River Crossings

Volume 1 January/February 1992 Number 1

RIVER CROSSINGS?

River Crossings is the newsletter of the Mississippi Interstate Cooperative Resource Agreement (MICRA). Beginning with this issue (Vol. 1, No. 1), six issues will be published annually.

The name "River Crossings" attempts to capture the concept that everyone involved in MICRA is, in one way or another, crossing rivers to work with one another.

The purpose of River Crossings is to provide a communication tool and forum for Mississippi River Basin biologists and resource managers to present ideas, exchange information, and discuss issues. As such, input is regularly provided to the Newsletter by resource managers and biologists throughout the Basin.

A major goal of MICRA is to use River Crossings to improve existing and build new communication bridges and cooperative efforts between public and private resource managers having similar management problems. We want "River Crossings" to be interactive with all of it's readers, so we're asking for your input and feedback. Please take the time to fill out and return the questionnaire provided at the back of this issue.

If you want to continue to receive River Crossings, completion of this form will ensure that your name remains on our mailing list. Thank you.

MICRA?

What is MICRA?

MICRA is an agreement entered into by and between the States through which the Mississippi River and its tributaries flow. The Agreement includes the various interested Federal agencies and Federally chartered entities which manage and regulate natural resources in the Mississippi River Drainage System (MRDS) on an interstate basis.

MICRA's purpose is to assess the Mississippi River drainage fishery resources and habitat requirements to protect, maintain, and enhance interstate fisheries in the Basin.

MICRA defines interjurisdictional fishery resources as "those fishery resources that cross or are common to two or more State boundaries and come under the shared jurisdiction of two or more governmental entities." The States have already identified more than 88 major rivers and more than 90 fish species of great concern.

In addition to the Mississippi River, the MRDS includes the Missouri, Ohio, Tennessee, Arkansas and Red rivers, and their tributaries. The System drains portions of Alabama, Arkansas, Colorado, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi,

"River Crossings" is the newsletter of the Mississippi Interstate Cooperative Resource Agreement (MICRA). It's purpose is to provide 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 do not 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, 608 East Cherry, Columbia, MO 65102.

Missouri, Montana, Nebraska, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Virginia, West Virginia, Wisconsin, and Wyoming.

Why MICRA?

The Mississippi River and its tributaries comprise one of the largest and most valuable ecosystems in the world. Fish stocks in these waters are increasingly important to recreational fishing throughout the Basin. Additionally, Mississippi River waters constantly enrich the River's estuarian and coastal distributaries in the Gulf of Mexico. Current research indicates that the Mississippi may be the Gulf of Mexico's most important energy source. The influence of the River's plume can be seen through satellite imagery and through data collected on the ground as reaching far into the Gulf and dictating the reproductive and growth potential of the Gulf's rich saltwater fishery.

Unfortunately habitat degradation and the multiplicity of aquatic management authorities in the Basin complicate and threaten the supply and utilization of these important interjurisdictional fresh and saltwater fisheries. Interjurisdictional fish species move freely between management jurisdictions and create complex resource management problems related to regulation development, licensing, enforcement, and establishment of management objectives.

MRDS waters are host to many such interjurisdictional recreational and commercial fish species. These mobile species encounter many habitats in the Basin that are being increasingly altered by development projects such as dredging and construction of navigation facilities, hydro-electric plants, and flood control dams, and the resultant changed water and sediment transport regimes; and by man's shoreline development activities. At present, information is insufficient to assess how much these alterations have affected the health of important fish populations.

While habitat has been altered or lost, demand for the fishery has increased. This increased demand will be met only if fishery management agencies can respond, and they will only be able to respond adequately if they can work together to perpetuate and enhance these important interstate aquatic resources and habitats.

MICRA represents an unprecedented effort to enhance communication and cooperation between fishery managers basinwide. It provides the opportunity for fishery managers to begin developing fish management plans which address management needs on an ecosystem basis.

How Will MICRA Work?

The State conservation departments having fisheries management jurisdiction in the MRDS have agreed to band together under MICRA and share their resources, facilities and funding for the preparation and implementation of Long-Range Strategic Plans for management of the Basin's interjurisdictional fisheries.

MICRA will not duplicate any existing organizational network. Instead, MICRA will use its coordinative resources to enhance and maximize efficiency of existing programs, institutions, and facilities.

MICRA is managed by an interagency Steering Committee, composed of personnel employed by member States and entities. The Steering Committee is chaired, on a rotating basis, by one of the members. MICRA staffing will be developed, as needed, to fit the on-going mission. At a minimum, a Coordinator/ Executive Secretary position and a small number of clerical and support staff will be needed. Most technical work will be conducted by participating States and entities.

MICRA funding will likely come from many sources, including (1) State and entity contributions, (2) Federal and State appropriations, (3) multi-State and entity funding mechanisms, (4) private grants, (5) contributions, and (6) other sources as yet undefined.

The MICRA Strategic Plan will be developed in a step-down fashion. The Comprehensive Plan lays out basin-wide goals, objectives and tasks. This document, developed by consensus of partner States and entities, will guide MICRA's overall development, implementation, and management.

The Comprehensive Plan will be supplemented by Species SubPlans and Watershed SubPlans, which will be coordinated with the Comprehensive Plan, but address more specific fishery and aquatic habitat management problems throughout the Basin. These subplans will be developed by resource managers and planners of participating States and Entities at the field level.

MICRA's operational network and shared data management mechanisms will provide coordination to ensure that the Subplans meet MICRA's overall objectives, and do not duplicate other efforts. MICRA's coordination network and shared ownership will help to ensure broad funding support for all resource management plans throughout the Basin.

MICRA represents a new way of doing business on a large river basin that shows great promise for the future!

Steering Committee Meetings

The Steering Committee held two meetings during the year. At the May meeting (held in conjunction with the American Fisheries Society, Fisheries Administrator's meeting) in Snowbird, Utah, Wes Sheets, Nebraska Game and Parks Commission, was elected to serve as MICRA's first Chairman.

The Committee also elected a Policy Sub-committee to serve with Sheets to guide MICRA between Steering Committee meetings. Members include: Sheets (Member at Large); Wayne Pollock, Tennessee Wildlife Resources Agency (Lower Mississippi River Member); Larry Peterman, Montana Department of Fish, Wildlife and Parks (Missouri River Member); Frank Jernejcic, West Virginia Department of Natural Resources (Ohio River Member); Jim Fry, Missouri Department of Conservation (Upper Mississippi River Member); and Gary Edwards, U.S. Fish and Wildlife Service (Entity Member). One Entity Member slot was left open to be filled after more Entity participants join MICRA. Jerry Rasmussen, U.S. Fish and Wildlife Service (MICRA Coordinator) was instructed to develop a list of potential Entity members.

At the San Antonio meeting (September), members agreed by consensus to adopt the Comprehensive Strategic Plan, developed over the past six months, as the guide to implement MICRA. That Plan allows for annual updates, as necessary, to meet changing resource management needs.

The Committee also endorsed use of the MICRA logo and brochure for

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distribution of MICRA correspondence and information. They also directed the Coordinator to develop and begin circulating a MICRA Newsletter.

It was agreed that letters of invitation should be sent out to some 138 entities (federal agencies, Indian tribes, and power companies), soliciting their participation in MICRA. Anyone wishing a copy of the entity list should contact the Coordinator.

Entity Mailing

Letters of invitation to participate in MICRA were mailed out to some 138 entities in early October. These included federal agencies, Indian tribes and power companies, basinwide. The mailing included copies of our brochure and signed agreement.

Steering Committee input is needed to better define the role various entities will play in MICRA. Obviously, the entities will have varying levels of interest in the Program, and should play roles suited to their involvement level.

As of early January, the Tennessee Valley Authority has signed on to MICRA as have the Chippewa Cree Indian tribe of Box Elder, Montana, and the Chickasaw Indian Nation of Ada, Oklahoma. Additionally, letters and calls of interest have been received from the Corps of Engineers, Soil Conservation Service, National Marine Fisheries Service, Environmental Protection Agency, Bureau of Reclamation, and numerous power companies.

A briefing for federal agencies interested in getting involved in MICRA will be held in Washington, D.C. later this winter.

Funding SubCommittee Meeting

The Funding Sub-Committee met at the U.S. Fish & Wildlife Service headquarters in Arlington, VA on October 18th to discuss future MICRA funding options. It was agreed to proceed with the proposed joint federal-aid projects for funding State participation and for special projects, including facilitation and coordination of MICRA efforts.

The U.S. Fish & Wildlife Service agreed to continue to fund the MICRA Coordinator position for the foreseeable future. The group also agreed to work with Congressman Gunderson's office on proposed language for an "Interjurisdictional Rivers Bill" that would include funding of MICRA as a "pilot effort" over a three-year period.

The Coordinator was instructed to begin work on a slide-tape presentation for use in promoting MICRA with potential support groups.

Policy Sub-Committee Meeting

A Policy Sub-Committee meeting was held in early December in conjunction with the Midwest Fish & Wildlife Conference in Des Moines, Iowa.

The group endorsed Congressman Steve Gunderson's (WI) legislative efforts to improve interjurisidictional river management, and agreed to work with the International Association of Fish & Wildlife Agencies to iron out their concerns regarding the Bill's potential impact on "State's Rights" issues.

The Coordinator was instructed to contact all Steering Committee members to complete an initial MICRA Task prioritization process by January 15th. It was agreed that all Steering Committee members would participate equally in the prioritization process.

Paul Brouha, Executive Director of the American Fisheries Society agreed to serve in the role of interim Secretary-Treasurer to manage MICRA accounts and pay bills until permanent arrangements can be made.

1992 Action Agenda

The Steering Committee recommended at the San Antonio meeting that we pursue development of a basin-wide

Paddlefish Status Report as our main activity in 1992. As time permits, the Coordinator plans to initiate that effort this fall or winter. This activity would come under portions of Tasks F.1.4(9) and G.1.1(5) of the Comprehensive Strategic Plan.

Cooperative Federal Aid Project

Virtually everyone is faced with travel cutbacks and funding reductions, but MICRA simply can't function without participation, so resolution of this problem is critical to our future.

One approach to solving this problem is through development of a Cooperative Federal Aid Project through the Fish and Wildlife Service (FWS) Federal Aid Program to provide a travel budget for State participation. This effort is being handled by the Coordinator and Dick Wydoski (FWS Denver).

Administrative details will be forthcoming. Hopefully, this approach will help overcome the problem of getting key resource managers and researchers together to address important issues.

MICRA Funding

Long term funding for MICRA operations remains a problem. The FWS has been able to fund the services and office of the Coordinator over the past nine months. Continued funding of the Coordinator position is anticipated in 1992.

Contacts have also been made with both private and public groups, as well as several Congressmen. The MICRA concept is broadly supported, but hard funds have yet to be located. Any new ideas are welcome!

Interjurisdictional Rivers Bill

Congressman Steve Gunderson (Wisconsin) has been a leader in obtaining funding for large river resource management. This began in the early 1980's when he became involved in Upper Mississippi River issues.

Gunderson became the father of legislation that successfully brought the $190 million Environmental Management Program (EMP) to reality on that river. The EMP, the result of a political compromise between environmental and navigation interests over Lock and Dam 26 near St. Louis, will reach full funding levels ($19 million annually) in FY 1992.

More recently, Gunderson drafted and submitted the "Cooperative Large Rivers Fisheries Research and Restoration Act". This Act would implement a research and restoration program for the Colorado, Mississippi, Missouri, Ohio, and Tennessee rivers. However, the bill remains in the legislative process.

Early this year Gunderson began drafting the "National Interjurisdictional Rivers

Act of 1991". This bill would evaluate issues and programs on interjurisdictional rivers nationwide to ensure that interjurisdictional river programs are appropriately coordinated and that duplication of effort is avoided, ultimately saving federal dollars.

In the meantime, we have been developing MICRA, and Gunderson has shown an interest in our concept of interstate cooperation, basinwide. In response to his interest, Gunderson has drafted and will introduce a bill that merges his draft National Interjurisdictional Rivers Act with test funding of MICRA. This would also complete some of the preliminary studies needed for the Cooperative Large River Fisheries Research and Restoration Act for the Mississippi, Missouri, Ohio, and Tennessee rivers.

The preliminary studies identified in that Bill and those of MICRA are very similar. Consequently, by funding MICRA as a test project for three years, Gunderson will provide for completion of many of the proposed studies called for in the early implementation phases of the research bill.

This strategy allows the National Interjurisdictional Rivers Act to be completed, without hindering the progress already made by MICRA. MICRA would serve as a test case to see if the concept of interjurisdictional rivers management is even feasible on such a grand scale. MICRA implementation should also satisfy some of the earlier critics of the Cooperative Large River Fisheries Research and Restoration Act by directly involving the States and entities in the planning and decision making process.

The latter is a key to satisfying the States that their management rights are adequately protected. The primary federal interests are in protecting the needs of endangered and threatened species, ensuring proper coordination between federal programs, and in efficient use of federal funding.

Gunderson's Interjurisdictional Rivers Bill was endorsed in concept by the MICRA Steering Committee at the December Policy Sub-Committee as well as by the North Central Division of the American Fisheries Society in early December.

The International Association of Fish & Wildlife Agencies (International) has voiced some concern over the Bill's potential impact on "State Rights" issues. Gunderson is currently working with the International to straighten these concerns out with new wording for the Bill. Gunderson presently plans to introduce his new Bill in late January.

Zebra Mussel Arrives in the Basin

Several zebra mussels were recently collected from the Illinois River near Havana; from the Upper Mississippi River attached to the new Lock and Dam 26 near St. Louis and near LaCrosse, Wisconsin; from the Ohio River near Mound City and Olmsted; and from Kentucky Lake on the Tennessee River.

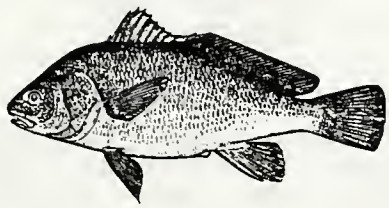
The mussel initially came to the United States from Europe via the Great Lakes in the bilge water dumped from ocean-going vessels. It now seems inevitable that the mussel will find its way throughout the Mississippi River Basin's navigable waterways, since it readily attaches to almost any object, especially metal objects, such as towboats and barges. However, even without barges, the mussel readily attaches itself to recreational boat trailers and boats, making its access to even the Basin's smaller tributaries a reality.

In fact, the mussel will apparently attach to almost any solid object. According to an article in the St. Louis Post-Dispatch, New York biologists, working in Lake Ontario waters near the Genesee River at Rochester, collected a large brassiere in one of their samples with more than 100 zebra mussels attached! According to the article, the large, 4-hook bra remains "under observation" at New York's Cape Vincent Fisheries Research Station!

The mussel's known ability to attach itself to metal pipes and clog water intakes is of significant concern to industrial and domestic water supplies, as well as to boat owners. However, an unforseen, associated impact has been the clogging of large intake pipes with diving ducks! It seems that at some locations in the Great Lakes, diving ducks have been sucked into water intakes while attempting to feed on the attached mussels.

A major concern among malacologists is that zebra mussels could virtually eliminate many of our native mussel species by attaching to their shells and clogging native mussels' siphons. At a recent public hearing in Quincy, Illinois, it was reported that there are not one, but two species of zebra mussels, and that the zebra mussel has reduced the number of native mussel species in the Great Lakes from 14 to 2!

On the positive side, the mussel apparently provides food for bottom



feeding fish (such as freshwater drum and catfish) and diving ducks (that is if the ducks can stay out of the water intakes). The zebra mussel also apparently has a history of reaching large population numbers and then crashing. It has, therefore, been suggested that some form of mussel refugia may be needed to ensure that native mussel species survive to be reintroduced after the invading zebra mussel populations "crash".

A zebra mussel information center has opened in Minnesota with a $56,670 grant awarded to the University of Minnesota's Sea Grant Program in Duluth. The Center's goal is to help keep zebra mussels and other exotic species from moving from Lake Superior to inland lakes and rivers. The Center will educate the public, work with industries and cities facing economic losses from exotic species, provide updates on species research and control measures, and provide news media with information on Great Lakes exotics. Further information on the Center and its activities can be obtained by calling (218) 726-8106.

The zebra mussel will also be a major topic of concern at the forthcoming mussel symposium being held by the Upper Mississippi River Conservation Committee in St. Louis, October 12-14, 1992. The symposium is entitled, "The Conservation and Management of Freshwater Mussels. More information on this is provided in the MEETING ANNOUNCEMENTS section of this issue of River Crossings.

Zebra Mussel Insurance?

Do you have zebra mussel insurance? Yes you read it right - zebra mussel insurance!

The Southtowns Walleye Association located on the Great Lakes has drawn member's attention to the possible need for zebra mussel insurance to protect against marine motor engine damage.

The zebra mussel can potentially damage your boat's engine and other machinery which can be affected by the mussels clogging raw-water intakes. Does your boat policy cover this type of damage? Check your policy exclusions. If you find an exclusion for damage caused by "overheating" or "extremes of temperature", you may have a problem. Contact your agent for clarification.

Most boat insurance policies exclude damage caused by wear and tear, mechanical breakdown, and vermin or marine life. Engine damage resulting from overheating when the overheating is caused by internal blockage of cooling water passages by zebra mussels may or may not be covered.

Collections of Pallid Sturgeon and Other Species of Concern in 1991

U.S. Fish & Wildlife Service fishery biologists have netted the first ever recapture of a tagged pallid sturgeon. The fish weighed 22.5 lbs. and was caught on the Missouri River at the mouth of the Little Muddy River near Williston, North Dakota.

The fish was originally captured in February, 1991 on the Missouri River below Ft. Peck Dam by Pat Clancey of the Montana Dept. of Fish, Wildlife and

Parks. At that time, the fish was tagged with a disk tag at the posterior base of the dorsal fin and a PIT tag (passive integrated transponder).

However, at the time of recapture, the disk tag was no longer attached. This fish travelled in excess of 150 miles since its release in February. Twenty-seven pallids have now been tagged with PIT tags.

A total of 31 pallids were reported captured by fishermen and fishery field crews in 1991. Hopefully, more recaptures will occur in the future and additional information can be gathered on pallid movement and migration.

Certain other Mississippi River Basin fish, besides the pallid sturgeon, have shown indication of population decline. It is encouraging to note recent captures of some of these species.

In August and September, two sicklefin chubs (Hybopsis meeki) were captured on the Missouri River near its

confluence with the Yellowstone River. These fish are only the second and third sicklefin chubs caught in North Dakota since 1977. A single sicklefin chub was collected by the North Dakota Game and Fish Department in 1990 from White Earth Bay on Lake Sakakawea. The 1991 specimens were caught with a trawl.

Several hundred young-of-the-year (YOY) paddlefish (Polyodon spathula) were observed in Lake Sakakawea, North Dakota around Lewis and Clark State Park. No YOY paddlefish were stocked in the area this year, so these specimens likely represent natural reproduction from upstream on the Missouri or Yellowstone rivers. Stomach contents of two paddlefish were examined and consisted of insect parts, but no plankton.

Fishery biologists, basinwide, should begin (or continue) documenting collections of these and other rare species, such as the blue sucker (Cycleptus

elongatus) and sturgeon chub (Hybopsis gelida).

Corps of Engineers May Go To More Contract Dredging

Plans for a new Corps of Engineers dredge to replace the Dredge Thompson, famous for its role in hydraulic channel maintenance dredging on the Mississippi are apparently on hold indefinitely. The Thompson and its crews have played key roles in improving the placement of dredged material to avoid environmentally sensitive areas on the Upper Mississippi River since the environmental battles of the Great River Environmental Action Team in the early 1970's.

A recently released Corps report (Analyzing the Corps of Engineers Dredge Fleet) included the following key findings: (1) There is no evidence that Corps-owned dredges are necessary to support military operations, (2) There is no evidence that Corps owned dredges are necessary to support emergency dredging requirements in the United States, and (3) There are more than enough industry pipeline dredges to satisfy the maintenance and new construction dredging requirements in the United States.

Replacement of the Thompson with contract dredging will not necessarily mean that the flexibility with regards to dredged material placement will suffer. Instead, the flexibility in disposal alternatives will depend upon how well the contract proposals and scopes-of-work for dredging are written. This will undoubtedly mean that biologists will now have to involve themselves in the Corps' contracting process to insure adequate environmental safeguards.

Supreme Court to Rule on State Authority to Set Scenic River Standards

A pending U.S. Supreme Court case could determine the authority that states have in protecting water quality in State-designated Wild and Scenic rivers. The case, *Oklahoma v. Arkansas*, concerns whether a State's federally-approved water quality standards for a designated scenic river extend upstream to regulate polluting activities in neighboring States. Several conservation groups have filed an amicus brief supporting Oklahoma's strict water quality standards.

Under Oklahoma's standards, no activity is allowed to degrade "outstanding resource waters," which include designated scenic rivers such as Oklahoma's Illinois River. One effect is that no municipality in Oklahoma can build a sewage treatment plant that discharges into the Illinois River in Oklahoma.

Oklahoma contends that its standards also apply to upstream polluting activities outside the State. Arkansas, on the other hand, contends that enforcement of Oklahoma's "no degradation" standard would infringe on Arkansas' right to regulate activities within its own borders under its own policies. The Court will examine whether Oklahoma's standards can prohibit the town of Fayetteville, Arkansas from building a plant that would discharge into a tributary of the Illinois.

The case is expected to be decided in the next calendar year.

Niobrara and Missouri Rivers Added to National Wild & Scenic River System

On May 24th, President Bush signed into law a bill that adds 101 miles of the Niobrara and 39 miles of the Missouri to the national Wild and Scenic Rivers System. The Niobrara is a naturalists dream because of its size, location and biological value. A major tributary of the Missouri it is located at the junction of at least five major ecological zones in the Great Plains. The river maintains a wide variety of plant and animal communities and is a major stop-over on mid-continent migratory flyways. It is also a popular canoeing and fishing river.

The Niobrara flows mainly through private land, and support for adding it to the national system came largely from riverside landowners. However, some land owners opposed the action saying it would impinge upon their rights. This opposition stalled the bill for some time, even threatening it with a presidential veto.

The National Park Service is currently in the process of developing management plans for the area.

"Needed: A National Fish Census?"

The following article appeared in the September/October, 1991 issue of "The Gazette - A Chronicle of Timely Notes". It supports some of MICRA's concerns, so it is being reprinted here in its entirety as food for thought:

"While the plight of the Pacific salmon, which has all but vanished from much of its range in the rivers of the Northwest, has received wide publicity, less toothsome and spectacular populations of native aquatic species also appear to be declining throughout the West, if not the entire country.

'One report suggesting the scope of the problem was recently published by researchers at the University of California, Davis. They found that of 113 species of freshwater fish native to the State, 7 have become extinct (most since 1960), 14 are officially listed as endangered, 7 should be immediately added to the endangered list, 19 are likely

to qualify for listing soon, 25 are declining but not yet in serious trouble, and 41 appear to be secure. "In all, 57 percent of the existing taxa (species) have at least some need of special management if their populations are to continue to exist indefinitely . . . and 41 percent are either extinct or need immediate attention," the report concluded.

'Jack Williams, fisheries program manager for the Bureau of Land Management and one of the authors of the California study, says that the worrisome decline of native fish is a warning signal of a much larger problem - the general deterioration of lakes, streams and rivers, in terms of both water quality and quantity. "In many cases, California leads the trend, but that trend is well founded throughout the country, and particularly the West," Williams maintains.

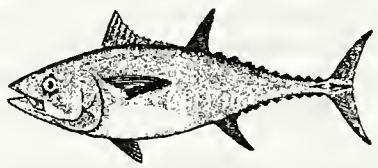
'The Endangered Species Act is inadequate to protect the many species that are now in decline, Williams says. "The Endangered Species Act is a powerful tool for preventing species from becoming extinct, but unfortunately it does little to prevent them from becoming endangered in the first place. It only comes into play after the species already

requires extremely expensive and often controversial measures to save the last remnants of the population. It doesn't help to recover populations to a level where they are no longer endangered."

'Instead of fighting last-ditch battles to save each species, Williams recommends intensified efforts to preserve entire aquatic ecosystems. He would like to see a national system of protected habitats for fish, along the lines of the national wildlife refuges. The first step, he says, is to conduct a survey of rivers, lakes and streams to identify aquatic communities that are still largely intact. "We desperately need to maintain a natural biological community and protect the entire community," he says. "That's a lot easier and cheaper than trying to recover each species after it has already become endangered."

Mississippi River Plume Area Vital to Gulf of Mexico Fishery

Recent studies by scientists at the National Marine Fisheries Service (NMFS) laboratory in Panama City Beach, Florida indicate that the Mississippi River outfall, or plume area, is particularly important as a feeding and growth area for young fish, such as mackerels and tuna.



NMFS scientists believe that young fish spawned in this Mississippi plume area may enter the stock for northern Gulf of Mexico fisheries in higher percentages than young spawned in other gulf locations. Recruitment is by far the most important, yet the least understood, factor contributing to the ups and downs in the numbers of harvestable Gulf fish.

The Mississippi River drains about two-thirds of North America and annually discharges 646,000 cfs of sediment-laden, nutrient-rich fresh water into the semi-enclosed basin of the Gulf. The Mississippi is thus probably the most significant environmental factor influencing the Gulf.

Using on-site sampling and satellite imagery to track the plume's movement, NMFS scientists have discovered that

the Mississippi plume could play a significant role in determining recruitment of some northern Gulf of Mexico fishes.

Ichthyoplankton are concentrated in the several-mile-wide frontal zone where the River and Gulf waters mix. Phytoplankton and zooplankton are also abundant in this zone.

Ichthyoplankton are probably concentrated there because the large differences in salinity where river water and shelf water meet cause surface waters to move toward each other. Weak-swimming and surface-seeking animals such as fish larvae and zooplankton move with the surface waters and are concentrated where opposing waters come together.

Conditions at the front also promote higher production of phytoplankton and zooplankton, because muddy, but nutrient-rich, plume water mixes with clear, but nutrient-poor, gulf water, creating ideal growth conditions for phytoplankton and zooplankton.

At least the young Spanish mackerel, king mackerel and yellowfin tuna, which may grow more than 1 mm/day, seem to take advantage of the rich food resources in the plume area.

A school of larval fish could remain within the favorable influence of the plume for four or five days before being carried away, usually to the west, by ocean currents.

This is just another example of the complexity of the Mississippi River ecosystem, and why it is so important for us to realize that we are all connected in one way or another on this small planet, and if we are to survive as a species, we must begin to think globally!

For those of us working on Mississippi River Basin fisheries, MICRA is good place to start.

Spring Sampling Finds Herbicides Throughout Mississippi River and Tributaries

According to a report recently released by the U.S. Geological Survey (USGS) for sampling conducted on the Mississippi River and several major tributaries during April, May and June, 1991, the herbicide atrazine was detected in each of 146 water samples collected at eight locations on the Mississippi, Ohio, Missouri, Illinois, Platte, and White rivers.

More than three-fourths of these samples also contained alachlor, cyanazine, and metolachlor.

Concentrations of atrazine and alachlor, occasionally exceeded EPA's maximum contaminant levels (mcl) for drinking water. The mcl is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. MCL's are based on a lifetime of exposure to the contaminant.

Atrazine exceeded the mcl of 3 ppb in 27% of the 146 samples, including six of the eight sites.

Alachlor exceeded the mcl of 2 ppb in 4% of the samples, all of which were collected from the Illinois, Platte, and White rivers.

The data clearly showed that herbicide concentrations generally increased in early May as a result of rainfall that flushed them off the fields and into the streams after spring application to cropland.

The report's senior author, Don Goolsby, pointed out that one of the significant findings of the study is that herbicide concentrations were found to exceed mcl's continuously for several weeks in rivers as large as the Missouri and Mississippi. Conventional treatment processes generally do not remove these herbicides.

An estimated 294 million lbs. of herbicides

are applied annually to control weeds in crop production in the Midwestern United States. Herbicides used in this region account for about 60% of the total herbicide use for agriculture in the nation.

Similar results were shown by studies conducted in 1989 and 1990. Herbicide concentrations as large as 100 ppb have been measured.

Copies of the report (USGS Water Resources Investigational Report 91-4163) can be obtained by calling (303) 236-7476.

A second study by the USGS has confirmed what some researchers have long suspected. Herbicides applied to land are vaporizing into the atmosphere and appearing in rainwater often far away from the point of application. The 18-month study found traces of herbicides in the rainfall of 23 states.

Amounts detected were mostly below the health advisory level for drinking water, an exception being atrazine in Iowa spring rain, which at 10 ppb was three times the EPA established level. The majority of the herbicides appear in rainfall during a one to two month period following spring planting.

This information was reported in Water, Environment, and Technology, September 1991, and in the Land Stewardship Letter, Summer 1991.

Chlordane Level Tied to Fish in Diet

A study recently completed by St. Louis University, School of Public Health scientists have documented that people eating fish from portions of the Mississippi, Missouri, and Meramec rivers show chlordane contamination in their blood. However, the levels are about 100-fold below those thought to indicate any health effect.

Those regularly eating at least a pound of fish a week form the contaminated zones had nearly five times the chlordane level as those not eating fish from such areas. State health officials have issued warnings for the taking and consumption of fish from those rivers.

American Rivers Expands Mission

American Rivers is a national organization formed several years ago with a mission "To preserve the nation's outstanding rivers and their landscapes"

Their membership has grown dramatically in recent years and with this growth has come an expanded interest and a greater commitment to protecting whole river systems instead of just "outstanding rivers". Consequently, they have expanded their mission "To preserve and restore America's river systems and to foster a river stewardship ethic."

Their new mission should make them a key public partner in many of the things MICRA hopes to accomplish. They have summarized their six-point program as follows:

1. Nationally Significant Rivers

When congress passed the National Wild and Scenic rivers Act in 1968, its intent was to create a nationwide system of hundreds of outstanding representative rivers. Realizing the vision of the creators of the system has been a long-held priority for American Rivers, and we will continue to promote this program, focussing over the next five years on obtaining protection for rivers located on federal lands. At the same time, American Rivers will analyze the need to protect a more broadly defined set of nationally significant rivers and will work to create new strategies and tools for rivers flowing through private lands.

2. Hydropower Policy Review

Contrary to popular belief, hydropower is not a totally benign source of energy. Hydropower destroys fisheries, erodes beaches, and dramatically upsets the delicate balance within natural riparian ecosystems. While American Rivers does not oppose all hydropower development, we believe the most ecologically important river systems should be spared from this damage, and that conditions on already-dammed rivers should be vastly improved. Our program of reforming hydropower siting and operations policies also will continue to be a top priority of American Rivers.

3. Protection of Endangered Aquatic and Riparian Species

Development of strong protection for endangered aquatic and riparian species and their habitat is a new five-year priority for American Rivers. This is in response to mounting scientific evidence that river-dependent species are declining faster than terrestrial components of the natural world, and because many scientists believe that these declines in America's flowing freshwater diversity indicate that our major ecosystems are seriously threatened.

4. Western Water Allocation and Instream Flow Protection

Water resources in the American West are in a critically threatened and ecologically impoverished condition. Riparian area loss throughout the arid and semi-arid regions of the nation has been rampant, with some states suffering as much as a 90% decline. Never before, however, have there been such opportunities for dramatic and important changes in western water allocation. Current plans to reform the Bureau of Reclamation, widespread efforts to institute stronger instream flow laws, and increased attention to federal reserved water rights are new priorities for American Rivers.

5. Clean Water Protection

In general, this country's approach to attaining the goal of clean waterways has been to enforce minimum, technology-based standards designed to improve the character of the water's chemistry. American rivers now intends to give a river protection "twist" to our water quality efforts by protecting rivers with pristine water quality and by building the protection and restoration of the biological integrity of river ecosystems into the water quality picture. In addition, far greater consideration must be given to the impact of flow regimes on water quality as rivers continue to be diverted for agricultural, municipal, and industrial supplies.

6. Urban Rivers

Nearly every major American city is located along or near a river. The water, habitat, and amenity value of these rivers is of as much strategic significance to the nation as our oil, coal, and natural gas reserves. For the most part, however, cities have turned their backs on urban rivers, treating them as waste removal conduits or as flood hazards. American Rivers proposes, in the next five years, to change the public's attitude toward these rivers by conducting a program to identify and recognize outstanding urban rivers.

Anyone interested in learning more about American Rivers and their programs should contact: Kevin Coyle, President, American Rivers, 801 Pennsylvania Ave., SE, Suite 400, Washington, D.C. 20003 (202) 547-6900.

REI Funds Benefit River Groups

For the fourth consecutive year Recreational Equipment, Inc. (REI), a national retailer of outdoor gear and clothing, has granted the National Rivers Coalition funds to distribute to State and local groups for river policy work.

REI set up the coalition in 1987, in cooperation with American Rivers. American Rivers chairs a coalition of 10 groups involved and plays a key role in distributing the seed grants. REI's 1991 funding of $60,000 benefitted at least 38 groups last year.

For more information on the REI seed grant program, contact National Rivers Coalition Chairperson Suzi Wilkins at (202) 547-6900.

American Rivers Challenges FERC Over 16 Proposed Dams on the Ohio River

American Rivers, a Washington based non-profit "river-saving organization", filed a formal challenge to the Federal Energy Regulatory Commission's (FERC) two year-old decision to issue hydropower licenses for 16 hydropower projects on the Ohio River.

According to the challenge, the proposed projects in West Virginia, Pennsylvania, and Ohio would cause fish mortality in the turbines and reduce dissolved oxygen levels in the upper Ohio River, threatening to undo progress made in restoring the river over the last several decades.

Water quality in the Ohio has improved, and the river now supports a major recreational fishery, including walleye, sauger, largemouth and smallmouth bass. The upper Ohio also supports 30 species of mussels; six of which are listed as endangered by the State of Ohio, and one is listed as federally endangered.

American Rivers based its court challenge on the grounds that FERC failed to defer to the recommendations of federal fisheries agencies to protect water quality and the fishery, as required under the Electric Consumers Protection Act. In addition, the suit challenges the commission's decision to license the projects prior to gathering information necessary to resolve the issue of preventing fish mortality.

Region 3 - USFWS Fisheries Challenge Grant Program Initiated

A total of $25-50,000 (or more if justified) are being made available in 1992 to State, local and private cooperators for completion of fisheries projects in Region 3 of the U.S. Fish and Wildlife Service. The States in Region 3 include Minnesota, Wisconsin, Michigan, Iowa, Missouri, Illinois, Indiana, and Ohio.

These funds will be made available on a matching basis to cooperators interested in completing projects designed to enhance fisheries resources in the Region.

Almost any type of project will be considered. The only stipulation on the match is that the funds or resources used for the match cannot in any way come from federal sources. The tentative deadline for 1992 applications is April 20th, matching funds will be awarded by May 15th.

For more information on the Program contact: Jerry Rasmussen (314) 876-1911.

CONGRESSIONAL ACTION ON RIVER BILLS PERTINENT TO THE MRDS

Hydropower

Clarification of FERC "fishway" definition to include both upstream and downstream passage (H.R. 3002 - Unsoeld): awaiting subcommittee action in House; no action in the Senate.

Federal Power Act amendments to give States primary authority to impose condition on FERC-licensed hydropower projects (H.R. 649 - Stallings, S. 106 - Craig): hearings held in House, awaiting subcommittee markup; hearings held in Senate, awaiting committee markup; in House and Senate.

National Energy Strategy changes in FERC licensing authority including repeal of land-managing agencies' ability to set mandatory conditions on hydropower projects (H.R. 1301 - Dingell, S. 1220 - Johnston, Wallop): subcommittee hearings held in the House, awaiting full committee action;reported out of full committee in Senate, measure failed on floor vote.

Reaffirmation of State authority to impose environmental conditions on FERC-licensed hydropower projects (S. 812 - Jeffords): awaiting subcommittee action in Senate; no action in House.

Wild and Scenic

Allegheny River (PA) Wild and Scenic designation (House Bill 1323 - Clinger, Kostmayer, Senate Bill 606 - Heinz): passed House, passed Senate, awaiting House-Senate conference.

Arkansas Omnibus Wild and Scenic Rivers designation (S 1743 - Bumpers): passed Senate, awaiting subcommittee action in House.

Eleven Point River (MO) additional acreage for existing Wild and Scenic corridor (H.R. 3604 - Emerson, Clay et al.): passed House, passed Senate, awaiting President's signature.

Michigan Omnibus Wild and Scenic rivers designation (H.R. 476 - Kildee, S. 209 - Riegle): passed House, reported

out of full committee in the Senate, awaiting floor action.

Niobrara and Missouri Rivers (NE) Wild and Scenic designation (H.R. 614 - Hoagland, Bereuter, S. 248 - Exon):signed by President in May to become Public Law 102-50.

Other River-Related Legislation

Clean Water Act Reauthorization (S. 1081 - Baucus): subcommittee hearings held in Senate, awaiting subcommittee markup; oversight hearings held in House.

Western Water Policy Review Board (S. 1228 - Hatfield): subcommittee hearing held in the Senate, awaiting full committee markup, no action in House.

MEETING ANNOUNCEMENTS

Upper Mississippi River Conservation Committee Annual Meeting

The Upper Mississippi River Conservation Committee (UMRCC) will hold its 48th Annual Meeting at the St. James Hotel in Red Wing, Minnesota on March 10-12, 1992. The 1992 meeting will focus on two topics: (1) The difference in current regulations among the Upper Mississippi River States (IA, IL, MN, MO, and WI) and how they can be resolved, and (2) An attempt to define our vision for the River in coming decades. The UMRCC is an organization of the five State conservation departments. Further information regarding the meeting can be obtained from Mark Heywood, Minnesota Department of Natural Resources (507) 285-6503.

Mississippi River Symposium to be held at the Annual Meeting of the American Fisheries Society

Larry Hesse, Nebraska Game, Fish & Parks has organized a major symposium (possibly two full days in length) on the rivers of the Mississippi River Basin to be held in conjunction with the Annual Meeting of the American Fisheries Society in Rapids City, South Dakota on September 13-17, 1992. Larry has organized the symposium to help stimulate the communication process between fisheries researchers and managers, basinwide.

The objectives of the symposium are: (1) To organize a description of existing information on the geology, hydrology, morphology, native fish species, introduced fish species, standard methods used to survey fisheries, human impacts on the physical system, and the values associated with the riverine resource, (2) To define existing or planned management that might be useful for fisheries management in other rivers within the basin, and (3) To identify minimal requirements for the restoration of important fish stocks and other aquatic resources.

Papers presented at the symposium will view each river discussed from an ecosystem perspective, and discuss their relative contribution as a tributary to the larger Mississippi River ecosystem. Whenever possible emphasis will be placed on the impact of an altered hydrological cycle, sediment and organic matter dynamics, and relative loss of side-arm connectivity as factors in the changing environment for aquatic life in the River.

So far, papers will include discussion of the following rivers: Arkansas, Big Muddy, Illinois, Upper Mississippi, Wabash, Allegheny, Kansas, Platte, James, White (SD), Powder, Pigeon, Yazoo, Sabine, Kaskaskia, Wisconsin, Kanawha, Minnesota, White (AR), Kankakee, Yellowstone, Ohio, Embarrass, Iowa, Cedar, Little Wabash, St. Croix, Vermillion, and Missouri.

Mississippi River Research Consortium

The Mississippi River Research Consortium will hold its 24th Annual Meeting at the Holiday Inn in LaCrosse, Wisconsin on April 30 - May 1, 1992. The research consortium is an organization of Academic, State, Federal, and private researchers on the Mississippi River. The group meets annually in LaCrosse and invites participation from researchers over the entire Mississippi River.

UMRCC Mussel Symposium

A symposium entitled, "The Conservation and Management of Freshwater Mussels" is planned for October 12-14, 1992 at the Embassy Suites Hotel in St. Louis, Missouri. The symposium is being sponsored by the Upper Mississippi River Conservation Committee.

The symposium will focus on:

(1) Regulations - State, regional or system updates, management strategies for commercial and non-commercial spp., future trends and needs, sanctuaries, limitations on industry

(2) Commercial Harvest - Upper Mississippi River status, regional assessments of pressure, industry status, concerns and trends, international trade implications

(3) Conservation - culture, early life history, reintroduction, stocking, restoration, habitat requirements and management, habitat alteration, indices of populations, exotics update, endangered species recovery efforts, etc.

(4) Sampling Methodology and Data Management - equipment and collection strategies, evaluation techniques, sampling designs, software applications

(5) Environmental Awareness - legislative needs, political processes, export taxes, resource rent, user fees

More information on the Symposium can be obtained from Kurt Welke, Wisconsin Department of Natural Resources (608) 326-0233 or Jon Duyvejonck, UMRCC Coordinator (309) 793-5800.

Mississippi Interstate Cooperative Resource Agreement
608 East Cherry - Columbia, Missouri 65201 - (314) 876-1911

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