deal with what is emerging as a more and more important problem."

Contact: Mike Krempasky, Executive Secretary, Pennsylvania State Conservation Commission, P:0. Box 8555, 400 Market St., Harrisburg, PA 17105-8555. Phone: (717) 787-5267.

Source: Nonpoint Source News-Notes, c/o Terene Institute, 1717 K Street, N.W., Suite 801, Washington, D.C. 20006, June/July 1993, No. 30.

North Carolina Adopts Nondischarge Rule for Animal Waste Management Systems

On December 10, 1992, North Carolina's Environmental Management Commission also adopted a water rule that governs animal waste management in the state. The rule affects all animal management operations (regardless of size) in the state. The rule allows animal waste management systems to be deemed permitted only if certain minimum criteria are met. In addition, feedlots with more than 100 head of cattle, 75 horses, 250 swine, 1,000 sheep, or 30,000 birds must meet special conditions in order to be deemed permitted.

As of February 1, existing animal waste management systems and new or expanded animal waste management systems constructed between February 1 and December 31, 1993 must: (1) register with DEM by December 31, 1993, and (2) submit a certification form signed by the owner and a state-designated technical specialist to DEM by December 31, 1997.

The certification verifies that the animal waste management system has been approved as a nondischarging system and that the minimum operation and maintenance standards can be met.

New or expanded feedlots constructed after December 31, 1993, must submit a signed certification form to DEM before the animals are stocked. This certification indicates that the minimum design and construction standards for the waste management system have been met and that the operation and maintenance standards can be met for a nondischarging system. The standards and specifications are based on those used by the USDA Soil Conservation Service and the North Carolina Soil and Water Conservation Commission.

Facilities that fail to submit the registration and certification forms on time or fail to follow an approved plan must obtain an individual permit from DEM and are subject to appropriate civil or criminal penalties.

Contact: David Harding, NC Division of Environmental Management, P.0. Box 29535, Raleigh, NC 27626-0535. Phone: (919) 733-5083. FAX: (919) 733-9919.

Source: Nonpoint Source News-

Notes, c/o Terene Institute, 1717 K Street, N.W., Suite 801, Washington, D.C. 20006, June/July 1993, No. 30.

American Rivers Presses Reforms at Federal Energy Regulatory Commission

Members of the National Hydropower Relicensing Coalition, which includes over 60 different environment and recreation groups led by American Rivers, are intervening in the relicensing proceedings of hydropower projects in order to restore significant environmental and recreational values to the affected rivers.

American Rivers

Members of the Coalition already have intervened in about 80 percent of the relicensing cases now pending before FERC. They have identified hundreds of deficiencies in the studies that accompanied the applications submitted by dam operators, and have successfully lobbied FERC to make river-basin-wide analyses in cases across the country. The coalition has also pushed FERC to complete additional Environmental Impact Studies, which require the licensee to consider more alternatives.

On June 17, in a move that may signal a significant change in its attitude toward environmental concerns, the FERC invited American Rivers, Trout Unlimited, and the American Whitewater Affiliation to participate In an unprecedented roundtable discussion on the future of hydropower dam licensing.

The conservation groups met with all five FERC commissioners, including Commission Chair Elizabeth Moler and four new commissioners who were appointed in mid-April. The groups presented the Commission with a platform of proposed FERC reforms that are endorsed by a coalition of over a dozen national and regional environment and recreation organizations. Moler called the meeting to discuss issues associated with relicensing hydropower projects.

Conservation groups asked FERC publicly to change the way it does business. The conservation coalition called upon FERC to take several key actions, including:

* prepare far more Environmental Impact Statements (EIS's) for projects than it currently proposes, because of the significant impacts these dams have on the environment.
* guarantee that funding for long-term maintenance and/or decommissioning of retired hydroelectric projects will be available when needed, to avoid the future problem of abandoned hydropower sites for which no one is responsible, and for which no funds are available for long-term maintenance or removal.
* encourage creative settlements between applicants, agencies and public intervenors that benefit the public interest and that can achieve broad environmental improvements and protection.
* enable the public to play a greater role in the relicensing process, and make all economic and energy data open to public inspection. Rivers are a public resource and relicensing decisions must be made in the public interest.

At the meeting, conservationists and regulators from state natural resource agencies agreed that FERC should adopt a broader perspective on the effects hydropower projects have on the environment, should address these effects on a regional basis, and should act quickly to address how long-term maintenance or removal of retired dams will be funded.

Also participating in FERC's roundtable discussion were representatives from the Interior Department, EPA, Forest Service and the natural resources agencies of Wisconsin, Michigan, New York, and Maine (states with large numbers of hydropower dams up for relicensing in 1993), the National Hydropower Association, and the Native American Rights Fund.

Cooperative Private/Public Mussel Study Underway in Illinois

Dr. Richard (Rip) Sparks of the Illinois Natural History Survey is presently conducting a study commonly referred to as the "Assessment of Zebra Mussels on the Native Mussels of the Illinois River".

The first year of the effort is to determine management options available for managing the effects of zebra mussels on native mussel species in the Mississippi River System (MRS).

Observations made by the Illinois River study to date include the following:

- Zebra mussel populations are heavier at the lower end of the Illinois River than in the middle portion of the River.
- At the higher zebra mussel population levels, native mussels are dying in very large numbers. Zebra mussels are not only thickly encrusting the native mussel shells, but are colonizing the siphon tubes and inner mantles of the native species.
- Deeper burrowing species of native mussels are thus far surviving the invasion much better

than the shallower burrowing native mussel species.

The Illinois study will be supplemented by a matching $55,000 grant from the National Fish & Wildlife Foundation and several cooperators to develop a "A pre-listing Recovery Plan for Native Mussels".

The grant is supported by:
- Tennessee Shell Company, $15,000;
- The Mussel Mitigation Trust (Cincinnati Gas & Elec) $15,000;
- The Upper Mississippi River Conservation Committee $ 7,000;
- The National Fish & Wildlife Foundation $18,500.

Funding for the second (and possibly third) year of this effort will be sought from the U.S. Fish & Wildlife Service, the States, and from other mussel/pearl industry interests.

The Illinois Natural History Survey project is intended to:

- determine what effects the zebra mussel invasion of the Illinois River has on native mussel species and beds;
- develop predictions on the zebra mussel invasion on the native mussels of the Mississippi River as a whole (assuming the information from the Illinois River provides a year or two lead-time on the remainder of the MRS).
- develop specific management recommendations for native mussels in the face of the invasion (e.g. for those species which seem to face rapid extinction, moving sufficient numbers of the species into fish hatchery raceways to assure re-introduction capability when the zebra mussel boom reaches the "bust" stage [assuming the zebra mussels and native species can co-exist at lower, "bust", population levels of zebra mussels).

TVA biologists informed us at the Annual AFS meeting in Portland that TVA is already holding native Tennessee River mussels in holding ponds or raceways at one of their facilities in hopes of avoiding zebra mussel impacts.

Black Carp vs. Zebra Mussel?

A May 1993 issue of the Water Farming Journal discussed the potential use of the Asian black carp to control zebra mussels.

The article, by Carroll Trosclair, cites three major challenges to developing a market for the species: (1) "They must convince conservation officials that the black carp would be less harmful to other animals and vegetation than the zebra mussel already is, (2) To do that they must turn the black carp into a non-reproducing triploid, just as farmers have done with the grass carp, (3) They must accelerate production to meet what could be a tremendous overnight demand for black carp."

Source: The Lateral Line, Volume 7, Number 3.

Montana Local Water Districts Make A Splash

The 1991 Montana Legislature passed Senate Bill 136 allowing counties to set up water districts to protect, maintain, and improve water. Each district is authorized to set fees to achieve its objectives.

Lewis and Clark county commissioners initiated the first local water district encompassing the Helena Valley watershed in February 1992. It was established after four months of public discussion and hearings. The city councils of Helena and East Helena passed resolutions to join the proposed district.

The first order of business was to appoint a board of directors consisting of a county commissioner, and a member from Helena and one from East Helena. It also includes a member from the city/county board of health, another from the Lewis and Clark Conservation District, and interested citizens.

The board designs the program and activities of the district and submits them for approval to the Montana Board of Health and Environmental Sciences. This assures there will be no duplication of services between state and local programs. It also allows the district to request authorization to enforce certain aspects of the Montana Water Act.

The Lewis and Clark County Water Protection District has adopted a comprehensive program that it calls CAP--Clean Aquifer Program. This program includes water monitoring, toxic/hazardous material spill remediation, stormwater drainage inventory, and wellhead protection. It also will provide a used motor oil collection center and an education program for pesticide use reduction and household hazardous waste disposal.

For more information on Montana's local water districts, contact Carole Mackin, Environmental Specialist, Water Bureau, Cogswell Building, 1400 Broadway, Helena, MT 59620. Phone: (406) 444-2406.

Source: Nonpoint Source News-Notes, c/o Terene Institute, 1717 K Street, N.W., Suite 801, Washington, D.C. 20006, June/July 1993, No. 30.

Guide to Construction of Stormwater Wetlands Released

The Metropolitan Washington Council of Governments has produced a manual that presents integrated and comprehensive design criteria for the construction of stormwater wetland systems. The manual, authored by Tom Schueler of the Anacostia Restoration Team, reviews four basic design variations for stormwater wetlands and reviews factors that improve pollutant removal capability.

Design of Stormwater Wetland Systems covers:

- sizing stormwater wetlands to avoid secondary environmental impacts;
- creating deep-water cells to enhance wildlife habitat;
- developing pondscaping plans to create community amenities, and;
- reducing maintenance

The manual also includes a review of wetland performance monitoring data and a revised native plant guide for pondscaping.

The Guide is available from the Metropolitan Washington Council of Governments (MWCOGA), 777 North Capitol St., NE, Suite 300, Washington, DC 2002-4201 for $25. Make checks payable to MWCOG.

Source: Nonpoint Source News-Notes, c/o Terene Institute, 1717 K Street, N.W., Suite 801, Washington, D.C. 20006, June/July 1993, No. 30.

Meetings of Interest

November 1-3, 4th National Pesticide Conference: New Directions in Pesticide Research, Development, Management, and Policy, Richmond, VA. Contact: Dr. Diana Weigmann, VA Polytech, VA Water Resources Res. Center, 617 North Main St., Blacksburg VA 24060-3397. (703) 231-5624 or 231-6673. Sponsored by the VA Water Resources Research

November 4-7, The Future of America's Rivers - A Celebration of the 25th Anniversary of the National Wild and Scenic Rivers Act, Arlington, VA. Sponsored by American Rivers and cosponsored by River Network, National Park Service, U.S. Forest Service, U.S. Bureau of Land Management, U.S. EPA, U.S. Bureau of Reclamation, and U.S. Fish & Wildlife Service. The conference will review current national river policy and shape future river protection directions, and enhance grassroots river protection efforts.

November 19, Wetland Issues in Resources Development in the Western U.S., Denver, CO. Contact: Mark Holland, Rocky Mountain Mineral Law Foundation, Porter Administration Bldg. 7039 East 18th Ave., Denver, CO, 80220. (303) 321-8100. Sponsored by RMMLF and the American Bar Association.

December 6-8, Marina and Boating Environment Conference and Trade Show, Atlanta, GA. Contact: Susan Santoro, International Marina Institute, 35 Steamboat Avenue, Wickford, RI 02852. (401) 294-9558. FAX: (401) 294-1630. Sponsored by the International Marina Institute with the Clean Marina Program Consortium. Conference issues: marina and boatyard facility siting and design; environmental regulation and law; boat sewage and wastewater; fuel, oil and hydrocarbons; stormwater and nonpoint pollution runoff; hazardous materials, trash and recycling; boat repair and maintenance; dredging and beneficial uses of marina bottom soils; boat usage, cleaning, and maintenance; and marina and boater education.

December 11-15, 55th Midwest Fish & Wildlife Conference - New Agendas in Fish and Wildlife Management: Approaching the Next Millennium, St. Louis, MO. Contact: Wayne Porath, MO Dept. of Conservation, 1110 S. College Avenue, Columbia, MO 65201. (314) 882-9880.

April 17, 1994, The International Erosion Control Association 25th Annual Conference and Trade Exposition, Reno, NV. Contact: IECA, P.O. Box 4904, Lincoln Avenue, Suite 103B, Steamboat Springs, CO 80477-4904. (303) 879-3010. FAX: (303) 879-8563. Topics include innovative applications for solving erosion control problems; soil bioengineering methods and techniques; wind erosion in arid environments; erosion control for urban construction sites; streambank and shoreline stabilization; steep slope stabilization; how to meet permit requirements; erosion control in the third world; and research and development.

April 17, 1994, Responses to Changing Multiple-Use Demands: New Directions for Resources Planning and Management, Nashville, TN. Contact: Ralph H. Brooks, General Chairperson, Tennessee Valley Authority, Water

Management, Evans Bldg., Rm. IW 141, Knoxville, TN 37902. (615) 632-6770. American Water Resources Association Annual Spring Symposium. Topics will include water use trends, water-resources forecasting, hydrologic modeling, GIS tools, water pricing policies, water allocation, water law, BMPs, environmental impact mitigation, reservoirs, and hydropower licensing.

August 3-6, 1994, Sixth International Symposium On Regulated Streams (SISORS II). The University of South Bohemia, Ceske Budejovice, Czech Republic. SISORS II is the sixth in an on-going series of International Symposia devoted to scientific research of rivers modified by large dams, weirs, channelization and flow diversion schemes. Contributed papers are invited on the following topics:

- Effects of dams, weirs, channelization or inter-basin transfers on plankton, macro-invertebrates, periphyton, macrophytes and fish;
- Effects of river regulation on estuarine, wetland and floodplain ecology;
- Water-of river-reservoir systems;
- Fisheries management;
- River restoration;
- Conservation of river margin and floodplain systems;
- River regulation and integrated basin management. Contact: Professor G.E. Petts, Department of Geography, University of Technology, Loughborough, Leicestershire, LEll 3TU, UK.(Fax: 509 262192), or Dr. K. Prach, Faculty of Biological Sciences, Jihoceska Univerzita, Branisovska 31, 37005, CESKE BUDEJOVICE, Czcch Republic. (Fax: 038 45985).

Congressional Action Pertinent to Mississippi Basin Rivers

Biodiversity

H.R. 1845. Authorizes National Biological Survey as new agency in the Interior Department. House Science panels held hearing Sept. 14.

S. 1110 (Akaka, D-Hawaii) authorizes creation of National Biological Survey in Interior Department.

Budget

H.R. 2118 (P.L. 103-50) On July 2, President Clinton signed the supplemental fiscal 1993 appropriations bill that includes $70.5 million for Rural Development Administration funding for water and sewer loans and grants. The bill includes no money for similar EPA grants or loans but restores $5 million in start-up funding for the Udall Scholarship Foundation that the House sought to cut.

H.R. 2445 (H.Rpt. 774:103-135) On June 24, the House passed, the energy and water appropriations bill for fiscal 1994, which includes money for Army Corps of Engineers and Bureau of Reclamation.

Endangered Species

S. 1440 (Burns, R-MT) provides flexibility in meeting Endangered Species Act requirements and calls for peer review before listing.

Fish & Wildlife

The Senate Indian Affairs Committee held hearing June 15 on proposal to establish program within Bureau of Indian Affairs to improve management of Indian fish, wildlife, trapping, and recreational resources.

H.R. 2495 (Applegate, D-Ohio) directs interior secretary to transfer Seneca National Fish Hatchery to state of Ohio.

H.R. 2500 (Gunderson, R-Wis.) House Merchant Marine panel held hearing August 3. Bill seeks to develop federal strategy to manage interjurisdictional fisheries in Mississippi River Basin.

H.R. 2343 (P.L. 103-45) Signed by President Clinton on July 1 allowing states to bar raw log exports off state lands. Clinton also released outline of old-growth forest/endangered species protection plan aimed at resolving Northwest logging debate. On June 24, a Senate Agriculture panel held a hearing on Clinton administration proposal to phase out below-cost timber sales.

Government

H.R. 2601 (Conyers, D-Mich.) elevates the Environmental Protection Agency to Cabinet-level Department of Environmental Protection.

H.R. 2761 (Unsoeld, D-Wash.) transfers ocean, coastal and fisheries programs in the National Oceanic and Atmospheric Administration to Interior and proposed Environmental Protection departments.

H.R. 2918 (Brown, D-Calif.) establishes National Institute for the Environment.

Land Conservation

H R. 2416 (Hinchey, D-N.Y.) authorizes $79.5 million annually in grants for private-public partnerships to identify and protect important natural, historic, cultural and scenic areas.

Public Lands

H.R. 2010 Awaiting President Clinton's signature is H.R.2010, the national service bill that creates Public Land Corps for 16-to-25 year-olds to do disaster relief work and conservation work on public land, Indian and Hawaiian home lands.

H.R. 2520 House dropped provision in Interior Appropriations Bill July 14 that would have raised grazing fees by 33 percent.

H.R. 2530 The House Natural Resources Committee approved on June 30 reauthorizing spending for Bureau of Land Management programs for one year to give Clinton administration more time to fashion a more comprehensive measure. On September 13, the House passed H.R.2530, which reauthorizes spending for BLM programs through fiscal 1995. On September 14, the Senate amended H.R.2520, the fiscal 1994 Interior spending bill, to bar implementation of the Clinton administration's grazing fee hike and rangeland reform proposal.

S. 1163 (Kerry, D-Mass.) phases in raise in grazing fees to fair market value.

S. 1326 (Campbell, D-Colo.) is rancher-backed grazing fee bill that would use new formula to set fees, with 25 percent cap per year.

Water Projects

S. 1373 (Wotford, D-PA) improves repayment of costs for new irrigation projects.

Water and Wetlands

H.R. 1566 Seeks to simplify wetland regulations for farmers. Two House Merchant Marine panels held hearing July 28.

H.R. 2543 (Oberstar, D-Minn.) authorizes $2 billion to be spent over 4 years on development and state implementation of non-point source pollution reduction programs with penalties for non-compliance.

S. 1114 (Baucus, D-Mont.) reauthorizes spending for the Clean Water Act. Senate Environment panel held opening hearing on June 16, succeeding hearings were held June 23, July 1 and July 14, July 27, August 4 and 5.

S. 1140 (Kerry, D-Mass.) and **H.R 2441** (Studds, D-Mass) allow federal tax deduction for portion of annual water and sewer bill that exceeds more than 1 percent of adjusted gross income and eliminate corporate deduction for environmental damage payments.

S. 1195 (Boxer, D-Calif.) expands and strengthens wetlands protection under Clean Water Act.

S. 1304 (Baucus, D-MT) is major wetlands reform bill.

Wild & Scenic Rivers

H.R. 914 Designates 19 miles of Red River in Kentucky as wild and scenic river.

H.R. 1584 On July 29, a House Natural Resources panel approved, which designates 14.5 miles of the New River in West Virginia as scenic river.

Wilderness

H.R. 631 (P.L. 103-66) On August 13, President Clinton signed. Designates 611,730 acres of Bureau of Land Management and Forest Service land in Colorado as wilderness.

H.R. 2473 A House Natural Resources panel held a hearing July 20 on H.R. 2473, the Montana wilderness Bill.

Source: Land Letter, July 15, 1993, Vol. 12, No. 20 and September 15, 1993, Vol. 12, No. 24.