River Crossings

Volume 1 November/December 1992 Number 6

Season's Greetings

This issue of "River Crossings" concludes its first year of circulation. We've enjoyed bringing it to you, and judging from the nearly 200 reader's who have responded with written words of assistance and encouragement, you've enjoyed reading it as well. Thank you for your support!

We'd like to wish all of our readers a safe and enjoyable holiday season. See you next year!

Reader Survey

Our next issue, Vol. 2, No.1, January/February, 1992, will include a mandatory reader survey. We will use this survey to streamline our mailing list by identifying regular readers and those who wish to remain on our mailing list.

In our first year we mailed unsolicited copies to many individuals and groups, and we feel its now time to review that list. We will assume that if a recipient does not respond to the survey it means that "River Crossings" is not being read, and the individual or group does not wish to remain on our mailing list.

We will continue to mail "River Crossings" free of charge to those individuals and groups who respond to our survey.

Interjurisdictional Rivers Bill Update

A new Congress will soon be in session, and efforts will begin again to introduce and pass what will now be the 1993 version of the **"Cooperative Interjurisdictional Rivers Fisheries Resources Act."**

The bill will need renewed support from constituents and co-signers. Contacts need to be remade with last year's sponsors and co-signers. A concerted effort is also needed on the part of all MICRA members and supporters to contact their respective Congressmen if we hope to see this bill pass.

Everyone is also urged to make your support known to Congressman Steve Gunderson in Washington, D.C. (202) 225-5506. If Mr. Gunderson cannot be reached, make your interests known to his Chief of Staff, Brad Cameron.

Your contact with Gunderson's office will go a long way toward renewing his efforts and enthusiasm. He needs to be made aware, first hand, of the magnitude of support you have for this bill!

MICRA Funding

Larry Peterman of Montana joined Mike Conlin of Illinois in "putting his money" behind MICRA. Larry followed Mike's lead and paid $1500 annual dues to MICRA for his State.

The Policy Sub-Committee has not recommended a dues fee for MICRA. At this point, the fee is based solely on a willingness and

ability of members to pay.

We are currently using the MICRA treasury to fund printing of "River Crossings", and to support Committee activities and reports, as well as to cover the costs of MICRA's promotional activities.

Policy Sub-Committee Supports Pallid Sturgeon Stocking

The MICRA Policy Sub-Committee met by conference call on October 28th to consider recommendations of the Paddlefish/Sturgeon Committee for the release of pallid sturgeon spawned this season under direction of the Pallid Sturgeon Recovery Team at the Blind Pony Fish Hatchery in Sweet Springs, MO.

A brief discussion made it clear that MICRA is not usurping any of the Pallid Sturgeon Recovery Team's responsibilities, and that we support stocking of the pallid sturgeon only after appropriate genetics tests have been completed to insure that fish being stocked are not hybrids.

With these matters clarified, the Policy Sub-Committee reached consensus in support of the Paddlefish/Sturgeon Committee's recommendations to stock the pallid sturgeon as recommended in the minutes of the September 26th Committee meeting in Rapid City, SD.

The following MICRA recommendation was forwarded to Mark Dryer, Leader of the Pallid Sturgeon Recovery Team, in a letter from MICRA Chairman Wes Sheets:

"This one-time release of pallid sturgeon would only occur if genetics analyses confirm that they are, indeed, pallid sturgeon and not a hybrid. Fifty to two-hundred pallid sturgeon would be stocked into 2-3 small reservoirs. The fish are expected to be about 12" in length at release, sometime in November 1992. Receiving reservoirs would support as high a benthos population as possible, with little opportunity for the fish to escape during high water. These fish would provide a source of known-age pallid sturgeon, if needed, for use in scientific studies at some future date or as a source for aquariums or other needs. All remaining fish would be released into the lower 100 miles of the Missouri River and the Mississippi River reach bordering Missouri (St. Louis to Caruthersville). If possible, all released fish would be tagged with coded wire tags. If that is not possible, 10% would be tagged with PIT tags and all fish released would be tagged externally."

Note: The projected November release of these fish passed without a finding of their genetic purity. They remain in captivity at the Blind Pony Hatchery pending that finding.

Contaminants in Pallid Sturgeon

Dick Ruelle and Kent Keenlyne of the U.S. Fish and Wildlife Service's Pierre, SD Ecological Services Field Office recently completed the subject report.

Liver, kidney, muscle, and reproductive tissues from three

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pallid sturgeon collected from the Missouri River were analyzed for 23 elements and organochlorine pesticides.

Cadmium, mercury, and selenium concentrations were elevated in all tissues. The highest concentrations of cadmium (1.03 mg/kg dry weight) and selenium (5.28 mg/kg dry weight) occurred in a fish collected from Nebraska.

Highest mercury content (16.00 mg/kg dry weight) was found in a fish taken in North Dakota.

Isomers of DDT were found in all tissues analyzed, with the highest concentrations in reproductive tissues. DDT in all tissues ranged from 0.08 to 0.44 mg/kg wet weight, DDD from 0.02 to 1.71 mg/kg wet weight, and DDE from <0.01 to 3.78 mg/kg wet weight.

Elevated PCB concentrations of 28.52 mg/kg in reproductive tissues, 20.51 mg/kg wet weight in liver, and 25.36 mg/kg wet weight in muscle exceeded the FDA action level, as did gamma chlordane (1.30 mg/kg wet weight) and alpha chlordane (1.27 mg/kg wet weight) in reproductive tissues.

The report concludes that the potential role of contaminants in the decline of pallid sturgeon populations needs further assessment.

Finding on Petition to List the Paddlefish

The U.S. Fish and Wildlife Service (Service) announced on September 22, 1992, a 12-month finding for a petition to amend the List of Endangered and Threatened Wildlife and Plants to include the paddlefish (*Polyodon spathula*).

The Service found that listing the paddlefish as "threatened" is not warranted. "Because of the uncertainty of the species' status in several portions of its range, the Service intends to reclassify the paddlefish from a category 3C to a category 2 species under authority of the Endangered Species Act of 1973, as amended. The Service believes that this classification change will encourage further investigation and biological research of the species' status throughout its range."

Paddlefish occur in 22 States and are primarily inhabitants of large rivers like the Missouri, Mississippi, and Ohio, but they are also found in several of the large river tributaries and in several Gulf Coast streams. Threats to the species include habitat modification, an apparent lack of natural reproduction in some areas, and overexploitation of their eggs as a source of caviar in national and international markets.

"Although the status review is complete and the period for receiving official comments has expired, the Service remains interested in receiving comments, suggestions, and current scientific information applicable to the status of these species as it becomes available. Comments may be submitted until further notice."

Questions or comments and materials concerning this notice should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, 1500 Capitol Avenue, Bismarck, ND 58501.

The petition, finding, and supporting documents are available for public inspection, by appointment, during normal business hours at the Bismarck Office or at the Service's Denver Regional Office, 134 Union Boulevard, Lakewood, CO 80225.

For further information contact: Dave Allardyce, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, 420 South Garfield Avenue, Suite 400, Pierre, SD 57501-5408, (605) 224-8693.

Source: Federal Register, Vol. 57, No. 184, pp. 43676-43682.

MICRA Paddlefish/Sturgeon Committee

Chairman Kim Graham (MO) has not yet scheduled a second meeting of the Paddlefish/ Sturgeon Committee. Plans were to have the Committee meet when the pallid sturgeon being held at Missouri's Blind Pony Fish Hatchery were ready for release. That release date has not been set, pending a finding of their genetic purity.

Speckled Chub Status Review

The Tulsa Field Office of the U.S. Fish and Wildlife Service is attempting to gather baseline data on the status and distribution of the speckled chub, particularly the Arkansas River subspecies (*Macrhybopsis aestivalis tetranemus*)

to determine whether this subspecies meets the criteria for listing as threatened or endangered under the Endangered Species Act.

Recent surveys in Kansas, Oklahoma, and Texas indicate that this subspecies has declined over a considerable portion of its range in the Arkansas River System. The subspecies may also have been extirpated from the Arkansas River in Arkansas.

The Arkansas River speckled chub is presently classified as a category 2 candidate species by the Fish and Wildlife Service. The status of this subspecies is unknown, despite the apparent decline within the Arkansas River System.

Additional information is needed to clarify several questions about its status. Any data, information, or comments on the distribution, abundance, stability, and taxonomic validity of this subspecies would be extremely beneficial to the Service's efforts. Information on potential or ongoing threats to this subspecies would also be helpful.

Please direct any questions or send available information to: Ken Collins, U.S. Fish & Wildlife Service, Ecological Services, 222 S. Houston, Suite A, Tulsa, OK 74127, (918) 581-7458.

Corps of Engineers to Streamline Their Agency

U.S. Army officials in Washington, D.C. released the "U.S. Army Corps of Engineers Reorganization Plan" on November 19th. Congress directed the Corps in 1990 to consider alternatives for updating the Corps structure and processes.

The Corps plan, produced after 14 months of study, calls for a comprehensive reorganization at all administrative levels, as well as a streamlining of processes throughout the organization. Under the plan, all district offices will remain open and will retain project management, construction, operations/maintenance, regulatory and emergency functions.

Five million dollars requested by the Administration and approved by Congress will be utilized in fiscal year 1993 to begin implementation of the headquarters and division portions of the plan. Annual savings from plan implementation are estimated at $115 million. The plan also calls for the estimated reduction of approximately 2,600 positions in Corps offices across the country by 1995.

According to an official Corps' News Release (19 Nov 92), "The reorganization of the Corps will benefit the public through reduced management and overhead costs, expedited decision-making and enhanced responsiveness."

The first phase of the Reorganization Plan will begin in February with the movement of Corps military and civilian leadership to the new divisions. Eleven division offices will be consolidated into six. The new Corps division boundaries are shown in Figure 1. No other movement of Corps personnel is anticipated until mid-fiscal year 1993.

- Huntsville and Transatlantic Divisions were not addressed under this plan. The Alaska District will be realigned under the Pacific Ocean Division (POD). The POD commander has also been tasked to make further recommendations to improve POD's efficiency.

- The New England Division, located in Boston, will become the North East Division (NED). The North Atlantic Division in New York will close; its functions, with the exception of Norfolk District, will be consolidated at NED.

- The Ohio River Division in Cincinnati will become the North Central Division (NCD). The existing North Central Division in Chicago, will close, as will the Missouri River Division in Omaha, with the functions consolidated at the new NCD.

- The South Atlantic Division in Atlanta will become the South East Division (SED). Norfolk District's functions will fall under SED.

- The Lower Mississippi River Division in Vicksburg will become the South Central Division (SCD). The Southwest Division in Dallas will close and consolidate with SCD. Albuquerque District, now under the Southwest Division, will not fall under the new SCD, but under the new Western Division.

- The North Pacific Division in Portland will become the Western Division (WD). The South Pacific

Figure 1. New division boundaries of the U.S. Army Corps of Engineers. Courtesy of the Corps' Reorganization Program Office.

New Corps of Engineers Division Structure

North East Division (NED) Boston	North Central Division (NCD) Cincinnati	South East Division (SED) Atlanta	South Central Division (SCD) Vicksburg	Western Division (WD) Portland
Districts:	*Districts:*	*Districts:*	*Districts:*	*Districts:*
Baltimore ◆★∗	Louisville ◆ ∗	Jacksonville ◆	Fort Worth ◆★∗	Los Angeles ◆
Boston ◆ ∗	Omaha ◆ ∗	Norfolk ◆ ∗	New Orleans ◆	Sacramento ◆★∗
Philadelphia	Pittsburgh ◆	Mobile ◆ ∗	Tulsa ◆ ∗	Seattle ◆ ∗
New York	St. Paul ◆	Charleston	Galveston	Albuquerque
	Buffalo	Savannah	Little Rock	Portland
	Chicago	Wilmington	Memphis	San Francisco
	Detroit		Vicksburg	Walla Walla
	Kansas City ★			
	Huntington			
	Nashville			
	Rock Island			
	St. Louis			

◆ indicates locations of Technical Centers
★ indicates locations of Administrative Centers
∗ indicates locations of both military and civil design

Division in San Francisco will close and consolidate functions at Portland.

In addition, division policy review functions will transfer to the new Central Review Center (CRC), to be located in Washington, D.C. Technical functions will move to 15 Technical Centers collocated with the Districts. Administrative functions will move to five regional Administrative Centers. Divisions will continue to perform command and control functions, program management, and regional interface.

The Corps' Headquarters Office (HQ) in Washington, D.C. will retain functions of program guidance, resource allocation, corporate leadership, and coordination with other major commands and federal agencies.

The Planning and Engineering Divisions of the Directorate of Civil Works at HQ will be reduced as the technical review functions are eliminated and policy review functions are transferred to the newly created CRC.

The decision team felt these changes would eliminate redundant reviews and significantly expedite project approval.
The second phase of the Reorganization Plan calls for changes in the Corps' district offices, subject to available funding in fiscal year 1994. No districts will close, though there will be process changes implemented. One new district will be added in Boston for a total of 36 districts within the continental U.S. According to Corps documents, "The districts will remain to continue quality service to the community."

The districts' planning and engineering functions will be relocated from 21 of the districts to 15 Technical Centers, collocated with 15 existing districts. The Technical Centers will also perform real estate functions. The rationale here is to significantly enhance skills development for engineers and planners by assuring that the place to which they are assigned maintains a constant and varied workload.

Because the Corps traditionally experiences wide fluctuations in workload, the plan was set up so that the work force will be large enough to sustain significant changes in the volume of work without having to deplete or add to the core base.

• The NED in Boston will include four districts (Baltimore, Boston, Philadelphia, and New York). The

technical centers will be collocated at the Baltimore and Boston districts, and both districts will be both military and civil design districts.

• The NCD at Cincinnati will include 12 districts (Louisville, Omaha, Pittsburgh, St. Paul, Buffalo, Chicago, Detroit, Kansas City, Huntington, Nashville, Rock Island, and St. Louis). Technical centers will be collocated with Louisville, Omaha, Pittsburgh, and St. Paul districts. Both military and civil design functions will take place at Louisville and Omaha.

• The SED at Atlanta will include six districts (Jacksonville, Norfolk, Mobile, Charleston, Savannah, and Wilmington). Jacksonville, Norfolk, and Mobile will have technical centers. Norfolk and Mobile will have both military and civil design capabilities.

• The SCD at Vicksburg will include seven districts (Fort Worth, New Orleans, Tulsa, Galveston, Little Rock, Memphis, and Vicksburg). Technical centers will be located at Fort Worth, New Orleans, and Tulsa. Both military and civil design functions will be at the Fort Worth and Tulsa districts.

• The WD at Portland will include seven districts (Los Angeles, Sacramento, Seattle, Albuquerque, Portland, San Francisco, and Walla Walla). Los Angeles, Sacramento, and Seattle will house the technical centers, with both military and civil design functions located at Sacramento and Seattle.

The reorganization plan will also markedly change the ways of doing business. Through adoption of the "Project Management Concept", the Project Manager will be allowed to shop among the 15 technical centers to find the center that can best satisfy the requirements of the customer. Adding competitive market conditions should also constrain cost growth and develop a greater commitment to keeping schedules.

In addition to an annual savings of $115 million, Corps documents point out that proposed benefits to the reorganization plan include:

• Maintenance of a strong local interface with customers and partners as every district retains regulatory, project management, construction and operations functions.

• Reduced management overhead costs by consolidating divisions.

• Reduced project cost and improved timeliness through single-layer review for policy and technical matters.

• Concentrating planning, design and review experts in one area enhances technical depth and absorbs workload peaks and valleys. This also creates better opportunities for career progression and learning.

• Managerial efficiencies are achieved through administrative consolidations through automation and communication technologies.

• Consolidating functions in Administrative Centers brings increased expertise and higher-quality services.

The estimated total one-time cost for implementation of this restructuring plan is $215 million, including costs for personnel actions, relocation of employees, the movement of offices and other contingencies.

The Corps has not undergone a major reorganization since 1942. Following a series of studies, Congress appropriated $5 million in the 1993 Energy and Water Bill to reorganize the Corps headquarters and its geographic divisions. An additional $7 million may also be applied to the reorganization effort through authority written into the bill for the transfer of funds from other sources. The bill also includes a provision prohibiting the Corps from closing any district offices.

Source: News Release, November 19, 1992, Office of Assistant Secretary of Defense (Public Affairs), Washington, D.C. 20301; and The Reorganization Wrap-up, "A publication to discuss the immediate issues of Corps reorganization", Vol. 1, No. 1, Nov. 19, 1992.

Upper Mississippi River Navigation Concerns

The Upper Mississippi River Conservation Committee (UMRCC) has been quiet for some time, seemingly content over the way things have been going on the Upper Miss since settlement was reached in 1986 regarding the Lock and Dam 26 (St. Louis) navigation/ environmental confrontation of the 1970s.

However, in their September/ October 1992 Newsletter, UMRCC Chairman, Mark Heywood

(Minnesota DNR) has raised, in his "Chairman's Letter", what may become significant issues.

Heywood states, "Of critical concern to the Upper Mississippi River and the resource managers who strive to manage and protect the ecosystem are the various federal authorities and programs which set much of the future direction for the river. As such, the preliminary information concerning the long awaited navigation study proposals is disappointing."

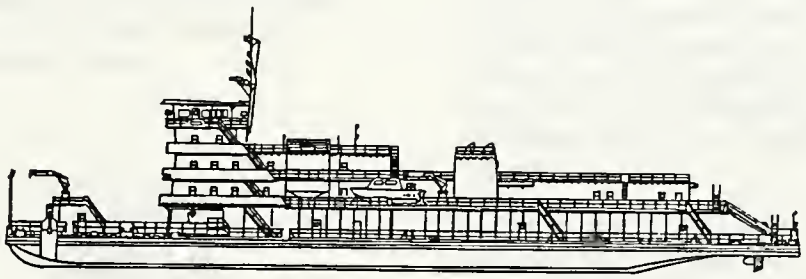
He goes on to say, "Many of the people working on the river are becoming increasingly concerned with the messages being received from both the Corps of Engineers and the Long Term Resource Monitoring Program (LTRMP). First of all, it is obvious that the proposed level of navigation environmental studies is no where near what the Second Lock Plan of Study (POS) called for. Since the 1970's, the environmental community has been promised that adequate navigation impact studies would be accomplished. Unfortunately, the message we are receiving is that environmental concerns are again taking a back seat to navigation. Second, recent state concerns regarding the priorities of the LTRMP indicate apprehension that a change from emphasis on long term monitoring to research and navigation studies may occur."

Further, he states, "It is imperative that we realistically assess the navigation issue and its effects on the environment. We must address the long-term system changes which have been and will continue to affect the UMR. Delayed studies, reduced funding, and changes in priorities will not help us address these issues."

The political compromise reached on Lock and Dam 26 in the early and mid 1980's was that a second lock 600 ft in length could be constructed at a cost of $190 million. However, at the same time a 10-year $190 million environmental program would be implemented, including construction of habitat enhancement projects and long term monitoring of selected environmental parameters. Congress authorized and is funding these recommendations, but failed to endorse a recommended waiver for an EIS on the second lock, saying that would be too precedent setting.

Lock construction began almost immediately, and after a slow start the environmental program finally reached full funding in 1991, and was extended five years to cover the delayed start.

The Corps (along with interagency participants), took several years to prepare a POS for evaluation of the projected navigation effects from expanded navigation. Estimated cost of studies needed to develop an adequate EIS was $27 million. Funding for those studies and implementation of the POS has been tied up in policy review at the Corps' Washington office level for several years.



In a follow-up article to UMRCC Chairman Heywood's comments, the UMRCC Newsletter reports on recent progress of the POS and the future of navigation effects studies in an article entitled, "Navigation On The UMR....The Next Chapter Begins":

"State, federal, and private concerns were treated to their first glimpse of how the L/D 26 Plan of Study (POS) and The Combined Illinois and Mississippi River Navigation Study will be implemented by the Corps of Engineers. Colonel Albert J. Kraus, District Engineer for the Rock Island District, briefed attendees at the quarterly Environmental Management Program Coordinating Committee (EMPCC) and Upper Mississippi River Basin Association (UMRBA) meetings regarding the Corps' progress on the navigation studies.

'Uppermost in many people's thoughts was how would the POS be implemented. Colonel Kraus stated that, at this time, the POS as a separate entity unto itself was dead. According to Colonel Kraus, critical elements of the POS have been incorporated into the proposed navigation study. At present the study is scheduled to take the next six years if the current proposal is approved. No written details of the study proposal were distributed since the draft report is still being reviewed by the Corps Headquarters in Washington. Official distribution of the reconnaissance report is now anticipated by the end of November '92.....Sometime after that release, there will be a Reconnaissance Resolution Conference at which formal approval for the three UMR Corps Districts to proceed with the studies may be given. It is at this

conference that other key "partners" such as the U.S. Fish and Wildlife Service, and the states will hopefully be given an opportunity to comment on the report.

'Preliminary environmental cost figures of the study proposal, as relayed at the meetings in LaCrosse, are very disappointing to those familiar with the navigation/POS issue. A total study cost of $23 million is proposed by the three UMR Corps Districts. Out of this $23 million, approximately $9 million is programmed for environmental studies which include an Environmental Impact Statement, and both systemic and site-specific studies. This is a far cry from the $27 million that the POS estimated was necessary to determine navigation effects. The Corps' claims that through this study effort, and another $1.8 million in navigation related studies by Environmental Management Program monitoring program efforts, the "most important" POS investigations will be completed. Judgement on whether or not this can be accomplished will have to wait until the reconnaissance report can be examined."

All kinds of new methods of expanding navigation on the Upper Miss have been and are being considered, including additional new locks. However, the Corps doesn't seem willing to "bite the bullet" and address the navigation effects issue head on. Perhaps they realize just how severe the impacts may be on large river fisheries, and would rather not have the public know!

Nationally, the UMRCC has taken the lead in "holding the line" on navigation expansions on large rivers since the mid-sixties when a 12-foot channel was being proposed on the Upper Miss. Many of the state and agency biologists involved in the projects of the 1960's, 70's, and 80's have retired or moved on for one reason or another. It looks as though the lot to "hold the line" will now fall on a new generation of UMR biologists. As in the past, the UMRCC will likely rise to the occasion!

This issue may be of significant interest to many of the MICRA states because the outcome on the Upper Miss will undoubtedly effect how the Corps addresses future navigation impacts and expansions on the Missouri, Ohio, Tennessee, Cumberland, Kanawha, Monongahela, Red, Arkansas, and other large navigable rivers in the Basin!

Source: The UMRCC News Letter, September/October 1992, Upper Mississippi River Conservation Committee, 4469 48th Avenue Court, Rock Island, IL 61201.

Missouri River Recreation (in Nebraska?)

Recreation on the Missouri River, anywhere between its mouth and the large Dakota and Montana reservoirs, may seem like an oxymoron to many observers. However, a recent study and draft report completed by the Nebraska Game and Parks Commission suggests otherwise.

This was the first ever such survey conducted on the Missouri River bordering Nebraska, and it may cause some critics to step back, take a harder look at this important resource, and rethink some long-held views.

The survey was conducted during the period May through August 1992, and expanded to cover the entire 1992 year using the stratified probability method of sampling developed by George Fleener (retired), Missouri Department of Conservation.

Over the 385 mile reach bordering Nebraska, 59 public access sites and 1510 private sites were surveyed. Total public recreational use for the three month survey period was over 11,682,000 hours. This was expanded out for entire year to total over 21,922,000 hours. Total private use was estimated at over 48,781,000 hours for the entire year, bringing the grand total use to more than 70,703,000 hours.

The estimated national economic development value for this recreational use reportedly ranged from $29 to $40 million. Recreationists traveled an estimated 117 million miles in 1992 to use this resource. Estimated fish catch for May through August was over 267,000; with freshwater drum, channel catfish, carp, walleye, and goldeye/herring comprising the top six fish species, representing 84% of the catch.

A similar study conducted by Fleener in the mid 1980's on Missouri's 553 mile reach of the Missouri River showed much less recreation -- as much as 28 times less during a high water year!

If the Nebraska data are accurate, this is an excellent indication of the importance of large rivers in areas where natural recreational resources are scarce, even if these large rivers are considered by many to be unattractive, channelized ditches.

The Missouri River cuts through the heart of the corn belt in eastern Nebraska and western Iowa, where there are few water-based natural recreational resources available for public use. Most of the small rivers are shallow, channelized, and turbid, with limited access across private lands. In this situation, the Missouri River, even in its present state, is an attractive natural resource to many users; especially those without the means to escape for a weekend in search of a higher quality regional recreation area.

Since the Nebraska reach doesn't differ markedly from the Missouri reach, the much lower recreational use documented by Fleener for the Missouri reach is likely a function of the immediate availability in Missouri of the Ozarks' streams and lakes.

Where demand is as high, as it appears to be along the Nebraska reach of the Missouri River, one can only speculate as to the value it might provide should we be able to improve its quality through better management practices.

As a comparison, 1982 estimates of recreational expenditures along the Upper Mississippi River bordering eastern Iowa place their value at over $201,000,000. It is doubtful that the Missouri River could ever achieve the status of the Upper Mississippi, but there certainly appears to be a market of users available to capitalize on any improvements that could be made.

For those interested in reviewing Fleener's methodology for sampling of recreational activity it is described in his survey of the Missouri reach cited below.

Sources: Hesse, L.W., G.E. Mestl, P.P. Sensenbaugh, P.A. Thornblom, R.J. Hollis, T.L. Nuttlemann, and J.A. Vaughn. (1992) Recreational Use Survey of the Missouri River in Nebraska - Summer (Draft). D-J Proj. No. F-75-R. Nebraska Game and Parks Comm., Lincoln, NE. 29 pp + Tables.; G.G. Fleener (1989) Recreational Use Survey of the Missouri River in Missouri. Missouri Dept. of Conservation, Jefferson City, MO. 52 pp. + Apps.; UMRCC (1982) Outdoor Recreation: Big Business on the Upper Mississippi River System. Upper Mississippi River Conservation Committee, 4469 48th Ave., Ct., Rock Island, IL 61201.

Economic Benefits of River Cleanup

Thirty years ago many people considered the Nashua River in north central Massachusetts a dead river, and the task of cleaning it up impossible. A milestone in the

Nashua clean up effort was the vision and persistence of local river advocates to use the Clean Water Act of 1963 to upgrade the Nashua's State classification.

The Nashua Committee did a tremendously thorough job of building and organizing support for the Massachusetts Clean Water Act which provided for public input to river use classification.

The Committee then spent most of a year organizing and preparing for the State hearing on the Nashua's classification. Their goal was to have the Nashua classified as "B", meaning it was suitable for swimming, fishing, and public water supply. Industry representatives and some politicians asked for a "D" classification. State officials compromised by giving the Nashua a "C" classification with an amendment for "B"-level bacterial standards.

A great benefit to the classification was that it ensured state and federal funds would be available for river clean up work, most importantly money for building wastewater treatment plants, which were essential to the clean up effort. Over the years through cooperation among governmental agencies, industries, and labor unions, seven new sewage treatment plants have been built to remove 90% of the pollutants.

Problems still persist, and the Committee remains active, but the argument that environmental clean up means economic hardship doesn't go too far in the case of the Nashua. No hard-corps studies are available to document it, but according to River advocates several observations are worth noting.

- First, by acting quickly municipalities and industries along the Nashua were able to get federal and state funds to pay a significant portion of the costs for many wastewater treatment facilities.

- Second, before the Nashua clean up, riparian land was virtually worthless. Today, riverfront property is assessed at higher value than adjacent property. Many of the old factories along the river are being converted to condominiums, restaurants, and offices.

- And third, three decades ago, no one wanted to go near the Nashua, but today it's an important recreational resource. The Nashua is becoming well known for having a great bass fishery. Fishers travel from throughout the eastern U.S. to participate in the Nashua's bass

fishing tournaments.

For more information about the Nashua River clean up, refer to Berger, John (1987) Restoring the Earth: How Americans are Working to Renew Our Damaged Environment, Anchor Press Doubleday. The Nashua River Watershed Association can also be contacted as follows: NRWA, 609 Massachusetts Ave., Lunenberg, MA 01462-1352.

Source: River Voices, Sept. 1992, Vol3, No. 3., P.O. Box 8787, Portland, OR 97207.

Hurricane Andrew Costs Louisiana's Crawfish and Oyster Industry $39 million

Ron Dugas, Oyster Program Manager for the Louisiana Department of Wildlife and Fisheries said that the storm hit an area of the State that usually produces 22% of the State's oyster crop. Damages could reach $30 million.

He said that an average of 60% of that area's crop was damaged by silt dredged up by Andrew and deposited to a depth of 1 to 3 ft on the oyster reefs. "They say that the marshland is lost. Well, it's not totally lost. We know where much of it is today...on top of the oyster reefs," Dugas said.

The mud, which must be removed, smothered the oysters, he said, adding that just as harmful was the uprooting of vegetation, whose decomposition sharply degrades dissolved oxygen in the water.

Considering the industry as a whole, Dugas said that Louisiana is fortunate to have an oyster industry that is spread over such a wide expanse of coastline.

Surviving in fairly good shape were oysters in Plaquemines Parish, which leads the State with more than 125,000 of the State's 325,000-plus acres of private oyster leases. Affected to some extent was Plaquemines production on the west side of the Mississippi River. Production was unaffected in Calcasieu Lake in Cameron Parish. "Oysters on the east side of the Mississippi River survived in good shape", according to Paul Thibodeaux, Extension Service fisheries agent for Plaquemines.

Production losses to Louisiana's crayfish farmers could reach $9.8 million according to projections by the LSU Agricultural Center. Dr. Wendell J. Lorio, aquaculture specialist with the Ag Center's Louisiana Cooperative Extension Service, said the total loss includes estimated losses from both farm-raised and wild crawfish crops in six parishes damaged by the hurricane: Iberia, Lafayette, Lafourche, St. Martin, St. Mary, and portions of Iberville.

"Premature flooding of crawfish ponds poses a major problem in production of farm-raised crawfish," Lorio said. "If crawfish producers are not able to remove or manage this untimely water, water quality will deteriorate quickly because of the high organic loads in the ponds," he said.

Premature flooding will cause crawfish to emerge from their burrows and become exposed to inferior water conditions, he said. The adults may survive by crawling out of the water, but the young will be destroyed.

Production of crawfish in the wild could be significantly reduced without proper flushing of growing areas with waters from the Mississippi, Ohio, and Red rivers, Lorio pointed out.

Source: The Aquaculture News, Vol. VII, No 1, October 1992.

Zebra Mussels Found Attached to Native Mussels on the Mississippi River

The first scientific evidence (known to us) of the zebra mussels attaching themselves to native Mississippi River mussels has been reported in the Wisconsin/Minnesota reach. Previously, however, Mississippi River clammers had been reporting numerous incidences of such attachment.

According to Greg Cope, an aquatic toxicologist at the National Fisheries Research Laboratory (NFRL) in La Crosse, WI, "We've had a rapid expansion of the zebra mussel this summer."

Cope found zebra mussels attached to native mussel shells in the La Crosse area, in lower Lake Pepin (just south of Red Wing, MN), and at the navigation dam near Trempealeau, MN. Lake Pepin is a natural river lake formed by the confluence of the Mississippi with the Chippewa River (Wisconsin).

Cope said the NFRL is conducting zebra mussel experiments in three areas. He said good progress is being made on a toxicant. There is preliminary evidence that some chemicals may be toxic to the zebra mussels, but not so much to native organisms.

He said they are investigating a biochemical means that would inhibit the zebra mussel from producing the sticky excretion that

glues them to objects, such as other mussels. Without the attachment to solid objects, he said, they die.

Other research is aimed at interfering with spawning and reproductive cycles. One mature female can produce 40,000 eggs in a season. They hatch in four days, and water currents can carry the microscopic larvae -- called veligers.

Source: Gazette, Cedar Rapids, IA Daily, Sept. 5, 1992.

Zebra Mussel Technical Notes Available

The second in a series of Zebra Mussel Technical Notes has been published by the Corps of Engineers' Waterways Experiment Station in Vicksburg, MS.

The series includes 25 technical notes covering environmental testing, control methods, control strategies, and a miscellaneous category.

The environmental testing series describes zebra mussel biology, ecology, and recommended control strategies; a chlorine treatment program; a monitoring program in the Louisville District; a hand-held sampler; a protocol for environmental compliance; and an assessment of mussel filtration rates.

The control methods series includes discussions of thermal sprayed coatings, copper-based marine antifoulants, zinc-rich paints, high-pressure water jetting and carbon dioxide pellet blasting, construction materials that act as deterrents, vendors that provide services and equipment, accelerated corrosion of ferrous metals resulting from zebra mussel infestations, nontoxic foul-release coatings, freeze survival of aerially exposed zebra mussels, aerial exposure and mortality, and upper temperature limits.

The control strategies series includes discussions of control using flap gates associated with drainage structures; in fire prevention systems that use raw water; on floating plants; on waterway gauging stations; on components of hydropower projects sensitive to mussel infestation; using environmentally sound strategies at drainage structures, pumping stations, and water intakes; and on components of vessels and dredges.

The miscellaneous series includes one article on the susceptibility of different ages of concrete to zebra mussel infestation.

The series can be obtained by contacting Ms. Pat Humphries or Ms. Paula Rockett, Zebra Mussel Research Program, U.S. Army Engineer Waterways Experiment Station, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, (601) 634-2571.

Zander Draws Fire From Canadian Fisheries Officials

The zander (*Stizostedion lucioperca*), a European fish, similar to our walleye, has come under criticism from Manitoba fisheries officials as a result of an article that appeared earlier this year in the "In-Fisherman" magazine. The article dealt with North Dakota's past efforts to introduce the species into its lakes and rivers.

According to an August article in the "Forum", a Fargo, ND newspaper, North Dakota's zander project is on hold at the request of Gov. George Sinner.

Dr. Richard O. Anderson (USFWS, retired) suggested in the In-Fisherman article that experimentation go ahead, but that it be carefully controlled and that possibly sterile zander be used. Anderson says that studies on the zander could be carried out with today's technology without risking irreversible consequences.

In a telephone conversation with the MICRA Coordinator more than a year ago, Dr. Anderson expressed interest in the species, saying it stemmed from a desire to find a large predator that survives well in large, swift, turbid rivers such as the lower Missouri. His research on the species was initiated by a former student's visit to Europe and a subsequent student literature search on the species. This lead Anderson to believe that the zander may be a desirable predator species for the unimpounded portion of the Missouri downstream from Gavin's Point Dam.

Dale Henegar of Bismarck, former North Dakota fishery chief and later head of the Game and Fish Department, studied the zander over a long period of time before urging its introduction in his State.

The first zander eggs were brought into North Dakota in 1987, but they were destroyed when it was believed that they carried a disease which potentially threatened northern pike. The eggs were later found to be disease free.

Efforts in 1988 failed when hot weather and possibly salamanders in the ponds destroyed the hatched fry. In 1989, fishery crews were successful in introducing 1,050 fingerlings into Spiritwood Lake north of Jamestown. The lake was chosen because it is a closed-basin

lake. At least one zander was caught by an angler and one taken in a net, but there has been no confirmed reports on zanders in the lake since 1990.

Points made by Manitoba officials to "In-Fisherman" and a long list of other recipients follow:

• Zanders present a threat to native species from a multitude of perspectives. "We believe there is a real possibly that the zander would displace the walleye and sauger from much of its range in the United States and southern Canada." The commercial catch of walleye and sauger (exclusive of the Great Lakes) has a sales value to Canada of $35 million.

walleye

• The zander's greater tolerance of warm water than walleye presents the possibility that they will be able to establish themselves and become abundant over much of the range of basses, sunfish and crappies...We feel that they would become serious predators on both the forage species used by these very important native pan and game fish and on the basses, sunfish and crappies themselves.

sauger

• Past introductions of exotic fish, except for brown trout, have had either documented or potential but undocumented negative effects. "all have escaped confinement, either intentionally or accidentally."

• "There is a risk that the introduction of zander also would result in the introduction of new fish diseases and parasites into North America."

• "Spiritwood Lake is heavily used by open water anglers and ice fishermen. With this public access, zander inevitably would be transported by overzealous anglers into both the Missouri and nearby Hudson Bay drainages, opening its way to all of North America east of the Rocky Mountains."

• In our view, the entire fish population of Spiritwood Lake should now be removed by poisoning the lake to assure that no zanders from the 1989 planting survive."

The letter was signed by Dennis G. Wright, Environmental Affairs Coordinator, Regulatory and Native Affairs, Central and Arctic Region, Canada Department of Fisheries and Oceans, Winnipeg; William G. Franzin, Research Scientist, Canada Department of Fisheries and Oceans, Winnipeg; Arthur J. Derksen, Fisheries Biologist, Manitoba Department of Natural Resources, Winnipeg; and Kenneth W. Steward, Professor, Department of Zoology, University of Manitoba, Winnipeg.

According to G. Sterba (1966) Freshwater Fishes of the World, The Pet Library Ltd.: The zander is "Widely distributed through Central Europe, southwards to northern Italy, eastwards to the U.S.S.R., northwards to the Baltic, westwards to the River Werre; in large rivers, very numerous in the lagoons of the Baltic; average length about 40-55 cm...lives in large open stretches of water, preferably over a hard bottom. In summer it resorts to slightly turbid, opaque waters which provide it with adequate shelter. The young fishes feed chiefly on small organisms, but when they are only about 15 cm. long (one year old) they become fish-predators...Sexual maturity is usually attained in the third year. The spawning season is from April to the beginning of June and is determined by the temperature of water (12-14 degrees C). The eggs are large (about 1.5 mm), and strongly adhesive, and are laid, often in clumps, on hanging roots, stones or pieces of waterlogged wood. Large females not infrequently produce as many as 200,000 to 300,000 eggs. The parents are said to guard the spawn for sometime. The young hatch after 8-12 days and, after a short resting-period, spiral to the surface in order to fill their swim-bladders with air...ranks with the best food fishes."

FERC's Platte River Draft EIS Rejected

The U.S. Environmental Protection Agency and the Department of the Interior have rejected as inadequate FERC's draft environmental impact statement on relicensing two projects on Nebraska's Platte River. The report was given a "3 -- inadequate" rating by EPA. Interior issued similar criticism, and both agencies are calling for a revised Draft EIS.

EPA can refer the Central Nebraska Public Power and Irrigation District's Kingsley Dam and Nebraska Public Power District's North Platte/Keystone Diversion Dam matter to the Council on Environmental Quality if the agencies cannot reach agreement on relicensing.

Source: Hydro Review/September 1992

Upper Mississippi River Hydropower Projects Update

The Lake Pepin (Lake City, MN) pump-back hydroelectric facility project has been dropped by

sponsors. The 500 megawatt peak demand facility would have used 650 megawatts of low demand, low cost night time energy to pump water up the river bluff. After 21 months of study, sponsors concluded it was questionable whether they could get a license due to environmental opposition from natural resources agencies as well as public and private groups, most notably the Izaak Walton League of America.

The Federal Energy Regulatory Commission has granted another time extension to the City of LeClaire to document economic benefits and financial feasibility of constructing and operating a hydroelectric project at Lock and Dam 14, delaying the decision for a fifth time. The extension was granted because the city is waiting on a response from the Secretary of the Interior to relax the Fish and Wildlife Service's mandatory prescriptions for mitigating fish impacts.

Source: The UMRCC News Letter, September/October 1992, Upper Mississippi River Conservation Committee, 4469 48th Avenue, Rock Island, IL 65201

Groups Must Show Injury to Invoke Endangered Species Act

The Supreme Court has ruled that environmental groups lack standing to challenge government action under the Endangered Species Act unless members can show they will suffer individual, concrete harm.

Defenders of Wildlife claimed the Agency for International Development should have consulted the Interior Department before funding dams in Sri Lanka and Egypt that might affect endangered species. Group members claimed they intend to visit those countries to observe the endangered species someday. The court said the group lacked standing to sue because members' injuries were too vague and speculative. Although the ruling could make it more difficult for environmental groups to sue under the Endangered Species Act, in most cases, it is easier to find an injured party if the action occurs in the U.S.

Source: Hydro Review/Sept. 1992

Keeping Track of the Resource Abuse Movement

The July/August issue of "River Crossings" (Vol. 1, No.4) included an article entitled "Resource Abuse Movement?" As a follow-up to that article we have come across additional information which seems to add credibility to the Resource Abuse Movement's existence.

According to a letter to the editor of River Network, the Wilderness Society has created a program called, "New Voices", designed to counter the resource abuse movement by working with concerned citizens and providing them media training, technical and financial assistance. A New Voices newsletter is published monthly.

According to Kathy Kilmer of the Wilderness Society, the newsletter tries to keep activists informed about the resource abuse movement and issues they are likely to encounter when dealing with anti-environmentalists.

Kilmer says the newsletter is free and can be obtained by writing her at: The Wilderness Society, 7475 Dakin Street, Denver, CO 80221

Source: River Voices, September 1992, Vol. 3, No. 3.

New Publications

Rivers Handbook: Volume 1: Hydrological and Ecological Principles, Edited by Peter Calow and Geoffrey E. Petts. Blackwell Scientific Publications, 544 pp., $179.95 (Hardcover), ISBN: 0-632-02832-7.

This is the first of two volumes resulting from research over the past two decades focusing on the ecological impact of water projects. This work assesses the scientific and ecological principles used to develop a rational, integrated approach to rivers management. Commencing with an overview of river systems, subsequent sections cover the physicochemical environment emphasizing the importance of the factors defined by biota. A major section describes biota--from microorganisms to vertebrates--and their importance in rivers. Ecosystems and processes are discussed in full, and final chapters bring together all the properties and processes discussed earlier in descriptions of five river types: sub-temperate, temperate, large alluvial tropical, semi-arid, and mountain. Volume two (due for publication in 1993) will develop the philosophy and principles of sound ecological management.

River Conservation and Management: Edited by P.J. Boon, P. Calow, and G.E. Petts. John Wiley and Sons, 484 pp., $145.00 (Hardcover), ISBN: 0-147-92946-8.

This book is intended for all those with an interest in achieving greater integration of conservation in the management of river systems. Following the introduction, which outlines the objectives and applications of river management, the book is organized in four sections. The first sets out the case for conservation, using examples from specific river systems around the world. the second discusses ways of classifying rivers and

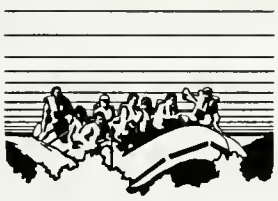
assessing their potential for conservation. Detailed examples of recovery and rehabilitation are described in the third section, and the final part outlines various means of river protection within a legal framework, based on experiences in the United Kingdom and North America.

Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy - National Research Council. National Academy Press, 567 pp. $39.95 (Hardcover), ISBN: 0-309-04534-7.

This book outlines a national strategy for aquatic restoration, with practical recommendations covering both the desired scope and scale of projects and needed government action. It features case studies of aquatic restoration activities throughout the country. The book examines (1) key concepts and techniques used in restoration, (2) common factors in successful restoration, (3) threats to the health of the nation's aquatic ecosystems, and (4) approaches to evaluation before, during, and after a restoration project.

River Information Digest: American River Management Society, P.O. Box 621911, Littleton, CO 80162-1911.

Prepared with assistance from the Bureau of Reclamation, the Bureau of Land Management, and the USDA Forest Service, the "River Information Digest" summarizes basic information to help boaters plan a river trip in the western United States. Rivers included in the book are those that have whitewater opportunities on segments 10 miles or longer, and those rivers that are components of the Federal, state, and local Wild and Scenic River System. After an introduction that gives general information on low-impact camping and defines whitewater class designations, the chapters are



arranged alphabetically by state. Each chapter includes a map, and information matrix on all the rivers described in the chapter, and an introduction. Within each chapter, the rivers are listed alphabetically and the segment is identified. Each section includes a one-line description of that river, then specific information--length of segment; technical difficulty; what permits, if any, are required; regulations governing river use; and whom to contact for more information. At the end the book is a final chapter providing a list of sources for additional information, alphabetically by state.

500 Great Rails-Trails: Rails-Trails Conservancy, 1400 16th St. N.W., Suite 300, Washington, D.C. 20036. $9.95, plus $1.50 for shipping and handling.

This book highlights 500 trails in 44 States that have been converted to trails from old rail lines. The directory lists the name, length, end-points and surface material for the trails, which in total stretch more than 5,000 miles.

River Conservation Directory: U.S. Government Printing Office, Superintendent of Documents, Mail Stop:SSOP, Washington, D.C. 20402-9328, (202) 783-3238, 150 pp. $10.00, Stock No. 024 005 01104 8.

This Directory, developed by American Rivers and the National Park Service's Rivers, Trails and Conservation Assistance Program, includes agencies and organizations, both public and nonprofit, whose missions directly involve river conservation. The document is organized by federal agencies, national organizations, multistate organizations, and state agencies and organizations. It also includes an index.

Meetings of Interest

UMRCC 49th Annual Meeting, March 9-11, 1993, Chestnut Mountain Ski Resort, Galena, IL. Contact: Jon Duyvejonck, UMRCC, 4469 48th Avenue Ct., Rock Island, IL (309) 793-5800.

Watershed '93 -- "A National Conference on Watershed Management", March 21-24, 1993, Alexandria, VA. Contact: Jennifer Paugh, Terrene Institute, 1000 Connecticut Ave., NW, Suite 802, Wash., D.C. (202) 833-8317.

The Ecological Basis for River Management: An International Symposium, March 22-26, 1993, University of Leicester, U.K. Contact: Dr. David Harper, Ecology Unit, Dept. of Zoology, University of Leicester, Leicester LE1 1RH

Mississippi River Research Consortium 25th Annual Meeting, April 22-23, 1993, Holiday Inn, LaCrosse, WI. Contact: Teresa Naimo, USFWS, National Fisheries Research Center, 2630 Fanta Reed Road, LaCrosse, WI 54602 (608) 783-6451

1994 International Large Rivers Conference/Workshop, June 12-15, 1994, LaCrosse, WI. Contact: Dr. Ken Lubinski, USFWS, Environmental Management Technical Center, 575 Lester Drive, Onalaska, WI 54650 (608) 783-7550

Biodiversity

H.R. 5969 (Hoagland, D-NE) would create a National commission on the Conservation of Biological Resources.

Endangered Species

S. 3286 (Seymour, R-CA) would authorize federal loans to local governments to buy land for habitat conservation.

H.R. 6123 (Thomas, R-CA) reauthorizes spending for Endangered Species Act through fiscal 1997, requires economic impact analysis of recovery plans for listed species while requiring compensation for economic losses attributable to the act.

H.R. 6134 (Tauzin, D-LA) is a major industry-labor backed reauthorization bill that reauthorizes and increases spending for the act while requiring compensation for economic losses and draft recovery plans with listings.

Energy

H.R. 776 reauthorizes the abandoned mine land reclamation fund through fiscal 2004. Money in the fund comes from a coal tax and is used, in part, to restore abandoned coal mining land. The bill stops the Interior Department for one year from issuing a definition of valid existing rights, which lays out who has a right to mine coal in protected areas such as national parks and wildlife refuges. The bill also includes a modified version of a House proposal that bars the Federal Energy Regulatory Commission (FERC) from issuing new hydropower licenses if the dams damage national parks. State and local government powers to block hydropwer projects are greatly increased by the bill. Project licenses are barred from using eminent domain powers to condemn land that already is in State or local parks, recreation areas or wildlife refuge areas. Licensees will have the power to condemn newly designated park, recreation or wildlife refuge land following a public hearing and a finding by the FERC that the project will not damage the park. (Awaiting President Bush's signature.

Fish & Wildlife

H.R. 5617 (Omnibus Oceans and Fisheries Bill) includes **S.1491**, which seeks to promote public-private partnerships to fund $18 million in grants to conserve non-game fish and wildlife (Awaiting President Bush's signature).

Water Projects

H.R. 6167 provides $2.2 billion over two years for 23 Corps of Engineers water projects, including port development, inland waterway, flood control projects, and $140 million in federal spending and $287 million non-federal costs for the Kissimmee River, Florida restoration project. (Awaiting President Bush's signature).

Wild & Scenic Rivers

H.R. 5021 and **S.2890**, both of which authorize the study of a 20 mile segment of the New River (VA/WV) as a possible addition to the national system of Wild and Scenic Rivers.

Wilderness

S. 1696 designates 1.5 million acres of Montana's national forests as wilderness (passed House).

Wildlife Refuges

S. 2572 authorizes land exchange between Potlatch Corp. and the federal government involving about 60,000 acres in Idaho and Arkansas that will add over 40,000 acres to two Arkansas refuges. The timber company, would transfer 40,922 acres of wooded wetlands between the Cache and White River national wildlife refuges to the federal government along with an additional 1,170 acres of fishery habitat in Idaho. In return, Potlatch will get about 17,625 acres of federal timberland in Idaho.

Source: Land Letter - The Newsletter for Natural Resource Professionals, Vol. 11, No. 28, October 20, 1992.