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

H.R. 2500 became part of history sometime during this fall's Congressional debates over the Flood of 1993, healthcare, NAFTA, and other issues. With that kind of competition it just never reached Congressional radar screens.

However, it did receive a Committee hearing in early August, and was cosponsored by 10 Congressmen. In addition to Gunderson (WI); Congressmen Williams (MT), Sabo (MN), Johnson (SD), Bereuter (NE), Tauzin (LA), Barlow (KY), Boucher (VA), Yates (IL), and Minge (MN) all co-sponsored the Bill.



"Happy Holidays"

Congressman Gunderson informed us in mid-November that he plans to reintroduce the bill again next year if the states wish him to do so. With all the current discussions going on involving the interjurisdictional nature of the flood, effects of levees, floodways, watershed management, ecosystem management, and biodiversity, it seems that legislation like the Cooperative Interjurisdictional Rivers Fisheries Resources Act is becoming more important. Perhaps 1994 will its year.

Supporters are urged to again make their interests in this legislation known to Gunderson and to their respective Congressmen.

MICRA By-Laws

MICRA Chairman Jim Fry (MO) will begin the process of developing MICRA By-Laws this winter. Up until the last Steering Committee meeting MICRA had been operated very informally.

The need for more formal By-Laws became apparent at the Annual Meeting when the Steering Committee needed to formally approve the Paddlefish/ Sturgeon Committee Strategic Plan. Since a quorum had not been officially defined by MICRA, and all

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states were not present at that meeting, the document could not be approved. So Chairman Fry has been conducting a mail and telephone vote of all Steering Committee members. He felt it was necessary, until we have a set of By-Laws to operate under that everyone must be given the opportunity to be heard.

Fry plans to use By-Laws already developed and adopted by the Upper Mississippi River Conservation Committee (UMRCC) and the Lower Mississippi River Conservation Committee (LMRCC) as models.

He hopes to have a draft ready for review before the spring MICRA Steering Committee meeting that he plans to schedule in conjunction with the meeting of the American Fisheries Society Fish Administrator's Section to be held in mid-May in Kansas.

MICRA Paddlefish/Sturgeon Strategic Plan

As noted above, MICRA Chairman Fry circulated the MICRA Paddlefish/ Sturgeon Committee Strategic Plan for review and approval by Steering Committee members in late July. He informs us that all but three of the member states have signed on in support of the agreement.

Once the document is approved by all members, Paddlefish/Sturgeon Committee Chairman Graham (MO) will schedule a Committee meeting to begin dividing work activities among participating members, and to assist in further development of member work plans. This meeting is anticipated for late winter/early spring.

Pallid Sturgeon? Still Being Held in Missouri

On September 28 Jerry Presley, Director of the Missouri Department of Conservation advised the Fish and Wildlife Service (Region 6 Denver) of his intention to stock some 9,000 pallid sturgeon (being held at



Missouri's Blind Pony fish hatchery) into the Missouri and Mississippi Rivers on November 1, 1993.

Presley's letter stated that as the sturgeon have grown, they have become more pallid-like, particularly in diagnostic features such as snout length and barbel placement. Missouri's motivation for stocking the sturgeon are the continually

increasing holding and feeding costs. The sturgeon, hatched in 1992, are still under evaluation for genetic purity at a private lab in

John L. Spinks, Deputy Regional Director, Fish and Wildlife Service Region 6, did not support Missouri's November 1 stocking proposal, citing three primary reasons:

Texas.

1. The Pallid Sturgeon Recovery Team believes the probability is too great for the subject sturgeon to be a pallid/shovelnose sturgeon hybrid.

River Crossings

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River Crassings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and <u>do not</u> necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

They have reinforced an earlier recommendation that a stocking effort not occur until the genetic evaluation being conducted by Genetic Analysis Inc., is completed. Also the Mississippi Interstate Cooperative Resource Agreement, Paddlefish/ Sturgeon Subcommittee, and the Policy Committee recommended to the recovery team on November 4. 1992, that release of pallid sturgeon would only occur if genetics analyses confirm that they (the subject sturgeon) are, indeed pallid sturgeon and not a hybrid. The DNA analysis that is underway may soon reveal new information on genetic risks of a stocking action, but I do not believe that this information will be available for evaluation in time for a November 1 stocking date.

2. The 9,000 sturgeon proposed for stocking are the surplus products of a very successful propagation effort designed to determine spawning methodologies and produce sturgeon progeny for broodstock, research on growth and development, feeding trials, rearing facility requirements, genetic analysis, environmental contaminant analysis, aging, tagging studies, and public outreach. The proposed stocking aspect of this propagation would be occurring in advance of work on a recovery plan task calling for development of stocking plans that will evaluate risks and needs based on background populations and consider genetic ramifications. Currently, there has been no evaluation as described above that identified a recovery need for the stocking action to occur. The Fish and Wildlife Service (Service) believes there is a need to more closely investigate genetics management of this species before carrying out stocking programs.

3. Based upon the successful spawning and rearing activities conducted at Blind Pony Hatchery and based on information relayed to me by Mr. Mark Dryer of the recovery team, it appears that future hatchery production of pallid sturgeon will not be a problem when and if needed for recovery. Even if the subject sturgeon progeny are sacrificed and are later determined to be pallid sturgeon, they appear to be readily replaceable in the future. Either holding the sturgeon at Blind Pony Hatchery until next spring or sacrificing them appears to be our only alternatives to stocking in November. I understand, based on discussions between Mr. Drver and Mr. Kim Graham of your Department, that feed for the sturgeon could approach \$20,000 for the period between now and March 1, 1994, when river conditions will permit a spring stocking. Also, by March 1 results of the genetic testing will have been evaluated. Should you determine to hold the sturgeon until next spring. I am hopeful that the Service can contribute one half or up to \$10,000 toward the expense of feeding and holding them. I cannot presently commit to any funding assistance because the Service is in the process of determining budget allocations for this fiscal year, which began in October.

Spinks further said that when or if stocking occurs, the Service recommends that Missouri's proposed 1992 stocking plan be followed:

• All stocked sturgeon be tagged with coded wire tags and all would be tagged externally.

• The sturgeon be stocked at 15 to 20 sites in the Missouri and Mississippi Rivers in Missouri (Spreading the stocking sites over many river miles would reduce the concerns about genetic swamping and likely increase post-stocking survival).

• Monitoring for stocked sturgeon be conducted through sampling efforts incorporated into Missouri's fishery programs.

 At least 500 sturgeon be retained for continuing development studies, telemetry studies, and future broodstock.

Pallid Sturgeon Genetic Analysis

Genetic analysis continues with DNA being isolated from blood samples of 190 pallid, shovelnose, and hybrid sturgeon. Segments of the DNA were amplified from sturgeon representing many different populations. Pallid sturgeon upstream of Ft. Peck and shovelnose sturgeon downstream of the Powder River were focused on because these populations would likely best represent the species, genetically.

Dr. Morizott plans to perfect the thermal profile and the reaction mixture in order to obtain a strong single band of amplified DNA. If a strong, single band is not consistently amplified using the above criteria, he will gel-purify the amplified DNA. Once this is finished, the DNA patterns will be compared between the pallid, shovelnose, and hybrid sturgeon.

Source: Pallid Sturgeon Recovery Update, November, 1993, No. 7

Attention All Sturgeon and Paddlefish Researchers and Managers

In 1991, the U.S. Fish and Wildlife Service compiled a database of sturgeon and paddlefish researchers and managers, along with their area of interest and expertise. An update of this database will be completed in December 1993, in hopes of expanding communications and coordination among biologists working in this similar area of interest.



If you would like to receive the database entry form for inclusion of

your work, please contact Laura Jenkins, U.S. Fish and Wildlife Service, Panama City, Florida, at 904/769-0552. All responders will receive a copy of the database.

The Floods of 1993

Debate continues over the appropriate response to the great floods of 1993.

A series of two workshops held in St. Louis (August and September) by the Association of State Floodplain Managers and the Association of State Wetland Managers involving over 300 participants from states, local governments, universities, federal agencies, and interest groups recommended that the White House, federal agencies, and Congress:

• Provide real alternatives to floodplain occupants and local governments in their choice of options in responding to flood damage and reducing future damages by providing more flexibility in the use of disaster assistance funds and allocating additional funds, if necessary, to broaden the range of alternatives to include relocation *buy outs*, structural flood proofing, creation of greenways, wetland restoration and other alternatives.

• Create a flood clearing-house and improve and tailor the delivery mechanisms for technical assistance, grant-in-aid, and other forms of assistance to the needs of various groups affected by flooding and more actively involve these groups in formulating and implementing long-term solutions.

• Rapidly develop certain types of *priority* information and data critical to short and intermediate flood responses including more information concerning levees and wetland restoration sites.

• Establish demonstration projects to show how processes can work and

determine the effectiveness of various approaches.

• Provide planning and technical assistance to states and communities.

• Treat flooding in the upper Mississippi basin as a prototype or case study to suggest possible future directions for multi-objective floodplain and watershed management and the restoration of aquatic ecosystems in other areas of the nation.

• Establish a *blue ribbon* commission as a first step in designating the upper Mississippi and its sub-basins as a special, multipurpose watershed planning, management, and restoration area with the goal of rebuilding communities (both human and natural).



At the present time, it seems likely that all of the federal levees will be rebuilt to pre-flood condition, but several hundred non-federal, ineligible levees remain in question. Missouri Congressmen have been especially vocal about federal support to rebuild all the levees, because most of the levees along the Missouri River were non-federal and therefore ineligible for assistance; and most of those levees failed during the flood.

The real question involves *buyouts*. Senate Bill 1670 which recently passed Congress provides for buyout of much of the residential property damaged by the flood. Included in that bill were the following caveats:

• Any property acquired, accepted, or from which a structure will be removed pursuant to the project will be dedicated and maintained in perpetuity for a use that is compatible with open space, recreational, or wetlands management practices.

• On or after the date of enactment of this subsection, the applicant for the assistance enters into an agreement with the Director that provides assurances that: (1) any property acquired, accepted, or from which a structure will be removed pursuant to the project will be dedicated and maintained in perpetuity for a use that is compatible with open space, recreational, or

wetlands management practices; (2) no new structure will be erected on property acquired, accepted or from which a structure was removed under the acquisition or relocation program other than: (a) a public facility that is open on all sides and functionally related to a designated open space, (b) a rest room, or (c) a structure that the Director approves in writing before the commencement of the construction of the structure; (3) after receipt of the assistance, with respect to any property acquired, accepted or from which a structure was removed under the acquisition or relocation program: (a) no subsequent application for additional disaster assistance for any purpose

will be made by the recipient to any Federal entity; and (b) no assistance referred to in subclause (a) will be provided to the applicant by any Federal source.

This legislation seems to be well written and President Clinton is expected to sign it.

Buyout of residential property on the floodplain is certainly needed, but the real long-term need is for acquisition of some of the floodplain ag land for return to wetlands or *dry-year farming*. Only then will adequate floodplain storage be provided to address the needs of future flood conveyance and to offset future flood losses; to say nothing of the obvious ecological benefits such a program would provide for river fisheries resources.

In response to all this the White House is assembling a group of interagency scientists and planners to compile and evaluate all available information on floodplain and watershed management, the flood, and the flood's aftermath. Using this information the group will develop (over the next six months) flood response recommendations for review by the Administration and Congress in an effort to assist in developing an appropriate response to this and future floods.

Ultimately a major goal will be to develop new National Floodplain Management Policies which will reduce or eliminate losses such as those caused by the floods of 1993.

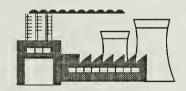
The White House sponsored project is especially timely, since all indications are that a flood of 1994 is highly likely. All of the soils and water storage capabilities of the upper midwest are saturated going into winter, snows have come early to the Dakotas and Minnesota, its still raining in Missouri, and all of this moisture will be freezing into the ground awaiting the spring thaw. This coupled with the chance of normal spring rains sets the stage for another record flood event in 1994!

The Association of State Floodplain Managers is planning another series of workshops, presently entitled, Local Government Post Disaster Recovery: 'Buy Outs', Relocation, Greenways, and the Restoration of Waterfronts for the coming months. Interested individuals should contact: John Kusler, Association of State Floodplain Managers, P.O. Box 2463, Berne, NY 12023, (518) 872-1804, FAX (518) 872-2171. For more information on the White House Flood Response Study Contact: Kathleen A. McGinty, Deputy Assistant and Director, White House Office of Environmental Policy, 1600 Pennsylvania Avenue, Old Executive Office Building, Washington, D.C. 20500

Nuclear Power Plant Near Omaha Threatened by the Flood of 1993

A largely unknown and unreported (by the media) incident occurred in early August (during the Flood of 1993) at the Cooper Nuclear Power Plant near Brownsville, Nebraska. The Cooper Plant is located on the Missouri River floodplain about 60 miles south Omaha.

According to Dr. Jack F. Shroder, Jr., Professor and Chairman of the Department of Geography and Geology at the University of Nebraska at Omaha, flood waters came within 6 inches of overtopping the dike surrounding the plant. U.S. Army, Corps of Engineers workers were reportedly stationed all along



upstream agricultural (ag) levees, in radio communication with headquarters, preparing to break the ag levees to protect the nuclear plant.

In the meantime, just like out of an episode of the *Simpsons* tv show, it was every man for himself as plant workers abandoned the Power Plant, which according to Shroder, apparently could not be shut down on such short notice.

Shroder said plant officials were very

nervous about the situation. Reprieve came when one of the upstream ag levees broke on its own under the pressure of the flood.

Disturbing is the fact that the nuclear plant wasn't afforded a high enough level of protection to compete with the protection provided to adjacent ag lands. More disturbing is the fact that



the nuclear plant was placed in jeopardy, right up to the last minute, and had to be abandoned while in operation -- in the interest of protecting upstream ag lands!

Furthermore Shroder said, in public hearings about the flood a number of Corps officials were uninformed about whether dikes around nuclear power plants were supposed to be built for floods of 100-year, 500-year or 1000year probability, as they stated differently on three separate occasions.

Even Homer Simpson would likely be disturbed at the insanity of threatening a nuclear power facility in the name of protecting ag lands!

Set-Aside Flood Relief

On October 8, 1993, in a letter to President Clinton, Illinois Governor Jim Edgar proposed using farm setaside acres to offset losses to floodplain farmers.

Edgar's letter says that (1) thousands of farm acres remain flooded; (2) it will be very difficult, if not impossible, for farmers to return to their fields next spring; (3) farmers who are back may face problems with the land, resulting in reduced productivity, and (4) uncertainties exist over buy-outs, mitigation decisions, and understanding federal programs.

As a flood response alternative, Edgar proposes authorizing the United States Department of Agriculture (USDA) to issue production certificates for croplands affected by 1993 flooding. These production certificates could then be offered for sale by the flood-area farmers to upland farmers participating in the USDA commodity program. With the purchase of such certificates, the farmer unaffected by the flood would be allowed to plant their set-aside acres to crops and still maintain program eligibility.

If properly designed, this program would result in no added costs to the federal government and the taxpayers for farm program payments, however, it would provide significant benefits to floodplain farmers and to floodplains. Farmers, devastated in 1993 by the flooding of their crops, could receive income next year from the sale of the production certificates, while floodplain farmlands could remain idle. The income would be derived from other farmers, not the United States Treasury. The value of the certificates would be determined by the marketplace, not government controls.

Farmers purchasing the certificates would be allowed to plant crops on their set-aside acres and increase their potential income. Although their production acres would increase, the additional acres in production would be offset by the acres removed from production by flood-area farmers. There would be no overall increase in production acres in 1994 above what the USDA would expect in a normal year.

According to Edgar this proposal would stabilize agricultural production

and sales by agricultural suppliers. It would decrease the level of anxiety in the farm community, particularly for farmers waiting all winter not knowing if they will have a crop next year.

Edgar goes on to say that the production certificate proposal not only offers a way to provide short-term help to flood victims, but it may have application for addressing long-term concerns, as well. Edgar says implementation of a one-year program could help to develop spin-off concepts to address other natural resource protection needs.

In theory, if this practice continued into the future, floodplain lands could be allowed to revert to wetlands. This would be good for floodplains, and large river fisheries, but it would also put more uplands into production, possibly increasing erosion in those areas and sedimentation problems downstream.

The idea seems to hold some merit, especially in relatively *flat* farming areas like northern Illinois, but it needs to be fully thought out and developed to guarantee against trading one problem for another.

For more information on Governor Edgar's proposal contact: Becky Doyle, Director of the Illinois Department of Agriculture, or Michael D. Platt, Executive Director of the Heartland Water Resources Council.

Floodplain Farmland Restoration Costs

Secretary of Agriculture Espy recently visited with Missouri River Floodplain farmers near Jefferson City, MO to discuss flood response options. One land owner stated on live television that it is cheaper for him to buy new land than it is to restore lands he owns. He's right!

According to a USDA, Soil Conservation Service Extension Bulletin entitled, *Reclaiming Cropland* - Bringing Flood-Damaged Cropland Back Into Production (September 1993), the costs of reclaiming one acre of farmland covered by one foot of sand (1,600 yds³) is about \$3200 (\$2 per yd.).



"Big Bucks"

Sand deposits over much of the Missouri River floodplain farmland range from 6 in. to 10 ft. deep. Removal costs could thus be estimated to range from \$1,600 to \$32,000 per acre.

Pre-flood market values for Missouri River floodplain land was \$600 to \$1,100/acre. How can the government possibly justify spending 3-30 times the market value of this land to restore it. Certainly, a bank wouldn't make such an investment!

However, while these lands have lost value as farmlands, they have gained tremendous value as wetlands and as a wide variety of fish and wildlife habitats. Prior to the flood, the Fish and Wildlife Service (Service) was contemplating acquiring some of these lands as part of their endangered species (pallid sturgeon, least tern, and piping plover) recovery efforts.

It would have taken the Service decades to accomplish the amount of habitat rehabilitation that the river provided in one short summer. The challenge now is to acquire some of these rehabilitated lands as public wildlife lands and greenways before they are restored to private farmland at great public cost, only to remain *in* harms way, subject damage by the next flood – which could occur as early as next summer!

Private Fisheries Groups Contact President Clinton Regarding the Federal Response to Flooding

September 23, 1993

Dear President Clinton:

Disasters such as the recent Midwest flood cause extensive damage, but they also require and create opportunities for change. Now that the needs of people are being met, attention has shifted toward restoring and rebuilding floodplain infrastructure to pre-flood conditions. Our federal programs are poised to place people back in harm's way.

A broad coalition of the nation's fishing groups stand united in our opposition to blind restoration of ill-advised floodplain development. We suspect this position reflects the predominant position among the nation's taxpayers as well. As a nation, we cannot continue to burden the taxpayer with catastrophic flood-related losses when suitable alternatives are available and feasible.

We therefore urge your serious consideration of this unique opportunity to approach river and floodplain planning with long-term flood loss reduction in mind. We must move away from structural solutions that separate the river from its floodplain, and toward solutions that take advantage of natural flood control function's. Plans must include consideration of river-connected wetlands, critical large river fishery resources, and their associated riverine aquatic habitats.

Many of our large river fish stocks are in decline, severely depleted or threatened by continuing habitat losses and water quality deterioration. Sedimentation, channelization and floodplain encroachment through dike and levee construction are major factors in the decline and degradation of riverine aquatic habitats. Vital spawning and nursery areas continue to be lost or access denied because of unwise use of the floodplain. The cumulative results are major reductions in associated recreational opportunities.

It should be increasingly clear that current "engineering only" solutions to flood control and river management are unsuccessful. Despite a huge federal investment in levees, dams, and dikes, per capita flood losses have more than doubled. Constraining rivers to ever smaller channels through levee and channelization projects has produced higher flood stages and more extensive property damages when flooding does occur.

Let this be a turning point in our management of our rivers and their associated resources and floodplains. A comprehensive national flood control policy that establishes nonstructural solutions and sound floodplain management must be developed and enforced to reduce future flood losses. At the same time, we must begin to restore the functional integrity of river ecosystems.

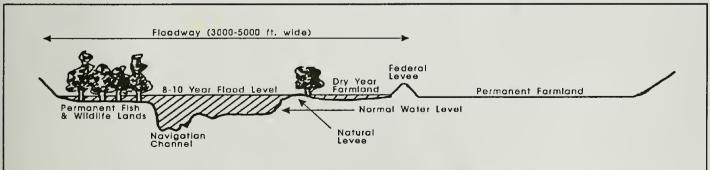
We strongly endorse a floodway concept, similar to the one being discussed for the Missouri River, and believe this philosophy can be applied equally well to the Mississippi and other flood-prone large rivers and their tributaries. Large rivers must retain access to larger portions of their floodplains, to cushion flood impacts and to support ecosystem productivity.

The letter was signed by American Rivers, American Fisheries Society, Trout Unlimited, B.A.S.S., Inc., Sport Fishing Institute, American Fishing Tackle Manufacturers Association, and the Izaak Walton League of America.

The floodway concept (shown below) referred to in this letter is the one first described in *River Crossings*, Vol.2, No. 4, July/August, 1993, and later distributed as a Fish and Wildlife Service unpublished document, entitled, *The River Floodway Concept -A Reasonable and Common Sense Alternative for Flood Control* by Jerry L. Rasmussen and Jim Milligan. Copies of the paper are available upon request by contacting the MICRA office.

Source: SFI Bulletin No. 449, October 1993





Proposed floodway works with nature storing flood water in floodplains, meeting multiple use objectives, while protecting prime developed lands, urban, and industrial areas from high river stages.

McKnight Foundation Supports American Rivers Flood Response Efforts

Scott Faber has recently been named director of floodplain programs at American Rivers. This new position is being initially funded through a grant from The McKnight Foundation (Minneapolis) in support of American Rivers' work in the Upper Mississippi River basin in the wake of this summer's flooding.

Other McKnight Foundation Grants for Mississippi River projects include the following:

• A grant of \$188,000 made to the Southern University Center for Energy & Environmental Studies, Baton Rouge, will support preparation of annual reports assessing environmental conditions along the Mississippi River corridor in Louisiana.

• A grant of \$112,500 made to The Coalition to Restore Coastal Louisiana, Baton Rouge, will fund an evaluation of ways to improve state and local policies affecting land use in the river corridor in Louisiana.

• The Mississippi Headwaters Board, Grand Rapids, was awarded \$70,000 over two years, to establish a volunteer water-monitoring network on the upper Mississippi.

• Winona State University, Winona, MN, was granted \$25,000 over two years, to train high school teachers participating in the Minnesota Great River Program.

• Institute for Conservation Leadership, Washington, D.C. was granted \$28,000 to strengthen the recently formed Mississippi River Alliance.

• The Sierra Club Foundation, San Francisco was granted \$75,000.

The McKnight Foundation is a private charitable foundation with a primary

interest in assisting people who are poor or disadvantaged by enhancing their capacity for productive living. The Foundation also seeks to strengthen community and community institutions, to enrich people's lives through the arts and to encourage preservation of the natural environment. The Foundation's primary geographic focus in its human services and arts grantmaking is the state of Minnesota.

However, the Foundation has made a \$9 million five-year commitment to protect, preserve and restore the Mississippi River along its entire length.

Natural Resource Agency Budgets For Fiscal 1994

The Clinton Administration, through Interior Secretary Bruce Babbitt has made a strong commitment to improving the nation's natural resource management. This commitment is demonstrated by the stand taken by the Interior Department on grazing fees and other federal budget issues.

Controversy surrounding the public land grazing fee and a rangeland reform proposal adopted by Interior conferees delayed final passage of the FY 94 Interior spending bill, but a last-minute filibuster was avoided in the Senate, when Sen. Max Baucus (D-MT.), Sen. Kent Conrad (D-ND) and Rep. Byron Dorgan (D-ND) asked Senate leaders Oct. 18 for the fee agreed to in conference Oct. 14 to be phased in over six years rather than three as the conferees accepted. The day after conferees accepted the compromise, Sen. Harry Reid (D-NV), Interior Secretary Bruce Babbitt and House Natural Resources Committee chairman George Miller (D-CA) held a news conference to warn senators that defeating the compromise would ensure that the more expensive plan proposed by Babbitt in August would move forward.

Beyond the grazing issue, Interior conferees generally agreed with the Clinton administration's spending emphasis on natural resource programs, although at lower levels in most cases. Among the exceptions were funding for the Army Corps of Engineers and the Bureau of Reclamation, which received substantially more money than the administration wanted for water projects. Clinton also called for \$370 million to be spent on the Agriculture Department's wetlands reserve program, but Congress agreed to \$300 million less. Conferees were slightly more generous in land acquisition spending, giving the four agencies \$41 million more than the administration wanted-but \$29 million less than last year.

Listed below are fiscal 1994 budgets for selected natural resource programs at the Bureau of Land Management, Fish and Wildlife Service, Forest Service, National Biological Survey, and the National Park Service contained in H.R. 2520: Agricultural Stabilization and Conservation Service and Soil Conservation Service contained in the Agriculture appropriations bill, H.R. 2493 (which cleared Congress Oct. 14 and awaits President Clinton's signature); Environmental Protection Agency contained in the VA-HUD bill, H.R. 2491 (which still awaits final approval of Congress); and Corps of Engineers and the Bureau of Reclamation contained in H.R. 2445. the energy and water spending bill (awaiting final approval by Congress).

Land and Water Cons. Fund	(\$000)
Bureau of Land Management	12,122
Fish and Wildlife Service	82,655
Forest Service	64,250
National Park Service	95,250
State Grants (minus	
Adm. exp.)	24,750
Total	254,277
ASCS	(\$000)

(0000)
194,650
18,500
12,820

Water Bank	8,000
Emergency Cons. Program	-
Colo. Riv. Salinity Control	13,783
Conservation Reserve	1,743,274
Wetlands Reserve	<u>66,675</u>
Total	2,039,202

Until Congress passes judgment on the Clinton administration's plan to dismantle and redistribute the programs of the Agricultural Stabilization and Conservation Service (ASCS), funding for its programs will continue. Congress approved a 12% boost in funding for the agency, most of which is due to a \$165 million boost in spending for the conservation reserve program and nearly \$67 million earmarked for the second installment of the wetland reserve program.

The increase in CRP spending comes despite Congress's denial of the administration's request to enroll an additional 1 million acres in the program. The program is losing support in Congress and the General Accounting Office recently criticized the program's cost. The wetlands program, which received no money last year, got \$66.7 million this year, to be used in 20 states to pay farmers to restore wetlands. The administration originally wanted \$370 million.

Bureau of Land Management	(\$000)
Lands & Resources Mgmt.	599,860
Energy & Minerals	70,876
Range Management	47,441
Transfer to NBS	-692
Maintenance	32,809
Recreation	49,903
Cultural Resources	11,801
Wilderness Mgmt.	12,998
Recreation Resources	25,253
Transfer to NBS	-149
Resource Mgmt. Planning	9,834
Soil, Water & Air	20,191
Transfer to NBS	-1,395
Wild Horses & Burros	16,952
Transfer to NBS	-249
Wildlife Habitat	50,106
Transfer to NBS	-2,575
Land Acquisition	12,122
Acquisition Management	1,277

Forest Ecosystems	1,500
Range Improvements	10,025
O&C Grant Lands	83,052
Payments in Lieu of Taxes	104,108
Firefighting	117,143
Transfer to NBS	-395
Emerg. DOI firefighting	<u>116,674</u>
Total Agency	1,070,388

The Bureau of Land Management got a 4.1% increase (\$42.1 million), roughly half that sought by the Clinton administration. Most of the new money will go for a new computer system (+\$36.2 million), wildlife habitat management (+\$13.5 million), and range management (+\$4.9 million), while the big loser is the land acquisition account (-\$15.7 million).

The hottest potato in the BLM budget is the grazing and rangeland reform proposal (mentioned earlier). The proposal calls for an 85% increase in public land grazing fees (\$1.86/animal unit month (AUM) to \$3.45/AUM) to be phased in over three years. An AUM is the amount of forage needed to feed a cow for one month. The fees would affect grazing on public lands and national forest in 17 Western states except national forests in Texas, which are regulated under a different law.

The August proposal by Babbitt increased the fees to \$4.28 during the same time frame. The fee in 1994 will be \$2.39/AUM, rising to \$2.92/AUM in 1995 and \$3.45 in 1996. Starting in 1997, the fees would be calculated under a new forage value index formula that is tied to private land rates, but the fees could not change by more than 15% per year, according to the compromise worked out in the conference. Grazing advisory boards would be replaced by resource advisory boards with broader representation and a 20 to 70% surcharge would be collected from grazing permit holders who sublease to others. Wells, reservoirs and other new permanent range improvements would be owned by the federal government as would new water rights. The compromise also expands

the types of activities that can be paid for by the rangeland improvement fund.

Although most of the Babbitt proposal was included in the congressional plan, several features were dropped:

• shortening permits or leases to 5 years or less from the current 10 years for new permittees and others who have not complied with permit terms and conditions.

• expanding citizen participation in the rangeland management program by redefining affected interests.

• rangeland managers also will not be looking at a permit holder's stewardship of the land and permit compliance when deciding how to allocate extra available forage. Instead, the Interior secretary would develop standards that establish minimum conditions for the protection of rangeland ecological health.

The \$18 million increase for range and habitat management backs up the administration's request to boost funding for riparian repair, Northwest salmon fisheries, and endangered species. The agency's Riparian Initiative aims to restore three-quarters of its 7 million acres of streamside acreage by 1997. The fiscal 1994 money is aimed at tree plantings, stream bank stabilization and nesting boxes on 350,000 acres, as well as for evaluation of another 1.7 million acres. Similar work would be done in the Northwest to help salmon fisheries. Additional money would be spent on endangered species to help listed species recover and prevent others from having to be listed. Also, \$2 million more will be spent on wilderness planning.

Bureau of Reclamation	(\$000)
General Investigations	13,819
Construction	464,423
Operations & Maintenance	282,898
Total Agency	901,527

The bureau's budget got a shot in the

arm this year, reversing the downward trend of the last several years. Spending will rise \$91.4 million, or 11.3%.

EPA Operating Programs Research & Development State Grants	(\$000) 2,625,695 338,701
Clean Lakes (Sect. 315)	5,000
Water Treatment Const.	2,477,000
State Revolving Loans	1,218,000
Drinking Water Loans	599,000
Special Project Grants	558,000
Non-point Source (Sect. 31	9) 80,000
Coop. Agreements (Sect. 1	04) 22,000
Superfund	1,480,853
Leaking Underground Tank	s <u>75,379</u>
Total Agency	6,658,927

EPA's budget would suffer its first decline in years, dropping \$264 million, or 3.8%. Conferees agreed to the Senate request for a \$1 million study by the National Academy of Public Administration of the agency's:

- assessment of environmental risks,
- spending priorities, and

• effectiveness of its current structure in addressing environmental problems.

Of the nearly \$2.5 billion to be spent on water treatment, \$500 million will not become available until May 31. The \$599 million for the new drinking water fund is contingent upon Congressional authorization. Conferees also agreed with the administration's \$80 million request to beef up non-point source pollution grants that are aimed at helping states develop and implement plans to control wet weather runoff from cities and farmland.

Fish and Wildlife Service	(\$000)
Resource Management	484,313
Habitat Conservation	42,425
Endangered Species	58,703
Consultation	14,416
Listing	7,409
Prelisting	4,360
Permits	2,968
Recovery	29,968

Env. Contaminants	12,674
Transfer to NBS	-3,705
Fisheries	67,320
Transfer to NBS	-965
Trans to Partners in Wildlife	-500
Law Enforcement	34,687
Migratory Bird Mgmt.	17,649
Transfer to NBS	-2,415
Nat'l Wetlands Inventory	7,907
Transfer to NBS	-
Refuge O&M	165,977
Transfer to NBS	-
Research & Development	-
Land Acquisition	82,655
Acquisition Mgmt.	8,500
Nat'l Wildlife Refuge Fund	12,000
N. Amer. Wetl. Cons. Fund	12,000
Coop. End. Species Cons.	9,000
Construction & Anad. Fish	74,992
Transfer to NBS	-1,427
Total Agency	682,402

The 5.3% cut for the Fish and Wildlife Service, due to the transfer of more than \$100 million in research and development and other programs to the new National Biological Survey, masks significant increases in spending for endangered species, refuge operations, land acquisition and habitat conservation. The endangered species program got a 50% hike (+\$19.5 million), including a big boost to address the backlog in species recovery planning and implementation (+\$9.5 million or 47%). The agency also will have new funds to increase consultations with other federal agencies to protect listed species (+\$5 million or 52%). Similar habitat conservation planning assistance to state and local governments and private landowners also will get a boost (+5.9 million or 16%). The agency manages 94 million acres of public land, including 498 national wildlife refuges and 28 wetland management districts.

The Fish and Wildlife Service was the only land management agency that bucked the trend in land acquisition spending. Clinton wanted to cut last year's spending by \$20 million but Congress instead increased funding by more than 9% (\$7 million). Two of the most expensive purchases approved by Congress were the Cache River in Arkansas, and Cypress Creek NWR in Illinois. An additional \$1 million will be used to buy inholdings and \$5 million will go to the National Fish and Wildlife Foundation.

10000

Forest Service

Forest Service	(\$000)
National Forest System	1,304,891
Mineral & Land Activities	127,219
Range Management	46,219
Recreation Use	238,116
Cultural Resources	29,563
Recreation Mgmt.	179,400
Wilderness Mgmt.	29,153
Reforestation &	
Timber Stand Imp.	91,975
Soil, Water & Air	79,797
Timber Sales Admin.	197,093
Trail Maintenance	35,197
Wildlife & Fish Habitat	127,317
Land Acquisition	64,250
Acquisition Mgmt.	8,500
Construction	249,002
Road Construction	97,345
Trail Construction	32,310
Forest Research	193,083
State & Private Forestry	168,107
Emerg. Pest Suppression	(15,000)
Firefighting	190,108
Emergency Fire Fighting	<u>190,222</u>
Total Agency	2,372,770

The Forest Service eked out a 1.2% increase (\$27.6 million) in spending with hikes in state and private forestry programs (+11.9 million or 7.6%), fish and wildlife habitat programs (+\$10.4 million or 8.9%), forest research (+10.4 million or 5.7%) and trail construction and maintenance (+\$8.8 million or 15%). An additional \$7.5 million will be spent on maintenance and repair at recreational sites, more than \$30 million on watershed and ecosystem restoration, while \$16.4 million is earmarked for community assistance and old-growth diversification projects in the Northwest. Offsetting those hikes are substantial drops in the timber sales program (-\$26.8 million or 12%), and road construction (-\$43.2 million or 30.8%).

The Forest Service received \$64.25 million for land acquisition, a slight

increase. One of the most expensive projects is a \$3 million purchase in the Gallatin National Forest in Montana. Conferees included \$1.25 million for purchase of in-holdings in the Colorado wilderness areas, \$2 million for acquisitions along the Appalachian Trail and \$1.75 million for emergencies and in-holdings.

Congress provided enough money to fund the timber sale program proposed by the Clinton Administration in April, although no region-by-region goals are set. The Clinton budget included money to offer 4.6 billion board feet (bbf) of timber for sale in fiscal 1994, but as little as 4.1 bbf may be offered depending on how much habitat is set aside to protect salmon in the Northwest and the Mexican spotted owl in the Southwest. Clinton anticipated a timber harvest of 6.8 bbf in fiscal 1994. Up to \$26 million of salvage timber sale money was made available to do assessment work on the watersheds of the Northwest, with a report due Dec.15 on how the money will be spent. An additional \$20 million is included in the construction account for watershed restoration.

National Biological Survey	(\$000)
Research	82,388
Species Biology	21,126
Population Dynamics	13,943
Ecosystems	47,319
Inventory and Monitoring	21,717
Tech. Dev. and Transfer	13,883
Cooperative Research Units	15,460
Facilities O&M	15,718
Administration	<u>14,110</u>
Total Agency	163,519

The new National Biological Survey, which aims to catalogue, research and disseminate information on the nation's biological resources, got \$163.5 million in start-up money, more than 91% of the total requested by the administration. About \$8 million was denied because the national wetlands inventory is, by law, a Fish and Wildlife Service program. Congress also didn't go along with the size of the increase for the cooperative research unit program, or the full request for administration. Reacting to growing concerns over the survey's potential effect on private property, conferees included language denying the use of funds for surveys on private property without written consent of the landowner. Conferees also struck Senate language allowing the new agency to use volunteers and accept donations of land, buildings and equipment from public and private sources. Conferees also urged the authorizing committees to act promptly to clarify the mission and responsibilities of the agency. Similar concerns raised in the House earlier this month caused a delay in approval of a bill (H.R. 1845) authorizing creation of the agency.

National Park Service	(\$000)
Park System Operation	1,061,823
Resource Stewardship	222,570
Transfer to NBS	-31,387
Visitor Services	229,751
Maintenance	396,815
Park Support	161,293
Land Acquisition (total)	92,250
Park Service acquisition	58,950
Acquisition Mgmt.	8,247
State LWCF Grants	24,750
State Admin. Expense	3,303
Construction	201,724
Nat'l Rec. & Pres.	42,585
Historic Pres. Fund	40,000
Urban Park & Rec. Fund	5,000
Total Agency	1,437,261

The National Park Service got a \$54.5 million funding hike (3.9%), that would have been higher if a \$31 million transfer to the National Biological Survey was factored in. More than \$90 million in added funding for maintenance and other park operations was partly offset by cutbacks in the federal land acquisition program (-\$22.7 million) and construction (-\$28.1 million).

Congress agreed to the administration's request of \$6.853 million next year for the rivers and trails conservation program, down slightly from fiscal 1993. Conferees also agreed to the administration and House proposal to resume funding for the urban parks and recreation program, which gives money to cities to restore park and recreation areas.

The agency's land acquisition program took the biggest hit this year of the four land management agencies, dropping 19% to \$95 million. Included among the 23 federal acquisitions is \$6 million for the new Little River Canyon National Preserve in Alabama. In addition, \$6 million will be spent to acquire land along the Appalachian Trail and \$3.865 will be spent on in-holdings, emergencies and hardships. States will share \$24.75 million for matching grant projects.

Soil Conservation Service	(\$000)
Conservation Operations	591,049
River Basin Surveys	
& Investigations	13,482
Watershed Planning	10,921
Watershed & Flood Prev.	241,965
Resource Cons. & Dev.	32,945
Great Plains Cons. Program	<u>25.658</u>
Total Agency	916,020

The Soil Conservation Service, also scheduled for revamping by the administration, got a 3.1% increase, (+\$27.3 million). The administration's request reflects the movement of most of the technical assistance programs to a proposed Farm Service Agency. More than half the increase is to help farmers develop conservation compliance plans that need to be in place by the end of 1994. Congress also approved almost \$100 million more than the administration wanted for construction of local watershed and flood prevention projects.

Corps of Engineers(\$000)Construction1,400,875Env.Modifications (sec. 1135)8,130O&M1,688,990Wetlands Research Program5,283General Investigations207,540Regulatory Program92,000Total Agency3,907,130

Congress didn't go along with the Clinton administration on the Army Corps' civil works budget. While Clinton sought a \$41.7 million cutback, Congress added nearly \$240 million to the agency's budget for the new year. Included under the construction account is a \$145 million appropriation for continuation of the Red River lock and dam project in Louisiana. The section 404 wetland permitting program got an extra \$6 million, while the Kissimmee River restoration project in Florida got \$5 million.

Source: Land Letter, SPECIAL REPORT, October 20, 1993, Vol. 12, No. 28.

River Federation to Inaugurate Profiles in River Management

The River Federation (trade name for the National Association of State and Local River Conservation Programs) will begin publication in 1994 of a continuing series of detailed fact sheets, called *Profiles in River Management*.

The Federation's aim is to better prepare river professionals and leaders on the use of these important tools and techniques, and to provide specific information about the nature of these techniques, why they are important, and how to get them directly to those citizens and public officials working on river studies and management across the country.

Executive Director Chuck Hoffman says that the profiles will offer immediate help to river planners and leaders across the country. When we begin river conservation projects, we face tremendous uphill struggles in educating planning participants, the media, local officials, and the public in how river protection is done, from the basic issues of how partnerships are formed to the River Federation, particular zoning techniques a community might employ to manage its land base. Much of this factual background is the same for everybody in the country. The River Federation Board believes we can help a lot of groups and agencies by preparing concise profiles on these most common management tools, and getting this information out through our leadership network to the people who need it. Since our budget is small, the profiles will be designed for duplication by the agencies and groups using them. This way we can cover a lot of ground on a small budget with each new edition.

The profiles will have a common format. Each edition of Profiles in River Management will present the following information:

• A description of the type of problem that can be addressed by the technique or program,

• A definition of the technique and its components,

• The individual steps followed in employing the technique,

• An explanation of how the technique fits into the overall river management or planning process,

• An estimation of the costs or resources needed to employ the technique,

• A description of the results that can be expected from employing the technique,

• Sources of additional information, and

References or footnotes

For more information contact: River Federation, 8630 Fenton St., Suite 910, Silver Spring MD 20910, (301) 589-9454.



Arkansas Takes Action to Protect the Alligator Snapping Turtle

The alligator snapping turtle Macroclemys temmincki is the largest freshwater turtle in North America. Its distribution is restricted to the central and southeastern United States. It is known to live well in excess of 100 years and frequently exceed 100 pounds, reaching as much as 250 pounds.

Heavy exploitation rates and declining populations have been observed throughout its range. Most states protect it from harvest, but Arkansas was one of few states with significant enough populations to allowed harvest.

In October, Arkansas Game and Fish Commission (AFGC) Director Steve Wilson signed an Emergency Proclamation banning its harvest. A team with representation from several divisions of AGFC is now working to frame the final form of regulations to implement this ban. Issues still in question include the fate of currently operating captive breeding operations.

AGFC Endangered Species Chief Rex Roberg says that the status of this species is up for review by the USFWS in 1995, and any efforts that can be made to avoid its listing as an endangered species would be in the best interest of the State and the public.

Most response from the public has been very supportive of the AGFC in this action. The only questions that have arose regard the culture of the species, an issue that will prove difficult to address to the satisfaction of all.

Source: The Lateral Line, Vol. 7, No. 2 (Newsletter of the Arkansas Chapter of the American Fisheries Society).

'Wise Use' Movement Now Wants Ownership of Our Wildlife

The following article by Bob Ekey appeared in the Fall 1993 edition of the *Greater Yellowstone Report*. Since it has implications to fish and fishing as well as wildlife and hunting, we thought it was worth reprinting here in its entirety:

The so-called "Wise Use Movement," which tries to convert public lands to their private gain, now wants our wildlife.

A well-known anti-environmental movement attorney has filed a lawsuit against the State of Wyoming and its Fish and Game Commission, contending that private property owners should have complete control over wildlife that roam on their land.

If successful, the lawsuit would turn over wildlife management to landowners, who would decide how many elk, deer, moose, antelope and other game would be shot, and who would do the hunting.

In short, the lawsuit seeks to throw wildlife management solely to the market place, where a new royalty of the landed and monied would purchase or control hunting privileges.

It is surprising that the anti-environmental movement has picked a fight that overwhelmingly



runs counter to our culture and tradition - and is an insult to the sportsmen and conservationists who have worked for decades to restore wildlife populations to the high levels found today.

When this country was being settled, there were no game laws that managed wildlife. It was a time when wildlife was controlled only by the market place. Buffalo and beaver were hunted to near extinction, and elk and deer populations reached all-time lows. Sportsmen, under the leadership of Teddy Roosevelt, George Bird Grinnell, Bob Marshall, and others, began working to recover game populations.

Jim Posewitz, who recently retired from the Montana Department of Fish, Wildlife and Parks, recalls the time when game populations had dwindled and sportsmen said, "no more," and began working to restore populations.

"This was American conservation's finest era, its age of purity," Posewitz wrote. "Wildlife populations recovered and prospered. Other movements



such as wilderness conservation evolved into organizations of their own and they too had their origins around the hunter's fire."

This populist movement still benefits us all today. With states managing wildlife and hunting regulations, everyone has equal opportunity to hunt and fish. Private landowners, while they do not control the wildlife, control access to their land, which is the way it should be. They can control which licensed hunters have access to their land, and they can charge trespass fees.

What they can't control is the deer, elk, or moose on their land, which is what the lawsuit wants. The lawsuit would essentially privatize the wildlife.

Unfortunately, market forces only work for wildlife as long as they are the best and highest paying use of the land. If another land use generates more cash for the landowner, wildlife will disappear. If landowners over-hunt, wildlife will disappear, as they once did.

If the lawsuit is symptomatic of other problems - that landowners are frustrated that they are expected to feed large herds of wildlife - then other options for cooperative agreements should be explored. But wildlife should remain the property of the public.

Fortunately, the lawsuit has little merit. The Public Trust Doctrine - common law that rules our rivers, seas, air and wildlife are the public domain - has been challenged many times, but courts have consistently ruled that wildlife and other resources belong to the public and should be managed by the states.

That is a rich tradition that the antienvironmental movement seeks to destroy. While this lawsuit may have little legal merit, it illustrates the true colors of the Wise Use Movement - a group that would strip all our rights away in its quest for private gain.

Of the three ranchers filing the lawsuit, one is a Texas millionaire who owns a Wyoming Ranch. The attomey for the lawsuit is Karen Budd, who has represented the anti-conservationist Wise Use Movement on other issues.

Make no mistake. The "Wise-Use" movement wants our wildlife, and with it the rich tradition that allows everyone equal opportunity for quality hunting, fishing, and recreation.

Bringing Hydropower Down to Size

Hydropower doesn't depend on building mega projects. Mini-and micro-hydro projects are being used by developing countries to drive mills or produce electricity for people in remote areas who might otherwise remain in the dark.

Micro-hydro facilities generate power the same way larger hydro schemes do, by using the energy of falling water to turn a turbine - which is essentially a specialized wheel. The mechanical power of the spinning turbine drives an electrical generator or is used directly, to drive a saw mill for example.

While the term *small* is sometimes used to refer to all hydro projects with dams below 15 meters in height, the power industry commonly groups *small* hydroelectric projects into three categories based on their electrical generating capacity: micro- (below 100 kW), mini- (100 kW to 1 MW), and small-hydro (1 MW to 50 MW).

Micro-hydro is ideally suited for

providing power to rural and isolated communities where the cost of extending transmission lines from the central power grid is prohibitively expensive. Unlike large-hydro schemes, micro-hydro can be built using local labor and materials, under the direction and control of local communities, reducing or eliminating dependence on outside resources and expertise. Furthermore, micro- hydro plants require little capital investment, have short lead times, and build local capacity and skills.

Because a dam is rarely needed, and a weir does not block the river's flow. most environmental impacts associated with large projects are avoided. Fish passage is not blocked, no land need be flooded nor people displaced. Weirs are often constructed from locally available materials - such as timber, stones and earth - avoiding the need for costly imported steel and concrete. In some constructions, silt is able to pass through the weir. If damaged or washed out by extreme flood events, weirs are easily reconstructed after the flood has passed, with the added benefit that sediment deposits are removed by the flood flows.

Micro-hydro is often the most cost effective method for bringing electricity to rural communities.

Source: World Rivers Review, Vol. 8, No. 2, Second Quarter, 1993.

Ecosystem Management By Watersheds

A new strategy is evolving within the USDA Forest Service – Management by Watersheds. This strategy is designed to fulfill the mandates of four key environmental laws, help solve critical environmental problems such as the endangered salmon issue in the Pacific Northwest, and help achieve Ecosystem Management goals by maintaining ecological processes that sustain biophysical watershed and aquatic systems. Management by Watersheds is based on the Organic Act of 1897, the Endangered Species Act of 1973, the National Forest Management Act of 1976, and the Clean Water Act of 1987. These laws require the Forest Service to secure favorable conditions of water flows on its lands by ensuring healthy watersheds and streams; preserve and restore the physical, chemical, and biological integrity of waterbodies; and protect soil productivity, aquatic habitat, and species viability.

Management by Watersheds means that watersheds in National Forests are managed as ecosystems so that their hydrologic function sustains a balanced range of hydrologic conditions typical of healthy watersheds and streams. Watersheds form natural ecological units within which inputs of energy and water are synthesized with geomorphology, soils, and vegetation, producing an array of land and water forms and a range of hydrologic functions and processes. The balanced range of conditions sustained by hydrologic function of a healthy watershed includes:

• Integrity of the Soil: soil structure, organic matter, nutrients, and biological processes are preserved.

- Integrity of Streamflow: The watershed acts like a sponge and exhibits high infiltration rates that regulate runoff and recharge aquifers.
- Integrity of Stream Channels: Channel form, function, and processes are in dynamic equilibrium and gully erosion is absent or rare.
- Integrity of Water Quality and Aquatic Habitat: Aquatic life is diverse and productive, and a balanced range of aquatic habitats are present.
- Integrity of Aquatic Gene Pools: All phenotypes and genotypes of fish and other aquatic life are preserved.

As the portion of Ecosystem

Management that sustains watersheds and aquatic systems, *Management by Watersheds* seeks to maintain healthy watersheds through land stewardship and to restore ailing watersheds through restoration measures. The program includes analysis, management, and monitoring components.

Each watershed would be analyzed to diagnose its health in terms of its ability to provide favorable conditions of water flows, as well as the management factors contributing to the present watershed conditions. The level of analysis might vary depending on watershed values and their exposure to various risks.

The analysis would establish a Desired Watershed Condition that defines a healthy watershed. This desired condition is actually a range of conditions for certain land and stream attributes typical of the dynamic equilibrium found in healthy watersheds and streams in the local geoclimatic area. The Existing Watershed Condition would then be diagnosed relative to the desired condition, using the same land and stream attributes. This approach defines a range of natural variability and assesses deviations from that range.

The analysis would evaluate specific contributors to the existing watershed condition by analyzing the effects of management activities on the same land and stream attributes. This analysis would consider both inherent watershed hazards and the level of disturbance of activities in the watershed.

The results of watershed analysis would help drive the management program for each watershed, implemented through the Forest Service's Nonpoint Source Management Strategy. The general approach in each watershed would be as follows: • If watershed health is good (within the range of natural variability) and is stable or improving land disturbing activities could continue at their present rate or perhaps even accelerate.

• If watershed health is good but declining, land disturbing activities would have to be slowed or adjusted through more rigorous application of watershed conservation practices.

• If watershed health is poor (outside the range of natural variability), the only land disturbing activities which



could occur would be those that contribute to watershed recovery, and a watershed restoration program might be applied until good watershed health is restored.

Each watershed would be monitored on the regular 10- to 15-year cycle of Forest Plan revisions to track progress in restoring and maintaining watershed health. Monitoring would focus on the same land and field attributes mentioned above. The watershed management program would be adjusted as indicated by monitoring results. Major fires and floods occur in cycles in natural systems, and between such extreme events a healthy watershed operates in *Dynamic Equilibrium*. Streamflows and sediment yield, watershed and stream channel stability, water quality and aquatic habitat and biota vary within some *Range of Natural Variability*. An extreme event throws the watershed out of equilibrium, but it immediately begins to recover to the prior, or new, range of natural variability.

The intent of Management by

Watersheds is to maintain this balanced range of conditions between the extreme events; to avoid actions that would throw a watershed out of equilibrium or increase the frequency or severity of major events; and to speed rather than impede a watershed's recovery from such events.

Major events will still occur, but management actions should not make any watershed more susceptible to damage or further stress an unbalanced system. A prudent level of land disturbing activities can occur in a watershed that yet maintains its health. As long as floods or droughts are not worsened, sediment loads and bank erosion are not substantially increased, rills and gullies and landslides are not accelerated, and water quality and aquatic habitat features are maintained within the balanced range, a watershed will remain healthy.

Land and stream attributes of watershed health reflect the physical processes affected by climate, geomorphology, and management, as well as the values at risk in the watershed. The range of natural variability of these attributes indicates good watershed health and enables deviations from this range to be discerned.

The range of natural variability for these attributes would be defined for each land and stream type within a

given geoclimatic area. For example, in each such area, the range of attributes for each stream type would be established by sampling minimally disturbed reaches of that stream type throughout the area.

Management by watersheds demands a change. Watersheds must be recognized and managed as basic ecosystems. An interdisciplinary approach is needed in which all Forest Service employees consider watershed management to be critical.

A permanent commitment of policy and resources is needed to place this program at the heart of the Forest Service mission. By building a structured program that maintains healthy watersheds and restores ailing ones, the Forest Service can assume a leadership role in managing lands wisely for the good of future generations.

To provide comments or obtain more information contact: Warren Harper, Water Resources Program Manager,

USDA Forest Service, Watershed and Air Management, 201 14th St., SV/. Washington, DC 20250.

Source: Non-Point Source News Notes, October 1993, #32, c/o Terrene Institute, 1717 K Street, N.W., Suite 801, Washington, D.C. 20006. This article was prepared by Jim Maxwell, Regional Hydrologist USDA Forest Service, Rocky Mountain Region, Lakewood, CO.

Meetings of Interest

February 26-March 1, 1994, 1st Annual Meeting of the Lower **Mississippi River Conservation** Committee, Camelot Hotel, Little Rock, AR. Contact: Mike Armstrong, Arkansas Game and Fish Commission, 2 Natural Resources Drive, Little Rock, AR 72205, The Lower Mississippi River Conservation Committee (LMRCC) will be holding their First Annual Meeting in conjunction with the Southern Division of the American Fisheries Society Mid-Year Technical Session. The LMRCC is a recently formed organization of state conservation agencies bordering the lower Mississippi River (confluence of the Ohio River to the Gulf), and a cooperator of MICRA's.

March 15-17, 1994, 50th Annual Meeting of the Upper Mississippi **River Conservation Committee,** Radisson Hotel, LaCrosse, WI. Contact: Kurt Welke, Wisconsin Dept. of Natural Resources, 111 West Dunn St., Prairie du Chien, WI 53821. (608) 326-0233, The Upper Mississippi River Conservation Committee (UMRCC) is one of the oldest, if not the oldest, standing interstate/interagency cooperative group in the nation dealing with river management issues. The UMRCC is a MICRA cooperator, and much of the MICRA organization is patterned after tried and proven UMRCC procedures.

The UMRCC deals with Mississippi River management issues from the confluence of the Ohio River upstream to the Twin Cities.

April 19-22, 1994, Rivers Without Boundarles, The Second Bi-annual **ARMS Symposium on River Planning and Management, Holiday** Inn, Grand Junction, CO. Contact: Caroline Tan, ARMS Program Director, (510) 655-5844. The American River Management Society (ARMS) believes that rivers should no longer be managed in terms of boundaries, be they administrative, property or special interest. Through a coordinated interagency effort, the ARMS proudly present Rivers Without Boundaries. Join resource managers, planners, researchers, outfitters, river users, landowners, and conservationists in taking a holistic approach to ecosystem river basin management. The conference will explore solutions for coordination, cooperation and consensus in the management of river systems.

April 27-28, 1994, 26th Annual Meeting of the Mississippi River Research Consortium, Holiday Inn, LaCrosse, WI. Contact: Charles Theiling, Mississippi River Research Consortium, Inc. (MRRC), 575 Lester Avenue, Onalaska, WI 54650. (618)

259-9027. The MRRC is a non-profit regional scientific society concerned with the ecology and management of the Mississippi River. The purposes of the MRRC are to encourage communication between the scientific community and the public, encourage pure and applied research concerning the water and land resources of the Mississippi River Valley, and hold an annual meeting where research results can be presented and common problems can be discussed

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. 1W 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 of 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, LEII 3TU, UK. (Fax: 509 262192), or Dr. K. Prach, Faculty of Biological Sciences, Jihoceska Univerzita, Branisovska 31, 37005, CESKE BUDEJOVICE, Czech Republic. (Fax: 038 45985).

Congressional Action Pertinent to Mississippi Basin Rivers

Biodiversity

H.R. 1845. On Oct. 6, the House began debate on H.R. 1845, which authorizes creation of National Biological Survey as a new agency in the Interior Department.

Coasts

S. 1405. On Sept. 15, a Senate banking panel concluded a two-day hearing on S. 1405, which reforms national flood insurance program.

H.R. 3191. (Kennedy, D-Mass.) On Oct. 6, a House banking panel approved an amended H.R. 3191, which reforms the national flood insurance program.

Endangered Species

A House Merchant Marine panel held a hearing Oct. 13 on incentives to encourage habitat and species conservation by private landowners.

S. 1521 (Shelby, D-Ala.) reauthorizes the Endangered Species Act, providing compensation for substantially diminished property values due to the act and mandates exclusion of critical habitat when economic impact is too great.

Fish and Wildlife

House Merchant Marine panel held hearing Oct. 5 on an Office of Technology Assessment report, Introduction of Harmful Non-indigenous Species into the United States.

S. 1526 (Inouye, D-Hawaii) provides statutory authority for fish and wildlife management on Indian lands.

Floodplains

S. 1670 (Harken, D-lowa) improves hazard mitigation and relocation assistance in connection with flooding and for other purposes. Acquired properties would be returned to open space, recreational or wetlands management practices. Passed both the House and Senate and cleared for President Clinton's signature on November 20th.

Forests

H.R. 873 (P.L. 103-91). On Oct. 1,

President Clinton signed. Authorizes land exchanges and purchases to add 80,000 acres to Gallatin National Forest in Montana.

S. 1381 (P.L. 103-106). On Oct. 12, President Clinton signed. Extends authorization and provides more spending flexibility for the National Forest Foundation.

Parks

H.R. 3252. On Oct. 13, the House Natural Resources Committee approved adding land to West Virginia parks.

Public Lands

H.R. 2010 (P.L. 103-82). On Sept. 21, President Clinton signed, the national service bill that creates a Public Land Corps for teenagers and young adults aged 16-25 to do disaster relief work and conservation work on public land, Indian and Hawaiian home lands.

H.R. 2520. On Sept. 29, the House voted 314-109 to disagree with the Senate provision in the Interior appropriations bill, H.R. 2520, that

bars funding in fiscal 1994 for the Clinton administration to pursue its grazing fee hike and rangeland management reform.

S. 1170. Senate Energy panel held hearing on S. 1170, which opens up naval oil shale reserve land in Colorado to oil and gas leasing.

S. 1504 and S. 1505 (Hatfield, R-Ore.). Authorizes \$500 million in assistance to retrain loggers and others who lost jobs due to environmental laws and requires the Interior Department to do an economic impact statement when land is proposed for withdrawal from public or commercial use.

Recreation

On Sept. 23, a House Natural Resources panel held a hearing on **H.R. 1477**, which transfers management of Canyon Ferry Reservoir from the state of Montana to the Bureau of Land Management.

Water and Wetlands

S. 1304. On Sept. 15, a Senate Environment pariel held a hearing on S. 1304, a wetland protection bill.

S. 1114. On Sept. 15, a Senate Environment panel concluded hearings on **S. 1114**, a Clean Water Act reauthorization measure.

H.R. 2604. On Sept. 21, the House approved H.R. 2604, which authorizes establishment of a wetlands policy center on a 7,000-acre tract in Brownsville, Texas.

H.R. 1116. On Sept. 23, a House Science panel held a hearing on H.R. 1116, which creates a demonstration technology grant program and redirects EPA water pollution research toward non-point source pollution, wetlands restoration, groundwater pollution and contaminated sediments.

On Sept. 28, a House Merchant Marine panel held a hearing on the Clinton administration's wetlands policy. H.R. 3213. (Hefley, R-Colo.) bars EPA from assessing penalties for single biomonitoring test failures at publicly owned water treatment facilities but allows for enforceable compliance schedules and penalties for repeated violations of effluent permits.

S. 1542 (Bingaman, D-N.M.) and H.R. 3287 (Schiff, R-N.M.). Authorize EPA grants for wastewater treatment for unincorporated communities.

Wild & Scenic Rivers

H.R. 914. On Sept. 29, the House Natural Resources Committee approved H.R. 914, which designates 19 miles of the Red River in Kentucky as wild or recreational river.

H.R. 3252. On Oct. 13, the House Natural Resources Committee approved an amended H.R. 3252, which designates 14.5 miles of the New River in West Virginia as scenic river and directs the Park Service to study possible addition of the Elk River to the wild and scenic system.

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