8. LETTERS FROM NON-GOVERNMENTAL ORGANIZATIONS

This section contains 19 letters received from the non-governmental organizations listed in Table D2-7. Please note that, for the reader's convenience, this table is sorted alphabetically by the organization name. However, comment documents are printed in numerical order by the comment identification number (first column). Responses to the comments coded (box with category and number) can be found grouped by categories in Section 4 of Volume VI, RDEIS Comments and Responses, Part 1.

Table D2-7. Summary list of comment documents received from non-governmental organizations, including response codes.

Comment ID Number	Organization Name	Sender's Name	Page Number	Response Numbers
N0100001	American Fisheries Society	Porath, Mark	D2-582	EnSp-24,25; Fish-11; Hydro-33; Other-A,7,14,56
N0100008	American Rivers	Birnbaum & Others, S. Elizabeth	D2-595	Rec-6,10; EnSp-5,8; FC-9; Miss-27; Nav-3,12; Other-A
N0100013	American Rivers & Environmental Defense	Smith & Faber	D2-600	Rec-19,20; EnSp-3,4,5,24,25,39,41,50; IntD-1,9; GW-9,10; FC-11; Miss-4,33; Nav-6,8,9,12,31,35,39,38; MoPower-1; WAPA-12; Legal-8; Other-A,7,14,56,182
N0100014	Central Iowa Sierra Club	Clark, Jane R.	D2-607	Other-A,7,70,119,129
N0100007	Defenders of Wildlife	Snape, III, William J.	D2-593	Legal-77; Other-A
N0100004	Endangered Species Coalition, Central States Offic	Evans, Brock	D2-588	EnSp-9,24
N0100003	Endangered Species Coalition, Central States Regio	Phillips, Charles	D2-586	Rec-10,18; EnSp-1; WRH-5; Fish-8; FC-10; Nav-32,33,18,34; Other-A,14,70,178
N0100002	Endangered Species Coaltion, Marlboro College	Beigel, Lauren Elise	D2-585	EnSp-9,24; Nav-6,31; Hydro-33; Other-A,70
N0100018	National Audubon Society	Backlund, Doug	D2-618	Other-A
N0100019	National Izaak Walton League	Clayton, Chuck	D2-619	Other-7
N0100009	National Wildlife Federation	Gagnon, Christopher	D2-596	Rec-6,10; EnSp-3,5,9; Other-A,14,56
N0100012	National Wildlife Federation	Costenbader, Kate	D2-600	EnSp-3,4,5,29,46,49,57; FC-9; Hpower-15,16; WS-11; WAPA-12; Other-A,7,10,14,22,56,70,156,178,180,181
N0100005	New Mexico Audubon Council	Jervis, PhD, Thomas	D2-591	Other-B
N0100015	Sierra Club	DeBarthe, Gina	D2-608	Other-A,7,14,70,182
N0100016	Sierra Club	Beorkrem, Mark N.	D2-609	EnSp-3,4,5,29,46,49,57; FC-9; Hpower-15,16; WS-11; WAPA-12; Legal-78,79,80; Other-A,3,7,10,14,36,56,70,101,119,141,156,178,179,180,182,183,184,185,186,187
N0100017	South Dakota Chapter, The Wildlife Society	Hubbard, Daniel E.	D2-617	Other-A,7,77,184,188
N0100010	The Wildlife Society	Murphy, David	D2-597	EnSp-8, Fish-3; Other-A,14,56,142,178,179
N0100011	The Wildlife Society	Phalen, Tim	D2-598	EnSp-3; Other-A,7,14,88,119
N0100006	Wildlife Management Institute	Manes, Rob	D2-592	EnSp-24; Legal-7: Other-A,E,7

N0100001

American Fisheries Society
ORGANIZED 1870 | INCORPORATED 1910
Nebraska Chapter organized 1970

January 31, 2002

BG David A. Fastabend
U.S. Army Corps of Engineers Northwestern Division
Attention: Missouri River Master Manual RDEIS
12564 West Center Road
Omaha, Nebraska 68144-3869

Dear Brigadier General Fastabend,

The American Fisheries Society (AFS) is the oldest (Founded in 1870) and largest professional society representing fisheries scientists in North America. The Nebraska Chapter is composed of aquatic resource professionals from federal, state and local public agencies as well as university educators throughout Nebraska. The AFS promotes scientific research and enlightened management of aquatic resources for optimum use and enjoyment by the general public.

The current Corps of Engineers Revised Draft Environmental Impact Statement (RDEIS) is a particularly important document because it was developed following a lengthy review process and formal Section 7 consultation with the U.S. Fish and Wildlife Service (FWS). The Biological Opinion (BO) issued by the FWS concluded that the Current Water Control Plan (CWCP) for the Missouri River jeopardizes the continued existence of the pallid sturgeon, least tern, and piping plover; all species protected under the Endangered Species Act. The documentation provided in the BO was science based, extensive and professional. The independent statements on river hydrology and habitat restoration by five scientific peer reviewers familiar with big river dynamics further supports the BO and recommended changes to the Corps of Engineers CWCP to avoid jeopardy **(excerpts from these peer review panel members are enclosed)**.

Other 7, 14, 56

In past decades, fish and wildlife resources of the Missouri River system have been extensively compromised because of the physical, chemical, and biological impacts identified in Appendix III of the BO. Details of this transformation are illustrated in many documents, including the book "Unruly River-Two Centuries of Change along the Missouri" by Robert Kelly Schneiders (1999) and the Presidential Task Force report entitled Sharing the Challenge: Floodplain Management into the 21st Century (1994) which present a blueprint of needed changes for the future of this river and its floodplain. The National Academy of Sciences report entitled The Missouri River Ecosystem: Exploring the Prospects for Recovery which was released on January 9, 2002, strongly endorses revising flows to emulate key elements of pre-regulation hydrology and geomorphology.

Without substantial changes to current Missouri River dam and reservoir operation policies, further ecological degradation is certain. The ultimate goal of adaptive management is the restoration and maintenance of sustainable goods and services provided by a resilient ecosystem. The reasonable and prudent alternatives identified in the BO and some of the alternatives identified by the Corps of Engineers in their RDEIS are compatible with recommendations in Sharing the Challenge report. Although some will advocate no change to the CWCP or Master Manual, the BO clearly demonstrates that change in flow regime is needed to avoid jeopardizing the continued existence of the above mentioned three species.

Other 7

Anglers are reporting the catch and release of sturgeon in the Missouri River below Gavins Point Dam as a result of educational and outreach efforts by the Nebraska Game and Parks Commission and the University of Nebraska **(see -April 2001 GIS map of Pallid Sturgeon Occurrences in Nebraska, note May as the predominate month of catch and release)**. In May 2000, Nebraska Game and Parks Commission biologists sampled a 49-inch 20-pound wild pallid sturgeon in the Missouri River near Plattsmouth, Nebraska (see June 2000 GPC News). A number of pallid sturgeon have been caught & released by anglers in the Missouri River adjacent to Nebraska. Although the population is very small, meeting their basic life cycle needs (especially the spring rise increased flows which serve as a spawning cue) is of the utmost importance.

EnSp 24

Lake sturgeon, a Nebraska threatened species, is also found in the Missouri River. On March 13th, 2000, a lake sturgeon that had been tagged by the Missouri Department of Conservation on September 29, 1994 at river mile 97.7 was caught and released at river mile 590 by a Nebraska angler. At recapture, this fish was 27.5 inches long and had moved 492.3 miles upstream from its original tagging location.

EnSp 25

Of the six alternatives identified in the RDEIS, **GP 2021** gives the Corps of Engineers the most flexibility to avoid jeopardizing the continued existence of pallid sturgeon, interior least tern, and piping plover. **Selecting this alternative would allow for the needed full range of flows that could be implemented using adaptive management to prevent jeopardy**. Since basin runoff varies from year to year, implementation of a spring rise out of Gavins Point Dam once every three years and lower summer flows every year as conditions allow is reasonable because flexibility is needed by the Corps of Engineers to accommodate these operational changes. A spring rise alternative such as described within GP 2021, although shorter in duration than the historic plains and mountain run off pattern, would mimic a crucial segment of mother natures' basin run-off pattern which pallid sturgeon and other riverine species require for a spawning cue.

Other A

Fish 11

Since the alternative selected should benefit threatened and endangered species, it is imperative that a sound decision be derived from this NEPA process. Peak flows during the Great Flood of 1993 at Sioux City and Nebraska City were 75,000 and 200,000 cfs respectively (page 3-106, RDEIS). Even with 50,000 cfs releases for a spring rise (full navigation plus 20 kcfs), one can see from **Table 3.9-1 of Volume 1, RDEIS** that this flow is 5,000 cfs below that which could

Hydro - 33

potentially damage 1,900 acres of floodplain agriculture land below Gavins Point Dam. This table also points out that flows of 76,000, 98,000, and 75,000 would be required at Sioux City, Omaha, and Nebraska City respectively to cause damage to agriculture land in the floodplain.

The Nebraska Chapter of the American Fisheries Society strongly believes that GP2021 constitutes the best biological alternative within which a range of spring flows could be tried and tested to avoid jeopardy to listed species without significant economic impacts to resources within the floodplain. Selection of GP 2021 would be a good starting point and with adaptive management would substantially improve the biological health of the Missouri River for generations to come. Improved river health would be beneficial to the other fish species, anglers, and recreationists who generate significant economic activity. **In conclusion, the Nebraska Chapter of the American Fisheries Society strongly recommends that the Corps of Engineers select the GP 2021 Alternative.**

Other A

Sincerely,

Mark Porath, President
Nebraska Chapter

cc: Governor Mike Johanns
Director Rex Amack, NGPC
Senator Chuck Hagel
Senator Ben Nelson
Congressman Doug Bereuter
Congressman Lee Terry
Congressman Tom Osborne

Missouri River Biological Opinion

Peer Review Panel Statements from Appendix V. Scientific evaluation of the role of river hydrology in the conservation of Missouri River endangered species

1. ...habitat restoration by itself won't be sufficient. ...the needs of the species are dependant on appropriate seasonal overlap of water and habitat surfaces together...

   Kenneth S. Lubinski, USGS
   Upper Midwest Environmental Sciences Center
   LaCrosse, WI

2. If both physical habitat restoration and hydraulic modifications are necessary, I do not see an ecological reason why they should not be done simultaneously.

   Eileen M. Kirsch, USGS
   Upper Midwest Environmental Science Center
   LaCrosse, WI

3. ...it is my opinion that semblances of historic hydrograph flows will be necessary for the long term conservation of endangered and threatened populations below Gavin's Point Dam.

   Rochelle Renken, Ph.d
   Missouri Department of Conservation

4. ...floodplain restoration or reconnection in tandem with restoration of a more natural flow regime is likely what will be needed to restore key habitats needed by pallid sturgeon.

   ...flow modification, and some habitat restoration, will likely be the most prudent course of action.

   Paul B. Holden, Ph.d
   BIO/WEST, Inc.
   Logan, UT

5. ...flow and habitat are interdependent variables and that some degree of restoration and rehabilitation of both will be necessary to conserve and recover listed species.

   Unless or until information is available to warrant implementing various proportions of each, it is prudent to be risk adverse and implement flow and habitat modifications when extinction is a potential outcome of not doing both.

   David L. Galat, Ph.d
   Missouri Cooperative Fish and Wildlife Unit
   Columbia, MO

GPC NEWS
NEBRASKA GAME AND PARKS COMMISSION EMPLOYEE NEWSLETTER

JUNE 2000

Pallid Sturgeon Caught Near Plattsmouth

By Tom White, I&E Division

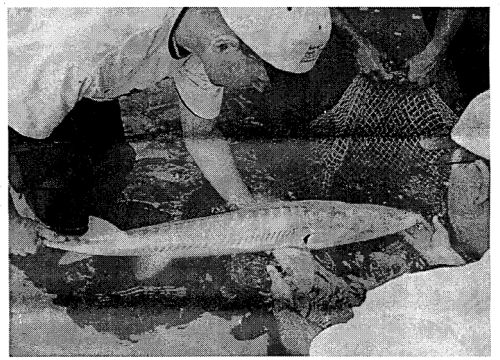
While studying the Missouri River's bottom-dwelling fish in May, Game and Parks Commission workers caught an untagged, 18- to 20-year-old pallid sturgeon (Scaphirhynchus albus) near Plattsmouth.

Because the fish had no identification tag, which are inserted into hatchery-raised fish released into the river, it probably was produced in the wild, said Gerald Mestl, the Game and Parks Commission Missouri River program coordinator.

The only previous evidence of sturgeon reproduction in the wild in the last 50 years was a small pallid sturgeon caught last August in Missouri.

The ancient fish can attain a weight of 85 pounds and live as long as 60 years. The species population began to decline when dams were built on the river in the 1930s and when its habitat was changed from shallow, silty rivers with sand and gravel bars to deeper, clear channels suitable for commercial river traffic.

The fish, caught in a trawl by Game and Parks Commission workers, was 49 inches long and weighed about 20 pounds.



Kirk Steffensen and Mark Staab of the Fisheries Division's Missouri River program examine a pallid sturgeon caught with a trawl near Plattsmouth in May during part of a study of the river's bottom-dwelling fish.. (Fisheries Division Photo)

CARA Wins Support of House

By Ross Lock, Wildlife Division

The U.S. House of Representatives made history May 11 when, after more than 15 hours of debate, it voted 315-102 to pass the Conservation and Reinvestment Act (CARA), H.R. 701.

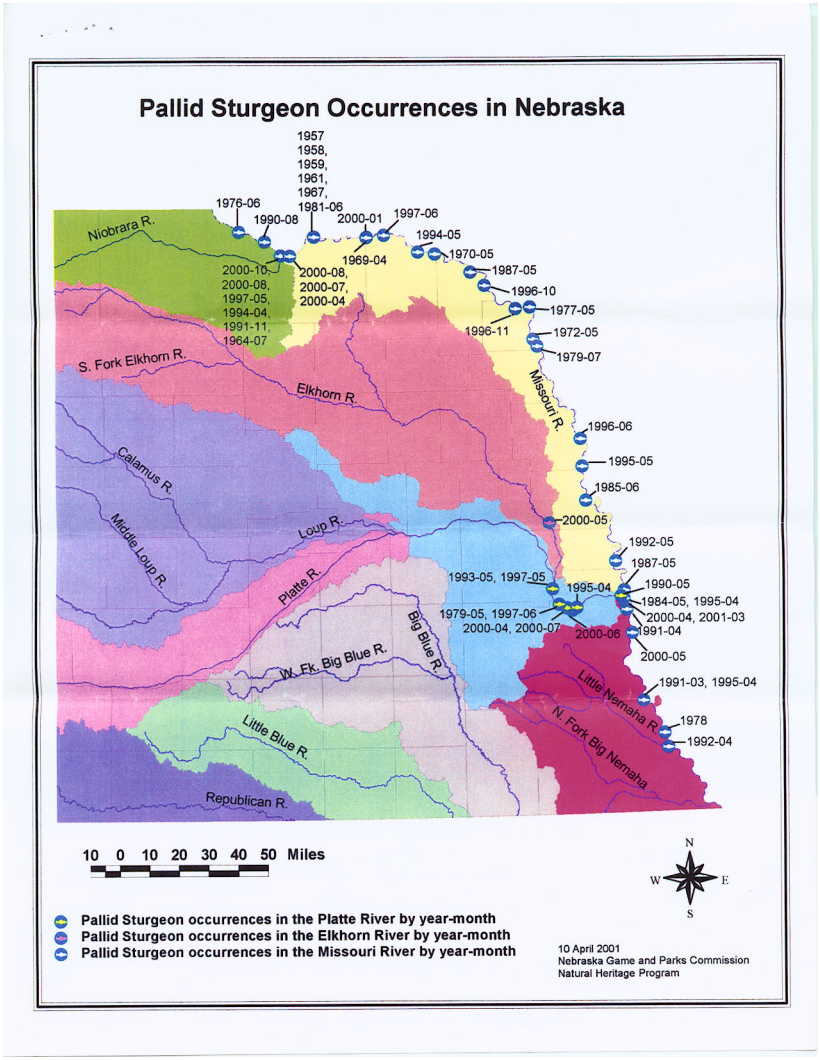
The House considered more than 20 amendments, many dealing with private property rights and federal land acquisition issues, that could have seriously damaged the bill. Just two were approved. Neither is expected to cause any major problems.

The landmark bipartisan legislation, which now awaits Senate action, provides the largest infusion of funds for conservation, education and outdoor recreation in our nation's history – $44 billion over the next 15 years. Nebraska Reps. Doug Bereuter and Lee Terry voted for the bill while Rep. Bill Barrett voted against it.

The three-to-one margin of the vote in the House should send a strong message

***CARA** Continued on Page 3*

INSIDE



N0100002

February 27, 2002

Rose Hargrave
Master Manual Project Leader
US Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, NE 68144-3869

Dear Ms. Hargrave:

The undersigned want comprehensive and science-based management applied to the management of the Missouri River.

The Missouri River today is vastly different from the corridor that Lewis and Clark used in their Voyage of Discovery starting in 1803. The 2,341-mile long river drains one sixth of the United States from its headwaters in southwestern Montana to the Missouri's confluence with the Mississippi near St. Louis. Six dams have impounded one third of the river, another one third of the river has been channelized and leveed, and one third remains in its natural state.

Human demands on the river have caused the decline and in some cases irreversible loss of two thirds of the river's fish species, including the endangered pallid sturgeon. The pallid sturgeon need flow change cues to trigger the desire to spawn and they need shallow, slow moving or still backwaters in order to spawn, which are scarce throughout the River Basin. The Missouri River Valley has also seen a marked decline of most of the 60 shorebird species that depend on the river. Of those bird species, the endangered interior least tern and the threatened piping plover are suffering due to a lack of sandbars and sandy areas in floodplains to nest. The Army Corps of Engineers' new Master Manual for operation of the Missouri River must address these problems comprehensively.

EnSp 24

EnSp 9

In response to this ecological crisis, the Army Corps of Engineers must do the following:

1. Adopt the Flexible Flow Alternative (GP 2021) recommended by the November 2000 U.S. Fish and Wildlife Biological Opinion and the January 2002 National Academy of Science study regarding the management of the Missouri River. In addition to adoption of this alternative, serious work also must be done on habitat restoration. The Water Resources Development Act has authorized the acquisition of up to 166,750 acres for habitat restoration (since 1986, 25,400 acres have been acquired of which only 9,600 acres have been restored).

Other A

Other 70

2. Reconnect the river with the floodplain. This would create shallow, backwater habitat for spawning fish and allow sedimentation to deposit to create nesting habitat for shorebirds.

Other A

3. A comprehensive independent economic analysis needs to be done to determine if the cost of maintaining a navigation channel outweigh the benefits of revenues derived from navigation. Of the grain produced in the valley, 99.7 percent is not transported by barge.

Nav 6, 31

Our Missouri River is a part of America's rich natural heritage. The Army Corps of Engineers has a responsibility to the American public to manage this resource utilizing the best available science. The organizations signing this letter represent the desires of many American citizens. These organizations request that you implement the Flexible Flow Alternative as well as significant habitat acquisition and restoration while working toward a healthier Missouri River Ecosystem.

Other A

Respectfully submitted,

Brock Evans, Executive Director,
Endangered Species Coalition,
Washington, DC.

LAUREN ELISE BEIGEL
Marlboro, VT

cc:
President George W. Bush.
Secretary of Defense Donald Rumsfeld.
Secretary of the Army Louis Caldera.
Secretary of Interior Gale Norton.

N0100003

ENDANGERED SPECIES
COALITION

Central States Office, 1407 Santa Fe Trail, Boonville, MO 65233 (660) 882-5123

February 28, 2002

Rose Hargrave
Master Manual Project Leader
US Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, NE 68144-3869

Dear Ms. Hargrave:

Please accept these official comments on behalf of the Endangered Species Coalition. The Endangered Species Coalition was founded in 1982 and currently has a membership of over 400 environmental, interfaith, scientific, and outdoor recreation groups throughout the United States. The Endangered Species Coalition is our nation's leading advocate for the protection and recovery of endangered species throughout North America. The Endangered Species Coalition believes that the Missouri River is important to our nation's natural heritage.

Unfortunately, the Missouri River is a dying ecosystem and needs prompt and direct attention to prevent an eventual collapse of this important ecosystem.

The Missouri River's Natural Heritage

Other 14, 178

The Missouri River today is vastly different from the corridor that Lewis and Clark used in their Voyage of Discovery. In 1804, Lewis and Clark traveled up the meandering Missouri River, in search of an all-water route to the Pacific Ocean.

The Corps of Discovery bore witness to some of nature's greatest scenes. Immense herds of buffalo, elk, and antelope were seen "feeding in one common and boundless pasture." Lewis identified species previously unknown to science, including prairie dogs, coyotes and least terns. On August 8, they observed a blanket of white coming down the river a flock of white pelicans over three miles long and seventy yards wide.

Sandbars and islands were other common features of the Missouri, supporting large populations of shorebirds, songbirds and migratory waterfowl. At the confluence with the Kansas River, Clark recorded a "great number of parrot-queets", a flock of Carolina parakeets, a bright green bird with a yellow head that is now extinct.

North of the Platte, Lewis became the first American to identify the interior least tern, now considered in danger of extinction. Soon after, Lewis and Clark identified the prairie dog (and saw villages that appeared to cover three square miles) and captured a pronghorn and white-tailed jack rabbit, all species previously unknown to science. They were now in "undiscovered" country and, in the coming weeks, became the first Americans to see mule deer, coyotes, black-billed magpies and prairie sharp-tailed grouse.

Although the expedition first saw buffalo at the confluence with the Kansas, large herds became more common as they passed through the Dakotas. Here, they witnessed massive

1101 14th St. NW Suite 1400 · Washington DC 20005 · ph 202.682.9400 · fx 202.682.1331 · www.stopextinction.org

End Notes:

1. National Academy of Sciences, "Scientific Management, Return of Natural Water Needed to Help Missouri River Ecosystem Recover," Chapter 6, An Alternative for Missouri River Recovery, pages 94-109, January 29, 2002.
2. Ibid.
3. NAS Report, Chapter 4, Values of Missouri River System and Operations, pages 75-78 and pages 87-88.

herds of buffalo crossing the ice-covered Missouri. The "wide and fertile vallies" of the Missouri's confluence with the Yellowstone featured large herds of buffalo, elk and antelope that had little fear of humans. Lewis reported seeing more bald eagles than he had ever seen.

Other (con't) 14, 178

The Missouri River Ecosystem of Today

Today, Lewis and Clark would not recognize most of the Missouri River. Shortly after their voyage, engineers began to systematically remove snags, and later placed willow mats along the river's banks to prevent erosion. When these efforts failed, they used wooden posts and piles of rock to stabilize the wandering Missouri. But by the 1930's, the river still refused to submit to these strong-arm tactics. Two events changed the fate of the river. One was flooding in 1943 that left Omaha navigable by boat. The other was President Franklin Roosevelt's desire to create jobs for returning soldiers. The result was a Master Plan for the river developed by two government engineers, Colonel Lewis Pick and Glenn Sloan. Between Sioux City and St. Louis, engineers forced the Missouri's restless, braided channels into a single, deep, 732-mile navigation canal cut off from its floodplain by levees. Five massive dams were constructed in the Dakotas (to join Fort Peck Dam in Montana), converting one-third of the Missouri into reservoirs. These reservoirs covered more than 350,000 acres of prime rangeland on eight Indian reservations.

Nav 32

Channelization and dam construction reduced the average width of the river by two-thirds, shortened the river below Sioux City by 127 miles, and eliminated 188,000 acres of open river. In addition, nearly all of the Missouri's sand bars, islands, and side channels have been eliminated. The dams replaced the Missouri's pattern of flooding in March and June and lower flows in the summer and fall with even flows to support barge traffic. Engineers and landowners constructed levees to reduce flooding below Sioux City, permitting the conversion of forest and prairie to cropland.

Other 178 Nav 33

As engineers replaced the Missouri's braided channels with a swift, deep canal, they eliminated the habitat river wildlife need to feed, reproduce and conserve energy. Levees now prevent fish from moving onto the river's floodplain to spawn, and dam operations interrupt the high flows that trigger reproduction and migration. Today, sturgeon, paddlefish, chubs, minnows and other fish species that evolved in the formerly shallow, muddy and ever-changing Missouri are rapidly declining. The pallid sturgeon, an endangered species is on the verge of extinction due to a lack of resting and spawning habitat and hybridization with shovelnose sturgeon. Historically, the pallid sturgeon would migrate from the Gulf of Mexico and spawn in shallow backwater areas throughout the Mississippi River watershed, which includes the Missouri (spawning even occurred in Montana). Catfish and bigmouth buffalo, the cornerstone of the Missouri's commercial fishery, are also becoming rare. Much of the Lower Missouri's decline in fish populations is also attributed to agricultural and storm water runoff. A health advisory exists on the eating of Missouri River bottom feeding fish due to chlordane contamination.

Fish 8 EnSp 1

Sandbar loss, poorly timed dam releases and encroaching vegetation continue to degrade shorebird habitat. When the river was allowed to flow more naturally, sand would be deposited in the floodplain and along the river creating secluded nesting habitat for the shorebirds. Not allowing the river to deposit sand on or near the river has caused the demise of the endangered interior least tern and the threatened piping plover. Much of the remaining habitat seasonally exists along the lower part of the river because of seasonal water releases from upstream dams. But sometimes these releases occur during the wrong time of year, further diminishing sandbar habitat. Another factor affecting shorebird populations is the lack of small top feeding fish such as chubs, minnows, shiners, and darters. The Army Corps of Engineers has the capability of creating artificial sandbars by constructing chevron dikes instead of wing dikes. Chevron dikes would also not diminish the Corps ability to direct the flow of the river. The Corps also needs to actively work on acquiring lands to restore habitat or allow the river to meander. This would benefit all wildlife, enhance flood mitigation downstream, and create new economic opportunities.

EnSp 1

The decline of cottonwoods in the Dakotas and Montana, due to the lack of flood-renewed soil and uncontrolled livestock, eliminates the nesting and roosting habitat used by the bald eagle and other raptors. The lack of bottomland hardwood tree species has also aggravated flooding in the lower part of the river.

WRH 5

Few Barges on the River

Once forecasted to carry 20 million tons of cargo annually, barge traffic on the Missouri River peaked at 3.3 million tons in 1977 and has fallen to less than 1.5 million tons annually. Navigation generates less than $10 million in annual benefits according to the U.S. Army Corps of Engineers.

Nav 18, 34

Flood Risks Increase Under Current Management

Channelization and levees have increased flood heights on the Missouri. The 1844 flood would crest about ten feet higher today at Boonville, Missouri, and twelve feet higher at Hermann, Missouri. Many homes along the Missouri have been flooded three or more times. Levees designed to protect farms were constructed too close to the channel or across old river channels, causing many levee districts to be flooded five or more times in the last twenty years.

FC 10

Recreation Trumps Navigation:

Despite dam releases designed to favor navigation, recreational use of the Missouri from St. Louis to Three Forks, Montana generates at least $114.9 million in annual benefits. More than ten million people annually recreate along wild sections of the river in Montana.

Rec 10, 18

The Endangered Species Coalition's Recommendations

1. Adopt the Flexible Flow Alternative (GP 2021) recommended by the November 2000 U.S. Fish and Wildlife Biological Opinion and the January 2002 National Academy of Science study regarding the management of the Missouri River. In addition to adoption of this alternative, serious work also must be done on habitat restoration. The Water Resources Development Act has authorized the acquisition of up to 166,750 acres for habitat restoration (since 1986, 25,400 acres have been acquired of which only 9,600 acres have been restored).[1]

Other A, 70

2. Reconnect the river with the floodplain. This would create shallow, backwater habitat for spawning fish and allow sedimentation to deposit to create nesting habitat for shorebirds.[2]

Other A

The Missouri River is a part of America's rich natural heritage. The Army Corps of Engineers has a responsibility to the American public to manage this resource utilizing the best available science. The Endangered Species Coalition requests that the Corps implement the Flexible Flow Alternative as well as acquiring significant blocks of potential parcels of land to restore riverine habitat. Without a significant effort by the Corps and the public, the Missouri River Ecosystem will continue to die and many more species will become extinct.

Other A, 70

[1] National Academy of Sciences, "Scientific Management, Return of Natural Water Needed to Help Missouri River Ecosystem Recover," Chapter 6, An Alternative for Missouri River Recovery, pages 94-109, January 29, 2002.
[2] Ibid.

N0100004

February 28, 2002

Rose Hargrave
Master Manual Project Leader
US Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, NE 68144-3869

Dear Ms. Hargrave:

The undersigned want comprehensive and science-based management applied to the management of the Missouri River.

The Missouri River today is vastly different from the corridor that Lewis and Clark used in their Voyage of Discovery starting in 1803. The 2,341-mile long river drains one sixth of the United States from its headwaters in southwestern Montana to the Missouri's confluence with the Mississippi near St. Louis. Six dams have impounded one third of the river, another one third of the river has been channelized and leveed, and one third remains in its natural state.

Human demands on the river have caused the decline and in some cases irreversible loss of two thirds of the river's fish species, including the endangered pallid sturgeon. The pallid sturgeon need flow change cues to trigger the desire to spawn and they need shallow, slow moving or still backwaters in order to spawn, which are scarce throughout the River Basin. The Missouri River Valley has also seen a marked decline of most of the 60 shorebird species that depend on the river. Of those bird species, the endangered interior least tern and the threatened piping plover are suffering due to a lack of sandbars and sandy areas in floodplains to nest. The Army Corps of Engineers' new Master Manual for operation of the Missouri River must address these problems comprehensively.

EnSp 24

EnSp 9

In response to this ecological crisis, the Army Corps of Engineers must do the following:

1. Adopt the Flexible Flow Alternative (GP 2021) recommended by the November 2000 U.S. Fish and Wildlife Biological Opinion and the January 2002 National Academy of Science study regarding the management of the Missouri River. In addition to adoption of this alternative, serious work also must be done on habitat restoration. The Water Resources Development Act has authorized the acquisition of up to 166,750 acres for habitat restoration (since 1986, 25,400 acres have been acquired of which only 9,600 acres have been restored). [1]

2. Reconnect the river with the floodplain. This would create shallow, backwater habitat for spawning fish and allow sedimentation to deposit to create nesting habitat for shorebirds. [2]

Thank you for allowing the public to participate in this important management decision. Please keep the Endangered Species Coalition informed throughout the decision making process.

Respectfully submitted,

Charles Phillips

Charles Phillips, Organizer
Endangered Species Coalition
Central States Region
1407 Santa Fe Trail
Boonville, MO 65233
660-882-5123

cc: President George W. Bush
Secretary of Defense Donald Rumsfeld
Secretary of the Army Thomas White
Secretary of Interior Gale Norton

3. A comprehensive independent economic analysis needs to be done to determine if the cost of maintaining a navigation channel outweigh the benefits of revenues derived from navigation. Of the grain produced in the valley, 99.7 percent is not transported by barge.[3]

Our Missouri River is a part of America's rich natural heritage. The Army Corps of Engineers has a responsibility to the American public to manage this resource utilizing the best available science. The organizations signing this letter represent the desires of many American citizens.

These organizations request that you implement the Flexible Flow Alternative as well as significant habitat acquisition and restoration while working toward a healthier Missouri River Ecosystem.

Respectfully submitted,

Endangered Species Coalition
Brock Evans, Executive Director
Washington, DC

Sierra Club, Ozark Chapter
Gina DeBarthe, Conservation Chair
Columbia, MO

Sierra Club, Thomas Hart Benton Group
Eileen McManus, Conservation Chair
Kansas City, MO

Webster Groves Nature Study Society
Yvonne Homeyer, Conservation Chair
St. Louis, MO

Missouri Coalition for the Environment
Edward J. Heisel, Senior Law and Policy Coordinator
St. Louis, MO 63130

Iowa Wildlife Federation
Joe Wilkinson, President
Des Moines, IA 50316

St. Louis Audubon Society
Susan M. Gustafson, Vice President
St. Louis, MO

Presbyterians for Restoring Creation
Rebecca Barnes, Coordinator
Louisville, KY

U.S. Public Interest Research Group
Tiernan Sittenfeld
Washington, DC 20003

Voices for Survival
Fred Sweet, President
St. Louis, MO

Environmental Justice Task Force
Cathy Yost, Board Member
St. Louis, MO 63110

Alliance for a Chemical-Free Environment
Jess Alford, Spokesman
Tijeras, NM 87059

Virginia Forest Watch
Dave Muhly, chair
Wytheville, VA 24382

The Clinch Coalition
Detta Davis, President
Coeburn, VA 24230

Coalition for Jobs and the Environment
Regina Warren, Chair
Abingdon, VA 24212

Devil's Fork Trail Club
Dick Austin, President
Dungannon, VA 24245

CLEAN (Citizens of Lee Environmental Action Network)
Beth Davies, Chair
St. Charles, VA 24282

Taking Responsibility for the Earth and Environment (TREE)
Addie Cranston
Blacksburg VA 24060

Patrick Environmental Awareness Group
Jan Wiley, Chair
Stuart, VA 24171

Superior Wilderness Action Network
Ray Fenner, Executive Director
Sandstone, MN 55072

Cumberland Countians for Peace & Justice
Rev. Walter Stark
Pleasant Hill, TN 38578

Obed Watershed Association
Charles Lord
Pleasant Hill, TN 38578

United Church of Christ, Network for Environmental & Economic Responsibility
Rev. Donald B. Clark
Pleasant Hill, TN 38578

Northwoods Wilderness Recovery
Douglas Cornett, Ex. Dir.
Marquette, MI 49855-0122

T & E, Inc
Thomas H. Wootten
Cortaro, AZ. 85652

Conservation Science Institute
John R. Cannon, Ph.D., Director
Front Royal, VA 22630

Puget Sound Urban Wildlife Photography Club
Sunny Walter, founder
Issaquah, Washington 98027

REP America (Republicans for Environmental Protection)
Martha Marks, Ph.D.; President
Deerfield, IL 60015

Trevor Zoo
Jane H. Meigs, Conservation Director
Millbrook, NY 12545

New Jersey Environmental Lobby
Marie A. Curtis, Executive Director
Trenton, NJ 08608

Regional Environmental Council, Inc.
of Central Massachusetts
Evelyn B. Silver, Board Member
Worcester, MA 01609

Environmental Advocates
Danielle Fugere
San Francisco, CA

Ouachita Watch League
Vernon Bates, President
Mena, AR

Siksik Foundation,
Steven E. Slap, Executive Director
Springfield, MA.

Grand Valley Audubon Society
Nic Korte, Conservation Chairman
Grand Junction, CO 81503

Mississippi Whitewater Park Development
Corporation
Stephen W. Smith, MD
Minneapolis, MN

Indiana Forest Alliance
Joshua Martin, Coordinator
Bloomington, IN 47404

Earth Action Network
Mha Atma S Khalsa
Los Angeles, CA

The Humane Society of the United States
Elizabeth Stallman, Ph.D., Wildlife Scientist
Washington, DC 20037

Buckeye Forest Council
Diano Circo
Athens, OH 45701

Foundation for Global Sustainability
Tom Fraser, President
Knoxville, TN 37922

Departments of Animal Sciences and
Veterinary Biomedical Sciences, University
of Missouri
Cheryl S. Rosenfeld, D.V.M., Ph.D.
Columbia, MO 65211

Delaware-Otsego Audubon Society
Andrew Mason, Conservation Chair
Jefferson, NY 12093

Informed Choices
Nancy Hirschfeld
Slidell, LA

Montana River Action
Joe Gutkoski, President
Bozeman, MT 59715

Regional Assn. Of Concerned
Environmentalists
Mark Donham
Brookport, IL 62910

Newton County Wildlife Association
Barry Weaver, President
Jasper AR 72641 0189

University of Maine SEAC
Paul Van Steenberghe
Orono, ME 04469

Appalachian Voices
Matthew Wasson, Executive Director
Boone, NC 28607

Friends of Hylebos Creek
Terese VanAssche
Federal Way, WA 98023-4532

Friends of the Nescopeck
Alan Gregory, Vice President
Conyngham PA 18219-0571

Greater Wyoming Valley Audubon Society
Alan Gregory, Conservation Chair
Conyngham PA 18219-0571

Dogwood Alliance
Danna Smith, Director of Programs
Asheville, NC 28802

John Wesley Powell Audubon Society
Angelo Capparella, Conservation Chair
P.O. Box 142
Normal, Illinois 61761

Student Environmental Action Coalition-
Illinois State University
Angelo Capparella, Faculty Advisor
Normal, Illinois 61790

Friends of Critters and Salt Creek
Nick Nikola
Elk Grove Village, IL 60007

Shenandoah Ecosystems Defense Group
Christina Wulf
Charlottesville, VA

Virginians for Wilderness.
Steve Krichbaum
Staunton, VA

Heartwood
Jen Weiss
Bloomington, IN 47402

Arizona Conservation Voters Habitat Fund
Bob Beatson, Exec. Dir.
Tucson, AZ

Concerned Citizens Coalition
Chuck Wyrostok
Spencer, WV

WV Environmental Council
Chuck Wyrostock
Charleston, WV

N0100005

New Mexico Audubon Council

Representing Five Local Chapters of the National Audubon Society in New Mexico
Conserving and restoring natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity

February 15, 2002

Rose Hargrave
Master Manual Project Leader
U. S. Army Corps of Engineers
Northwestern Division
12565 W. Center Rd.
Omaha, NE 68144-3869

Dear Ms. Hargrave:

The New Mexico Audubon Council, representing almost 4,000 members of the state of New Mexico, is concerned about the increasing loss of biological function in our rivers and the associated riparian areas. While it may seem that the differences between the Rio Grande River and the Missouri River are so great as to make any comparison between the two systems ludicrous, we believe that the problems inherent in managing these rivers are in fact quite comparable.

Other B

In both cases, manipulation of the natural hydrograph has resulted in a loss of biodiversity and the deminishment of the riparian communities that sustain people and their recreational and spiritual needs. In both cases, this manipulation is performed at the expense of the government for the benefit of a very few.

The New Mexico Audubon Council believes that the Missouri River should be managed by the government for all the people of the United states, not for a few beneficiaries. We therefore support the selection of the Flexible Flow alternative (GP 2021) for the management of the Missouri River.

Sincerely,

Thomas Jervis, Ph.D., President
60 Barranca Rd.
Los Alamos, NM 87544

cc: President George W. Bush
Secretary of Defense Donald Rumsfeld
Secretary of the Army Thomas White
Secretary of Interior Gale Norton

[1] National Academy of Sciences, "Scientific Management, Return of Natural Water Needed to Help Missouri River Ecosystem Recover," Chapter 6, An Alternative for Missouri River Recovery, pages 94-109, January 29, 2002.
[2] Ibid.
[3] NAS Report, Chapter 4, Values of Missouri River System and Operations, pages 75-78 and pages 87-88

N0100006

Wildlife Management Institute

Rob Manes, Field Representative
10201 South Highway 281 • Pratt, Kansas 67124
Phone/FAX (316) 672-5650
E-mail - wmimanes@prattusa.com

ROLLIN D. SPARROWE
President
RICHARD E. McCABE
Vice-President

February 18, 2002

U.S. Army Corps of Engineers
Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Project Manager:

On behalf of the Wildlife Management Institute (WMI), I appreciate the opportunity to provide these comments regarding the Revised Draft Environmental Impact Statement (RDEIS) for the review and update of the Missouri River Master Water Control Manual (Manual). Established in 1911, WMI is a private, non-profit organization dedicated to the sound, scientific management of wildlife and associated resources.

The current Manual's emphasis on hydropower, flood control, irrigation, and navigation does not accurately reflect the primary demands and importance of the river and its attendant facilities and assets. Data presented in the RDEIS supports this contention. While hydropower and flood control continue as functions that yield considerable public benefits, neither irrigation nor commercial navigation represent functions of significant comparative importance. Instead, other increasing uses present higher priority needs and purposes of the river and its impoundments. According to the numerous measures presented in the RDEIS, these purposes – recreation and habitat for fish and wildlife – are clearly more critical to the economy, ecology, and quality of life of people affected by the Missouri River. In addition, operation of the river under the current Manual's prescriptions cannot satisfactorily address the relevant legal mandates.

Other 7

Legal 7

According to the many economic and ecological measures presented in the RDEIS, variances in the impacts of the six alternatives are slight, with the exception of implications for threatened and endangered species habitats, which are affected significantly more favorably under alternative GP2021. Importantly, other wildlife habitat and ecological health parameters, though not maximized, also benefit significantly under this alternative.

Other E

Total projected economic benefits vary only 4.3 percent from the most to the least advantageous of the six alternatives; and omitting historical asset impacts from this calculation reduces the variation to less than one percent of total economic impact. Similarly, variation in the total acreage of wetland and riparian habitat is only 1.3 percent, when contrasting the best and worst alternatives for these parameters. Other measures reflect similarly small variation among the alternatives, with total fish habitat stream miles differing by only 2.7 percent, and total habitat index values varying 1.3 percent.

Other E, 7

Other (con't) E, 7

Individually, the major economic benefits measures are also only slightly affected by applying the alternatives. Variation in benefits from flood control, hydropower, and water supply amounts to only 1.2 percent, 2.3 percent, and 0.4 percent, respectively. Other economic factors comprise very small components of the total economic benefits derived from Missouri River operation; and, like the more important economic parameters, they vary only slightly under each alternative. Navigation, for example, accounts for only four tenths of one percent (0.004) of the total economic value of river uses, excluding historical assets. If historical assets are included in this calculation, the value of navigation is reduced to 0.10 percent (0.001).

In stark contrast, benefits to fish and wildlife, especially habitat for species listed under the federal Endangered Species Act, are enhanced by more than 42 percent under Alternative GP2021. This does not account for the fact that this alternative also provides for a spring flow increase that is essential as a spawning cue for native fishes, including the endangered pallid sturgeon. Proactively accommodating habitat requirements for declining species is generally considered more cost efficient than delaying essential conservation actions. In addition, Alternative GP2021 allows "unbalancing" of reservoir water levels, which affords additional benefits to fish, wildlife, recreation, and associated economic activities.

EnSp 24

It light of these considerations, it is unjustifiable to continue to operate the Missouri River under the current manual's prescriptions. Further, we assert that Alternative GP2021 clearly presents the best scenario for operating the river with the broadest benefits to people, the economy, and to natural resources associated with the river.

Other A

We recognize that the alternatives and their attendant ecological, economic, and social impact projections entail some scientific uncertainties. We therefore endorse the application of a science-based adaptive management process that will allow testing of various operational scenarios, modification of strategies that are unsuccessful, and adoption of prescriptions that produce desired results. We would emphasize that such an adaptive management approach be based on sound scientific data and analysis, as described in the RDEIS.

Other A

In summary, the Wildlife Management Institute strongly endorses Alternative GP2021 as a basis for revising the Missouri River Master Water Control Manual. The overall economic impacts of such a change are relatively minor, but the ecological implications and associated fiscal impacts are far-reaching. Thank you for considering these comments. Please contact me if you require clarification or additional information.

Other A

Sincerely,

Rob Manes

c: Rollin D. Sparrowe, WMI; Dean Hildebrand, ND Game & Fish Dept.; John Cooper, SD Game, Fish & Parks Dept.; Rex Amack, NE Game & Parks Dept.; Al Farris, IA DNR; Mike Hayden, KS Dept of Wildlife & Parks; Jerry Conley, MO Dept. of Conservation

N0100007

DEFENDERS OF WILDLIFE

National Headquarters
1101 Fourteenth Street, NW
Suite 1400
Washington, DC 20005
Telephone 202-682-9400
Fax 202-682-1331
www.defenders.org
www.kidsplanet.org

Printed on Recycled Paper

February 28, 2002

Brig. General David Fastabend
Commander, and

Rose Hargrave
Master Manual Project Leader

c/o U.S. Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, Nebraska 68144-3869

Re: Master Manual EIS Comments for the Missouri River

Dear General Fastabend and Ms. Hargrave:

Other A

On behalf of Defenders of Wildlife's ("Defenders") approximately 1,000,000 members and supporters, I appreciate the opportunity to comment on the revised draft environmental impact statement on operations of the Missouri River. These comments supplement those we supplied with other groups, headed by American Rivers, on our reasons for generally supporting the "flexible flow alternative." We also incorporate by reference the detailed comments by American Rivers and Environmental Defense in support of alternative "GP2021."

Legal

In this letter, we wish to emphasize the importance of threatened and endangered species conservation in updating federal Missouri River management, particularly given the recent findings of the National Academy of Sciences. We specifically point out that the Great Plains breeding population of piping plovers is in the midst of having its critical habitat designation under the Endangered Species Act (ESA) finalized, with a present court-ordered deadline of March 15, 2002 for completion of this mandatory statutory duty. The proposed rule for the Great Plains piping plover population was published in the Federal Register on June 12, 2001, and Defenders has already commented on that proposal. See August 13, 2001 Defenders letter to U.S. Fish and Wildlife Service (FWS), attached. However, because of the importance of the Missouri River to piping plover conservation, we want to ensure that your agency takes every possible precaution to protect present and potential piping plover habitat now, and that you not finalize the Missouri River plan without more explicit analysis of piping plover critical habitat, and what your agency is doing to protect such habitat under Section 7 of the ESA. Upon request, we would also be happy to provide our comments to the FWS on the draft economic analysis of the Great Plains piping plover critical habitat proposal, which is at least partially relevant to various sections of the CEQ NEPA regulations.

Thank you for the consideration of these comments.

Sincerely,

William J. Snape, III
Vice President, Legal Affairs

attachment

August 13, 2001

Piping Plover Comments
South Dakota Ecological Services Field Office
U.S. Fish and Wildlife Service (FWS)
420 South Garfield Avenue, Suite 400
Pierre, SD 57501
605-224-9974 (facsimile)
FW6_PipingPlover@fws.gov

Re: Proposed Designation of Critical Habitat for the Northern Great Plains Breeding Population of the Piping Plover, and NEPA Compliance; 66 Federal Register 31760-31815 (June 12, 2001)/66 Federal Register 35580-35581 (July 6, 2001)

BY FACSIMILE, E-MAIL AND FIRST-CLASS POST

To Whom It May Concern:

On behalf of our approximately 450,000 members and supporters, and including members in the states identified by this proposed rule and environmental assessment, Defenders of Wildlife ("Defenders") provides these comments on the proposed critical habitat designation for the piping plover in the Great Plains breeding population area.

Overall, while we appreciate the amount of effort that goes into a relatively large critical habitat designation such as this one, we are disappointed by the number of important plover areas that were excluded from this proposed rule. Given the dangerous current population decline of the Great Plains piping plover identified by Ryan et al. (1993), 66 Fed. Reg. at 31761, as well as the sobering population viability analysis done by Plissner and Haig (2000), 66 Fed. Reg. at 31761, it is clear to us that the conservation of this species will necessitate protection of all available habitat. As you well know, all the recovery plans prepared by the FWS have emphasized the importance of habitat conservation in protecting the piping plover. Thus, we are surprised and dismayed that the FWS would exclude any presently occupied habitat from this proposed designation. This is obviously the case with occupied sites in Colorado and Iowa, for instance, all of which are completely excluded by the proposed rule despite being identified as important conservation areas for the piping plover by the FWS in 1994. Similar problems exist with the exclusion of states such as Oklahoma and Kansas from this proposed rule despite the present existence of Great Plains breeding plovers in those states. Further, considering the massive amounts of habitat that were excluded from the final rule of the wintering grounds critical habitat designation for the piping plover, compared to its proposed rule, there are valid reasons to now suspect that the FWS will fail to use this present process to fully advance the recovery of this greatly imperilled migratory bird species in the Great Plains region. As a general matter, it is virtually impossible to understand how any occupied site is not essential to the conservation of a habitat-dependant species that is declining roughly 7% per year. We believe the burden is on you to explain in detail why such areas were excluded from this proposed rule or the eventual final rule.[1]

One key question, unlawfully skirted by the FWS in this proposed rule, is: how much habitat, and where, is "essential to the conservation of the species"? 16 U.S.C. § 1532(5). Although you have attempted to analyze this question at the site-specific level, there is no indication that this proposed rule attempted to answer this question for the population as a whole. Your agency's recovery and conservation mandate, however, requires you to actively take the latter big-picture question into account. Even at the site-specific level, the proposed rule is so hyper-focused on a narrow and technical reading of "primary constituent elements" that it ultimately fails to address the overall "dynamic nature of the habitat, climate and hydrologic cycles of the northern Great Plains." 66 Fed. Reg. 31762.[2] Indeed, the FWS appears to use the "dynamic nature" of the piping plover's habitat to, once again[3], illegally exclude areas within the critical habitat map from actual critical habitat protections. See, e.g., "Federal actions limited to these areas that do not contain the primary constituent elements would not trigger a section 7 consultation, unless they affect the species and/or the primary constituent elements in or adjacent to critical habitat." 66 Fed. Reg. 31766 (emphasis added). That the FWS defines the "dynamic ecological process" as a constituent element does not relieve the FWS of the duty to prevent "the destruction or adverse modification of (critical) habitat." 16 U.S.C. § 1536(a)(2).

One vivid example of how these legal games by the FWS negatively impact piping plover conservation is contained along the Missouri River. There, the FWS has excluded occupied piping plover sites from this proposed rule because the habitat in question supposedly doesn't possess the requisite constituent elements (calling into question, it should be noted, the FWS's recitation of these elements in the first place). 66 Fed. Reg. 31766. Then, about one month after this proposed rule, the U.S. Army Corps of Engineers has announced that it plans to reject (after initially accepting) the Missouri River management recommendations suggested by the FWS, in large part to

[1] Thus, for purposes of securing a lawful and appropriate administrative record, we officially request that all scientific data developed by FWS staff, contractors and collaborators in analyzing and devising this proposed rule, from 1990 to present, be included in the official record of this matter.

[2] "We will not speculate about what areas might be found to be essential if better information becomes available, or what areas may become essential over time." 66 Fed. Reg. 31764. This overly broad statement leads to certain scientific assumptions, not supported by any evidence in the proposed rule, such as the "2 out of 10 survey years" rule for inclusion of alkali lakes and wetlands in the proposed rule. 66 Fed. Reg. 31766.

[3] Defenders objected to this practice in both the Great Lakes breeding and wintering population comments for piping plover critical habitat.

N0100008

AMERICAN RIVERS * DEFENDERS OF WILDLIFE * ENVIRONMENTAL DEFENSE * FRIENDS OF THE EARTH * IZAAK WALTON LEAGUE OF AMERICA * LEAGUE OF CONSERVATION VOTERS * NATIONAL AUDUBON SOCIETY * NATIONAL WILDLIFE FEDERATION

February 28, 2002

Rose Hargrave
Master Manual Project Leader
U.S. Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, Nebraska 68144-3869

Attention: Master Manual EIS comments

Dear Ms. Hargrave:

Our organizations join the tens of thousands of our nation's citizens who have written urging the Corps of Engineers to adopt the "flexible flow alternative," GP2021, for Missouri River dam operations. Some of our organizations will also submit separate, detailed comments. The flexible flow alternative would allow the Corps to meet the requirements of the Endangered Species Act, prevent further degradation of the Missouri River ecosystem, and support the regional economy by enhancing recreational uses of the river while preserving traditional uses, including commercial navigation and floodplain agriculture.

Other A

Current dam operations are causing the extinction of at least three species – the interior least tern, the piping plover, and the pallid sturgeon – and contributing to the decline of many other species native to the Missouri. As the National Academy of Sciences found in its recent report on the Missouri, "Degradation of the Missouri River ecosystem will continue unless some portion of the hydrologic and geomorphic processes that sustained the pre-regulation Missouri River and floodplain ecosystem are restored – including flow pulses that emulate the natural hydrograph." Flow changes recommended by the U.S. Fish and Wildlife Service in its December 2000 Final Biological Opinion, including slightly higher dam releases in the spring and lower releases in the summer, would help provide the habitat and reproductive cues needed by the three listed species, and reverse the decline of other native species.

EnSp 8,5

These changes would also provide new economic benefits without interfering with traditional river uses: 99% of current flood control benefits will be retained, commercial cargo could continue to be shipped on the Missouri in the spring and fall, and Mississippi River barge navigation would be enhanced. In fact, the benefits provided by GP 2021 to

FC 9
Nav 3, 12
Miss 27
Rec 6, 10

aid piping plover conservation. See generally Michael Grunwald, *Proposal to Change Flow of Missouri River is Dropped*, The Washington Post A5 (August 3, 2001). Instead of the critical habitat designation solidifying the change in another federal agency's behavior – the primary Congressional purpose of the critical habitat provision – it is rationalized away so that the action agency can continue business as usual. This violates the Endangered Species Act (ESA) and common sense.

Another violation of the ESA is the manner by which the FWS has excluded from critical habitat those areas covered by "current management practices or plans," even if those practices or plans are untested, not based on the ESA, or drafted with the primary purpose of evading critical habitat designation. 66 Fed. Reg. 31766. In the Great Lakes final rule for piping plover critical habitat, the FWS excluded land covered by a Section 10 habitat conservation plan. In this proposed rule, the "current management practices or plans" excuse is used in several places, none of which even remotely ensure that the habitat of the piping plover is adequately protected. See, e.g., FERC plans along Lake McConaughy, Nebraska, 66 Fed. Reg. 31767. The critical habitat designation should be shaping the FERC plan, not vice-versa. This is what Section 7 of the ESA, as well as the adage "look before you leap", requires.[4]

We are also concerned that the draft economic analysis was not available for review in conjunction with this proposed rule and draft environmental assessment. We assume, and officially request, that we be provided with a formal opportunity to receive notice and comment opportunity on this document. As of today, the economic analysis was not on the FWS web and, upon information and belief, has not been published in the Federal Register. We have not received any notice yet from the FWS itself about the economic analysis.

Finally, though technically not a part of the proposed rule, we would like to learn more about the FWS's outreach efforts with Environment Canada with regard to the piping plover and its conservation. We believe the plover benefit from increased coordination over efforts pertaining to this species. Section 8 is certainly one, though not the only, avenue where such coordination could be pursued.

We look forward to a strong, pro-active and scientifically defensible final rule for the Great Plains piping plover critical habitat.

Sincerely,

Copy

William J. Snape, III
Vice President, Law

[4] While we fully appreciate the unique position of Indian tribal sovereignty, it is not at all clear what the FWS plans to do with piping plover habitat on Indian lands.

FEB-11-2002 07:48 PM DAVID GAGNON 812 232 5991 P.01

N0100009

To whom it may concern:

My name is Christopher Gagnon and I am a representative of the National Wildlife Federation (NWF). Our goal is to restore and protect valuable and precious ecosystems around the world. We have recently heard that the health of one of the nation's longest and most historic rivers, the Missouri River, is currently on a path to ecological disaster. Other A

I understand that there are six ways to solving this problem that range from doing nothing to adopting "flexible flow" (the GP2021 option) which involves simulating the river's natural flow by using periodic dam releases upstream. Restoring the natural flow and natural water levels to this wonderful body of water is important for many reasons:

- The way the dams are operating now are currently driving three major species of fish (the interior least tern, the piping plover, and the pallid sturgeon) into extinction and threatening many other species. EnSp 9
- The higher releases in the spring and lower releases in the fall would strengthen and rebuild the natural habitat of these fish and help to provide essential reproductive cues. EnSp 5
- The Endangered Species Act requires that the Army Corps of Engineers manages the dams in a way that is not harmful to the three fish mentioned above. EnSp 3
- The National Academy of Sciences along with the U.S. fish and wildlife service agree that restoring the natural flow to the river is mandatory to the health of the river and its inhabitants. Other 14, 56
- These changes would also boost economic development by increasing recreation and tourism throughout the stretches of the river and the Missouri's large reservoirs. Rec 6, 10

Hopefully, due to these extremely important reasons mentioned above, the Army Corps of Engineers will decide to contribute to the health and rebuilding of one of the most beautiful rivers in the country: the mighty Missouri.

Your friend in nature,
Christopher Gagnon, NWF

Mississippi River navigation would exceed the annual economic benefits of Missouri River barge traffic. Riverside communities would benefit from new opportunities for canoeing, boating, fishing, hunting, camping, hiking, and other forms of recreation and tourism. Con't

Of the six alternatives identified in the Revised Draft Environmental Impact Statement, only GP2021, the "flexible flow alternative," complies with the recommendations made by the Fish and Wildlife Service. These recommendations are fully supported by scientific consensus. The Missouri River Natural Resources Committee, composed of the conservation departments of all the Missouri River basin states, noted in May 2001 that "The MRNRC supports the recommendations contained in the Biological Opinion as biologically sound and scientifically justified." The adequacy of the information underlying this conclusion was confirmed by the National Academy of Sciences, "There is a rich, extensive body of scientific research on the Missouri River ecosystem that can provide the foundation for future management actions… the system's broad ecological parameters and patterns are currently well understood." Other A

To prevent species extinction, boost recreation and tourism on the Missouri River, and support traditional uses of the river, we urge you to adopt the "flexible flow alternative" for Missouri River dam operations. This alternative would give the Corps the flexibility to implement necessary dam reforms based on water conditions, biological information, and the needs of the river's many users. Other A

Sincerely,

S. Elizabeth Birnbaum
Director of Government Affairs
American Rivers

William J. Snape
Vice President, Legal Affairs
Defenders of Wildlife

Scott Faber
Water Resources Specialist
Environmental Defense

Sara Zdeb
Legislative Representative
Friends of the Earth

James A. Mosher
Conservation Director
Izaak Walton League of America

Mary Minette
Legislative Director
League of Conservation Voters

Lois J. Schiffer
Senior Vice President for Policy

National Audubon Society

Jim Lyon
Director of Congressional and Federal Affairs
National Wildlife Federation

Larry Cieslik
N0100010

MISSOURI CHAPTER
of
The Wildlife Society
P.O. Box 743
Columbia, Missouri 65205-0743

February 28, 2002

Brigadier General David Fastabend
U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear General Fastabend:

The Missouri Chapter of the Wildlife Society is a professional organization with a membership of 200 people who are trained natural resource biologists and managers. The organization promotes continuing education, recognizes scholarship, innovative natural resource management, and professional achievement, and comments upon critical issues affecting state and national natural resources. In this letter we provide comments upon the Corps' 2001 revised draft environmental impact statement of the Missouri River Master Manual review and update.

As you well know, the Missouri River ecosystem has been dramatically altered from its pre-development state. With the completion of the Pick-Sloan plan, and the channelization and bank stabilization project, approximately one-third of the upper river is now impounded behind reservoirs, and the lower one-third of the river has been shortened, straightened, and narrowed. In the lower river alone, these development projects have resulted in a 98% loss in forested and sand island areas, a 50% loss of water surface area, a changed annual hydrograph with greatly reduced spring flows and increased summer flows, and a greatly reduced nutrient and sediment base to the water because of the lack of channel meandering and connection between the floodplain and the river. These physical changes in the lower river resulted in changes in the native fish and wildlife populations and communities. The commercial fish harvest in Missouri was reduced 80% between 1945 and 1963. By 1990, 16 species of fish in the lower river were considered rare, threatened, or endangered. Interior least terns, now a federally endangered population, no longer nest within the Missouri River basin within Missouri's boundaries. Two hundred pound blue catfish are no longer caught within the Missouri River.

Other 178

Fish 3

We support the idea that changes in Missouri River flows, sediment transport, and floodplain - river connections be made for the benefit of fish and wildlife resources. The above mentioned federal development projects and water flow management under the Current Water Control Plan have negatively impacted fish and wildlife populations. Changes in management of the river are necessary to restore, maintain, and stabilize these populations. The river environment must be changed to provide conditions resembling more of the pre-development conditions to which these species were adapted.

Fish 3

We support the flow change recommendations of the U.S. Fish and Wildlife Service (Biological Opinion 2000, resembling Master Manual alternative "2021"), and the flow, sediment transport, and floodplain - river connection changes recommended by the National Academy of Science (National Research Council 2002). We also support a change in flows, such as the reduced late summer flow (41,000 cfs target flow at Kansas City) proposal that is forthcoming from the Missouri Department of Conservation. Just as importantly, we support managing the Missouri River though the adaptive management process. We can envision making the Master Manual alternative "1528" as a starting point in the adaptive management process, knowing that even greater increases in spring flows and reductions in summer flows likely will be necessary to provide the suitable environmental conditions for strong recruitment of and good habitat for pallid sturgeon, piping plover, interior least terns, and many other native Missouri River fish and wildlife.

Other A, 14, 56

Other 142

Other A

Other A

We congratulate the Corps for modeling impacts of the different Master Manual alternatives, soliciting public comment, working together with the U.S. Fish and Wildlife Service and states to monitor least tern and piping plover populations, augmenting pallid sturgeon populations with stocked fish, supporting research on endangered species, and purchasing floodplain property in the lower basin to help restore the floodplain - river connection. These actions have been good initial steps to help restore native fish and wildlife populations and build partnerships within the Missouri River basin.

Other 179

We recognize that changes in flows from the Current Water Control Plan will not be popular decision among a few of the basin stakeholders. Yet, we think these changes in flows to resemble portions of the natural hydrograph and increases in sediment transport are necessary to improve the population status of current endangered species and populations, and to stem the continuing declines of other native Missouri River biota.

EnSp 8

N0100011

North Dakota Chapter

THE WILDLIFE SOCIETY

P.O. BOX 1442 • BISMARCK, ND 58502

February 25, 2002

US Army Corps of Engineers
Northwestern Division
Attn: Missouri River
Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

To Whom It May Concern:

The North Dakota Chapter of The Wildlife Society recognizes the unprecedented opportunity we are facing regarding the potential change in management of the Missouri River.

In North Dakota we have an excellent example of the ecological potential of the Missouri River as witnessed by the reach above Lake Sakakawea. We have also seen the tremendous recreational benefits that both the river reaches and the reservoir fisheries provide. While our Chapter works primarily in North Dakota, we recognize the ecological benefits of returning the form and function to the Missouri River below Gavin's Point Dam. We encourage the Corps to promote the return of some of the natural hydrology found in the GP2021 proposal.

Other A

The Corps should recognize that the state of the science regarding the Missouri River indicates an overwhelming degradation has taken place along most of the 2400 miles of river. The Fish and Wildlife Service's Biological Opinion and the recent National Academy of Sciences study confirm that now is the time to change management of the river. In addition, the Missouri River Natural Resources Committee, a group of state game and fish officials representing all of the states along the Missouri River, have supported the scientific need to change management of the river.

Other 14

The Corps has fallen victim to the "paralysis of analysis". The Corps has spent more that 30 million dollars studying and building models to show what is happening on the river – instead of working to implement change.

The existing Master Manual represents societal goals from more than 40 years ago. It is incumbent upon our Government to be more responsive to the citizens of the Missouri River basin. Congress has passed laws, such as the Endangered Species Act, since the reservoirs were filled. These laws need to be met along with meeting other goals for operation of the river system.

EnSp 3

If we can be of any assistance in bringing about these changes to the Current Water Control Plan, we stand ready to be of help in providing comments, gathering together stakeholders for informed discussions about Missouri River management, and providing our expertise about wildlife management in the Missouri River basin.

Thank you for the opportunity to comment.

Sincerely,

David Murphy
President, Missouri Chapter of the Wildlife Society

Literature Cited:

National Research Council. 2002. The Missouri River ecosystem : exploring the prospects for recovery. National Academy Press. Washington, D.C.

U. S. Fish and Wildlife Service. 2000. Missouri River Biological Opinion. U. S. Fish and Wildlife Service, Region 3, Fort Snelling, MN.

The North Dakota Chapter of The Wildlife Society endorses the concept of adaptive management. Adaptive management will allow new scientific finding to be folded into existing management without having to go through another 15-year process. Successful monitoring is crucial to adaptive management. A robust system of monitoring is sorely missing from the Missouri River. We encourage the Corps to implement a comprehensive biological monitoring program for the Missouri River.

Other 119

The upcoming Lewis and Clark bicentennial will focus the nations attention on the Missouri River. The Corps should show those folks that the management of the river is in step with contemporary needs of the nation including recreation and fish and wildlife conservation.

Other 7

The North Dakota Chapter of The Wildlife Society is encouraged by the potential development of a new collaborative group in the Missouri River basin as identified by the National Academy and the Corps. It is our understanding that this group will be charged with implementation of an adaptive management approach. We stand by to assist this group. An excellent example of a stakeholder group is found along the Garrison Reach (Missouri River Vision Group). The group is composed of local government representative as well as specific stakeholders.

Other 88

The bottom line is that the North Dakota Chapter of The Wildlife Society believes that a Missouri River that is healthy for fish and wildlife is a benefit to all the people of this country.

Sincerely yours,

Tim Phalen

Tim Phalen
President of the North Dakota Chapter
of The Wildlife Society

Fax Transmission

Wyndmere Public School
P.O. Box 198
Wyndmere ND 58081

Date: 2-25-02

To: Northwest Division
ATTN: Missouri River
Master Manual RDEIS

Fax Number: 402-697-2504

From: Tim Phalen
~~Wyndmere Public School~~

Our Phone: (701) 439-2287
Our Fax: (701) 439-2804

Number of pages including this cover page: 3

Message:

Please call if you experience any transmission problems.

N0100012

MASTERMANUAL NWD02

From: Kate Costenbader [Costenbader@nwf.org]
Sent: Thursday, February 28, 2002 3:01 PM
To: Mastermanual
Cc: David Conrad; Tim Eder; THOMAS France; Carolyn Greene; Jim Lyon
Subject: Comments on the Missouri River Master Manaul RDEIS

RDEIS omments(FINAL).do

Please find attached the comments of the National Wildlife Federation, and its state affiliates in the Missouri River basin, Colorado Wildlife Federation, Conservation Federation of Missouri, Iowa Wildlife Federation, Kansas Wildlife Federation, Montana Wildlife Federation, Nebraska Wildlife Federation, North Dakota Wildlife Federation, and South Dakota Wildlife Federation.

A hard copy will follow via federal express.

Do not hesitate to contact me if there are any problems opening the attached comment letter.

Thank you very much.

Kate Costenbader
Coordinator, Greening the Corps
National Wildlife Federation
1400 16th St., N.W.
Suite 501
Washington, D.C. 20036
202/797-6869
202/797-6646 fax
costenbader@nwf.org

N0100013

February 28, 2002

Brig. General David Fastabend, Commander
U.S. Army Corps of Engineers – Northwestern Division
12565 West Center Road
Omaha, Nebraska 68144-3869

RE: Comments on Missouri River Master Manual RDEIS (August 2001)

Dear General Fastabend:

On behalf of American Rivers and Environmental Defense, please accept our formal comments on the Revised Draft Environmental Impact Statement (RDEIS) for the Missouri River Master Water Control Manual (Master Manual).

We urge the U.S. Army Corps Of Engineers (Corps) to immediately comply with federal law by ending dam operations that jeopardize the existence of federally endangered and threatened species and by implementing dam operations that will lead to the recovery of these species. In particular, we urge the Corps to immediately implement the alternative identified as "GP2021" (the so-called "Flexible Flow" alternative), as this is the only alternative subjected to detailed analysis by the Corps in the RDEIS that fully captures all the elements of the Reasonable and Prudent Alternative (RPA) recommended by the U.S. Fish and Wildlife Service (Service) in the November 2000 Final Biological Opinion on Missouri River dam operations.

Othar A

Specifically, the Corps should gradually increase releases from Gavins Point Dam to 17,500 cubic feet per second (cfs) over full service navigation levels for a maximum of 30 days between May 1 and June 15 once every three years. The Corps should also implement an annual summer low flow period on the lower river by gradually reducing Gavins Point Dam releases down to 25,000 cfs between June 21 and July 15, reducing releases further to 21,000 cfs until August 15, then gradually increasing releases back to 25,000 cfs between August 15 and September 1. These are the minimum dam reform steps necessary to help recover federally-listed species and help prevent the continued degradation of the Missouri River ecosystem.

Until operation of the Missouri River main stem system is reformed to include higher spring dam releases and lower summer dam releases, listed species will creep inexorably closer to extinction and additional species will be listed as endangered and threatened. Currently, more than 70 Missouri River species are listed by basin states or the federal government as rare, threatened, or endangered.

EnSp 3,5,24

Economic Issues
These long overdue dam reforms will not only avoid the extinction of three listed species and reverse the decline of many other species native to the Missouri but will also meet the long-term economic and environmental needs of Missouri River communities.

As the Corps' RDEIS demonstrates:

- GP2021 will create new opportunities for recreation and economic development in riverside communities.
- GP2021 supports Missouri River barge navigation in the spring and fall, when more than 80 percent of farm-related is shipped.
- GP2021 will enhance Mississippi River barge navigation.
- GP2021 will not increase the risk of flooding.
- GP2021 will provide benefits to production agriculture in the Missouri River floodplain through enhanced groundwater levels and improved drainage in the summer months.

Recreation
The Missouri's native fish and wildlife species are not only a critical part of America's natural heritage, but are also the foundation of a growing river-recreation industry. More than 4 million people annually spend more than 10 million "visitor days" at developed recreation sites along the Missouri River, generating at least $84.7 million in annual economic benefits, according to the RDEIS.[1] Actual visitation and spending is actually much higher, but the RDEIS fails to measure recreation at undeveloped sites, underestimates spending on Missouri River recreation, excludes spending on food and lodging, and uses an improper methodology that narrowly links recreational use to river elevations.

Rec 19, 20

Corps estimates of recreational use are based on visits to developed recreation sites such as marinas and ignores recreation at undeveloped sites, including bank fishing, sight-seeing, river festivals, private hunting clubs, fishing tournaments, and commercial boat tours. The Corps excludes the enormous economic benefits of the upcoming Lewis and Clark Bicentennial, and the role a healthy river can play in regional celebrations, including opportunities for hunting, fishing, camping, and sight-seeing. Federal, state, and private officials preparing for the bicentennial estimate that more than 10 million Americans will retrace the steps of Lewis and Clark between 2003 and 2006.

The Corps also underestimates the amount visitors spend when utilizing the Missouri River by underestimating daily spending, and by excluding spending on lodging and food. The Corps estimated more than a decade ago that visitors spend $32 per day while visiting the Missouri, but state estimates are significantly higher. A 1990 study of Missouri River recreation in Montana concluded that per-day spending ranged between $40 and $66. A similar survey of Missouri River recreational use in North Dakota found that per-day spending ranged from $49 to as much as $117 for out-of-state visitors. Studies also suggest that the daily value of fishing is species-dependent: visitors spend more to catch walleye than they spend to catch catfish.

[1] U.S. Army Corps of Engineers. 2001. *Missouri River Water Control Manual Review and Update: Revised Draft Environmental Impact Statement*. Northwestern Division. Portland, OR.

States have concluded that Missouri River recreation generates substantially more annual economic benefits than the Corps' analysis:

Rec (con't)

- Missouri River recreation and tourism in South Dakota generated $53.9 million in annual economic benefits in 1993, according to state officials.
- Missouri River recreation and tourism generated $165 million in annual economic impacts in North Dakota, according to state officials.
- Use of the Missouri River in Nebraska generates as much as $364.5 million in annual economic benefits, according to state officials.

Navigation
GP2021 will also support Missouri River navigation during the spring and fall – when more than 80 percent of farm-related cargo is shipped – and will enhance navigation on the Mississippi River. Marginally reducing the meager amount of Missouri River barge traffic will not impact highway and rail transportation costs. Even the Corps concedes the marginal economic benefit of Missouri River barge navigation – less than $7 million annually, according to the RDEIS – although the National Academy of Sciences found that actual benefits are closer to $3 million annually and that net benefits are eliminated when flows reach 30,000 cfs.[2]

Nav 6, 8, 38, 35

By contrast, the RDEIS estimates that hydropower generates $741 million in annual economic benefits, water supply generates $610 million in annual economic benefits, and flood control generates $410 million in annual economic benefits. Nevertheless, the Corps has consistently managed the Missouri's mainstem dams primarily to benefit barge navigation – at the expense of every other economic and environmental use of the Missouri. Even recreation produces at least 12 times as many economic benefits as navigation despite historic river management that has decimated the river's flora and fauna and limited access to boat ramps. Recreation between Sioux City and St. Louis alone produces twice as many economic benefits as Missouri River barge navigation, according to the RDEIS. Only 1.5 million tons of commercial cargo was shipped annually on the Missouri during the 1990s, far less than the 15 million tons predicted by the Missouri River Navigation Commission in 1929 and just three-tenths of 1 percent of the grain harvested each year in Nebraska, Iowa, Kansas, and Missouri.

Nav 9, 31

Despite the insignificance of Missouri River navigation, GP2021 would provide sufficient flows for commercial navigation between April 1 and mid-June, and from early September through November. The Corps estimates that under GP2021, barge navigation would continue to generate $4.75 million in annual economic benefits. Less than 20 percent of farm-related cargo is shipped in July and August, according to the Corps. In essence, the Missouri River already operates in a "split navigation season" format – fertilizer is moved upstream during spring, and grain is shipped downstream in the fall, and the amount of grain shipped downstream is fixed by the amount of fertilizer moved upstream.[3] The presence of empty fertilizer barges from spring hauls is the only factor that makes shipping some corn and soybeans on the river economically

Nav 39

[2] National Research Council. 2002. *The Missouri River Ecosystem: Exploring the Prospects for Recovery*. National Academy Press. Washington, DC.
[3] Baumel, P. 1998. *The Competitive Benefit of the Missouri River? A Review of "Rail Rates and the Availability of Barge Transportation: The Missouri River Region"*. Environmental Defense Fund. Washington, DC.

viable.[4] There is no evidence presented in the RDEIS that formal implementation of this informal custom would jeopardize Missouri River navigation.

GP2021 would have no impact on highway and rail rates, and the RDEIS does not reflect on the Corps' flawed 1994 competitive rate study. Agricultural economists from Iowa State University, the University of Nebraska, and Kansas State University concluded that the competitive rate study is "likely meaningless" and "suffer(s) from several defects."[5,6] Low levels of Missouri River barge traffic have no measurable impact on transportation rates in the region, and the Corps has provided no evidence in the RDEIS that suspending summer barge navigation would impact transportation rates or threaten the long-term prospects of commercial navigation on the Missouri.

Nav 8, 12

GP2021 would also enhance Mississippi River barge navigation between St. Louis and Cairo, a historic "bottleneck" that naturally suffers from low fall water levels. Many factors contribute to "lost navigation efficiency," including shallow water forcing operators to spread their cargo across more tows. The Corps estimates in the RDEIS that "lost navigation efficiency" between St. Louis and Cairo annually costs the barge industry $45.3 million.

Increasing the Missouri River's contributions to the Mississippi River during the fall would allow barge operators to put heavier loads on fewer barges and move through locks more quickly. Under the CWCP, constant amounts of water are released for a small amount of barges on the Missouri River for the entire 8-month navigation season. Thus, little water is available to the Mississippi when that river needs it most.

Miss 4, 33

By contrast, reducing summer flows increases the water available for fall flows into the Mississippi, which supports Mississippi River navigation. GP2021 cuts Mississippi River congestion losses by more than 16 percent – saving an estimated $7.3 million each year.

This savings for the Mississippi River barge industry is greater than the annual economic benefit of the entire Missouri River barge industry. In addition, Mississippi River barge traffic, unlike Missouri River barge traffic, has an economic impact on truck and rail shipping rates.

The tradeoff between Missouri River barge support and Mississippi River barge support has long been known. Agricultural economists from the basin continue to point out that particularly in droughts, managing flows on the Missouri River more naturally – which better supports Mississippi River navigation – could result in "substantial benefits for agriculture in (the form of) lower rail rates."[7]

[4] *Ibid.*
[5] *Ibid.*
[6] Babcock, M. and D. Anderson. 1999. *An Evaluation of the U.S. Army Corps of Engineers' Measurement of the Economic Benefits of Missouri River Navigation.* Environmental Defense Fund. Washington, DC.
[7] *Ibid.*

Flooding and Interior Drainage

GP2021 will not increase the risk of flooding, and will provide benefits to production agriculture in the Missouri River floodplain through enhanced groundwater levels, in the spring and fall, and improved drainage in the summer months due to lower flows in the Missouri River.

According to the RDEIS, GP2021 will provide $407.7 million in annual flood control benefits, or 98.9 percent of the benefits now provided by the current water control plan.[8] As the RDEIS states, the impacts of GP2021 on overall flood control benefits are "insignificant."[9] The RDEIS fails to note that from a flood control perspective, only lands located between the river and the levees lining the Missouri River would be impacted by dam releases. And, the RDEIS fails to note that the Reasonable and Prudent Alternative proposed in the Service's Final Biological Opinion would only be implemented, on average, once in every three years. The Final Biological Opinion provides the Corps ample flexibility to postpone spring dam releases if weather conditions would increase the risk of flooding.[10]

FC 11

The RDEIS incorrectly suggests that GP2021 will have only negative impacts on the drainage of most floodplain farmland and groundwater levels. Both the RDEIS summary and main report fail to highlight the potential benefits of elevated groundwater levels in the spring and fall for crop growth, and fail to highlight the benefits of low summer flows on the drainage of floodplain farmland. The RDEIS instead focuses on the tiny fraction of farmland negatively impacted by higher groundwater levels in the spring and fall, and fails to note that farmland impacted by higher groundwater levels is typically farmed sloughs, chutes, and oxbow lakes that suffer from poor drainage regardless of river conditions. Less than 200 acres of the six levee districts analyzed by the Corps would be negatively impacted by higher spring and fall releases, increasing flood damages by approximately $650,000 a year.[11] By contrast, the potential benefits of higher groundwater levels in the spring and fall and improved drainage conditions in the summer on a much greater number of farmland acres in the Missouri River floodplain are not calculated. The Corps' failure to document these benefits makes this analysis irrelevant and violates the purposes of the National Environmental Policy Act (NEPA).

GW 9, 10

The RDEIS also fails to consider alternatives that will offset the drainage impacts on the acres of land modestly impacted by GP2021, such as the installation of pumps, the acquisition of easements, or conversion to water-tolerant crops like trees and hay production. In particular, the RDEIS ignores the high likelihood that floodplain farmland impacted by dam reforms would be acquired from willing sellers through programs like the Corps' Missouri River Fish and Wildlife Mitigation Project. In fact, the Corps has not determined whether any of the land potentially impacted by higher spring and fall releases has already been acquired, leased, or converted to other uses. Finally, the Corps has not explored whether increasing dam releases after the harvest

IntD 1, 9

[8] U.S. Army Corps of Engineers. 2001. *Missouri River Water Control Manual Review and Update, Revised Draft Environmental Impact Statement.* Northwestern Division. Portland, OR.
[9] *Ibid.*
[10] U.S. Fish and Wildlife Service. 2000. *Final Biological Opinion on the Operation of the Missouri River Main Stem Reservoir System, Operation and Maintenance of the Missouri River Bank Stabilization and Navigation Project, and Operation of the Kansas Reservoir System.* Regions 6 and 3. Denver, CO and Ft. Snelling, MN.
[11] This number is inflated by the Corps' analysis, which can not segregate groundwater impacts and interior drainage impacts.

of floodplain crops can be accomplished without increasing the likelihood of ice damage. Again, the Corps' failure to assess these alternatives and to adequately forecast future conditions renders this analysis irrelevant and is a violation of the purposes of NEPA.

IntD 1, 9 (cont.)

Hydropower

GP2021 provides a 2% increase in the total economic hydropower benefits over the CWCP, according to the RDEIS. GP2021 also increases marketable capacity for the Western Area Power Administration (WAPA) in both the summer and winter seasons. Thus, in general, restoring more natural flows to the Missouri River will result in an overall positive impact on the production of hydropower on the Missouri River system.

The RDEIS suggests there may be an impact on summer hydropower revenues because of reduced releases and peaking capability in the summer. However, this analysis is flawed in several areas, and fails to account for management actions that can be undertaken by the Corps and WAPA to minimize or eliminate any potential impacts to firm power production and pricing during the summer low flow period.

The Missouri River hydrosystem has an enormous capability for intra-month reshaping, meaning reduced power generation could be moved to times of low-value hours (evenings) from times of high-value hours (daytime). Unfortunately, the analysis in the RDEIS completed by WAPA and the Corps begins with the false assumption that every kWh in a given month has the same value. If the analysis would have factored in intra-month reshaping, the analysis would have accounted for higher power values in months like July under the GP2021 plan, as more power could have been shown to be generated during high-value hours and less during low-value hours. Similarly, it is likely that the value of this power is overestimated for the CWCP, as again all power generated was given equal value. In reality, power generated during low-value hours under the current plan is not as valuable as power generated during high-value hours.

WAPA 12

The fact that the GP2021 alternative increases both summer and winter capacity is not fully captured in the WAPA/Corps analysis. Increases in capacity value result in a corresponding increase in the overall benefits of a particular management alternative. Thus, the estimated negative impact of implementing GP2021 on firm power is likely overestimated without factoring in the benefits of increased summer and winter capacity. Also, the RDEIS fails to discuss the fact that under an alternative like GP2021, the loss of hydropower during extreme drought and flood events is reduced as compared to the CWCP. Not factoring this "insurance value" during extreme events into the analysis likely contributes to an overestimation of the negative impacts of implementing GP2021.

The estimated revenue loss resulting from the implementation of GP2021 can also be mitigated by opportunities to increase summer revenues at other Missouri River projects such as Ft. Peck Dam. For example, flat releases out of Ft. Peck during the summer of 2001 were marketed to offset power shortages due to drought in the Columbia Basin, generating substantial revenue for WAPA. This occurred while average releases during the summer of 2001 out of Gavins Point Dam were 23,000 cfs. This type of intra-system activity can be used to help offset any potential negative impacts of restoring more natural flows to the Missouri.

Another issue related to power production is the presence of generating plants along the lower river, both nuclear and coal-fired. In both cases, the generating plants have maximum ambient temperature requirements for river water intake, as well as maximum temperature requirements for discharge of thermally-heated water back into the Missouri River. Power plant representatives have indicated that low summer flows are not necessarily an operational problem, but that high summer flows, which are a byproduct of current operations, create more of a problem than low flows.

Nevertheless, power plant representatives do voice a concern with low summer flows relating to the constraints of current National Pollution Discharge Elimination System permits. To avoid violating the requirements of these Clean Water Act permits, generating plants along the river must avoid releasing water back into the river at too high of a temperature. However, if variances could be granted for these permits, or if the permits could be altered, this problem could be eliminated. Research done by the Nebraska Game and Parks Commission, the University of Nebraska, and others in the 1970s determined that existing thermal discharges in the summer were not having significant biological impact on the Missouri River.[12] This suggests that current temperature limits on return water could potentially be modified, or that permit variances could be granted, allowing power plants to operate fully without causing significant negative impacts on the ecology of the Missouri River. However, this situation warrants further analysis through updated monitoring in an adaptive management process on the Missouri. The RDEIS also fails to explore other means of dealing with thermally-heated return water, like pumping this water first into created wetlands where temperature problems could be abated.

MoPower 1

Environmental Issues

High spring flows provide spawning cues for many fish species found in the Missouri, including the endangered pallid sturgeon. These high flows also build new sandbars on the river and scour vegetation from existing sandbars. High flows also wash vegetation and other organic matter into the Missouri, forming much of the river's food base. Low flows are also critical for fish species like sturgeon. Recently spawned fish are poor swimmers and are easily carried by water currents. Many larval fish depend on easy access to shallow, slower-flowing areas where they can feed and avoid predators. And, low flows expose the sandbars created and cleaned during the high-flow period to make them useable as nesting habitat for birds like the endangered interior least tern and the threatened piping plover.

EnSp 5

Current Missouri River dam operations fail in two ways: 1) by failing to provide sufficiently high spring releases to create adequate sandbar habitat or to serve as a reproductive cue for native fish species, and 2) by failing to provide sufficiently low summer flows to expose sandbars and to provide suitable shallow-water habitat for larval fish species, including larval pallid sturgeon.

As the Final Biological Opinion notes, the availability of habitat and the health of Missouri River fish and wildlife populations are shaped by the timing, variability, and amplitude of the

[12] Hesse, L., G. Hergenrader, H. Lewis, S. Reetz, and A. Schlesinger. 1982. *The Middle Missouri River: A Collection of Papers on the Biology with Special Reference to Power Station Effects*. The Missouri River Study Group. Norfolk, NE.

natural hydrograph, and dam releases continue to serve as a master variable.[13] The annual rise and fall of the Missouri River is essential to the health of large floodplain river ecosystems like the Missouri, according to the National Academy of Sciences' recent report, *The Missouri River Ecosystem: Exploring the Prospects for Recovery*. The river's "flood pulse" adds organic matter and nutrients to the river; fuels the production of floodplain plants, and resets plants succession; and provides a reproductive cue for many species adapted to the river's fluctuations, according to the Academy report. "Fish spawning, insect emergence, and seed dispersal are commonly triggered by rising waters," the Academy wrote.[14]

EnSp 4,5,24

Pallid Sturgeon

GP2021 would improve river conditions for the Missouri's native fish species, preventing the extinction of the pallid sturgeon and reversing the decline of many other native fish species.

EnSp 24,39

In particular, GP2021 would provide a "spawning cue" approximately once in every three years, according to the RDEIS. By contrast, the current water control plan provides a spawning cue less than once in every ten years.

Sturgeon reproduction is closely tied to rising flows in the late spring and early summer – a pattern that has been eliminated to provide steady flows for barge traffic. Sturgeon were once plentiful in the Missouri River, growing to lengths greater than six feet, weighing more than 80 pounds, and supporting a robust commercial fishing industry. The have occupied the Mississippi and Missouri River basins for more than 300 million years, according to some estimates. But, the Missouri's sturgeon population has been nearly driven into extinction in less than 50 years.

Since 1990, there has been no documented evidence of natural recruitment of pallid sturgeon on the Missouri River, meaning no new young sturgeon are surviving to become members of the reproductive adult population. Most of the sturgeon remaining in the Missouri are mature adults and may only have a few more opportunities to spawn. Because sturgeon only breed occasionally and only under optimal conditions, the chances of natural reproduction decline each year that dam reforms are delayed and the reproductive cues provided by rising spring flows are postponed. The Missouri's few remaining female sturgeon may only produce eggs during one or two more spawning events.

Ongoing delays by the Corps steadily reduce the likelihood that the Missouri's few remaining sturgeon will successfully reproduce. Current dam operations provide suitable spawning conditions only once every 10 to 11 years above Kansas City and only once every 5 to 6 years below Kansas City. Although the fish have long life spans, they have relatively low capacity for population increases.

The absence of low flows is also a serious threat to the existence of the pallid sturgeon. Once spawned, fish larvae drift in search of suitable shallow water habitat. In the past, roughly 100

[13] U.S. Fish and Wildlife Service. 2000. *Final Biological Opinion on the Operation of the Missouri River Main Stem Reservoir System, Operation and Maintenance of the Missouri River Bank Stabilization and Navigation Project, and Operation of the Kansas Reservoir System*. Regions 6 and 3. Denver, CO and Ft. Snelling, MN.
[14] National Research Council. 2002. *The Missouri River Ecosystem: Exploring the Prospects for Recovery*. National Academy Press. Washington, DC.

acres of shallow-water habitat was available in each river mile during the summer months, providing habitat for larval sturgeon. Today, about 1 acre is available in each river mile. Reducing summer dam releases, as has been proposed by the Service, would increase shallow water habitat to about 8 acres per mile, providing critical habitat for larval pallid sturgeon.

EnSp 25

A common claim made by advocates of status quo Missouri River dam operations is that even if dam release are modified to provide higher flows in the spring to serve as a spawning cue, pallid sturgeon will not reproduce because of the lack of appropriate gravel substrates for spawning in areas such as the National Recreational River stretch below Gavins Point Dam or the lower river. First, there is no documented, definitive scientific information that supports the notion that pallid sturgeon spawn exclusively on gravel substrates. Second, exhaustive research done through the river-wide Benthic Fish Study completed in 2001, *Population Structure and Habitat Use of Benthic Fishes Along the Missouri and Lower Yellowstone Rivers*, shows that there is indeed gravel substrate below both Ft. Peck Dam and Gavins Point Dam, which are priority reaches for the pallid sturgeon. The Benthic Fish Study shows that in fact, there is a greater abundance of gravel in the Missouri River below Gavins Point Dam (7.1%) than below Ft. Peck Dam (5.1%), and that there is a comparable amount of gravel in the lower river below Sioux City (5.0%).[15]

In addition to providing sturgeon a chance for survival, GP2021 would also reverse the decline of many of other native fish species. Paddlefish, blue sucker, shortnose gar, and a variety of chubs and shiners considered rare by state officials would benefit from restoration of some semblance of the river's natural hydrograph. GP2021 would also provide significantly greater benefits to Missouri sportfishing. For example, GP2021 would significantly improve reservoir fish production, and would greatly improve sportfishing options on the lower river.

Interior Least Terns and Piping Plovers

EnSp 5,41

GP2021 is necessary to avoid the extinction of the endangered interior least tern and the threatened piping plover. In the Final Biological Opinion, the Service concluded that current dam operations "jeopardize the continued existence of the endangered interior least tern and threatened piping plover because (dam) operations eliminate essential nesting habitat."[16] This conclusion was made previously by the Service in both a 1990 Final Biological Opinion and a 1994 Draft Biological Opinion.

Sandbars free of vegetation provide critical nesting habitat for least terns and piping plovers, and the reproductive success and failure of these rare shorebirds is directly correlated to the abundance or absence of sandbar habitat. The amount and availability of sandbar habitat in the summer is directly linked to high spring dam releases and low summer dam releases. Sandbars are created when dam releases are increased in the spring, scouring the river's bottom and banks. As dam releases decline during the summer, the sandbars remain exposed, and the shallow water near sandbars provides important feeding habitat for nesting birds and chicks.

[15] Galat, D., M. Wildhaber, and D. Dieterman. 2001. *Spatial Patterns of Physical Habitat: Volume 2: Population Structure and Habitat Use of Benthic Fishes Along the Missouri and Lower Yellowstone Rivers*.
[16] U.S. Fish and Wildlife Service. 2000. *Final Biological Opinion on the Operation of the Missouri River Main Stem Reservoir System, Operation and Maintenance of the Missouri River Bank Stabilization and Navigation Project, and Operation of the Kansas Reservoir System*. Regions 6 and 3. Denver, CO and Ft. Snelling, MN.

The Service listed the interior population of the least tern as an endangered species in 1985. Least terns were once a common species along the Missouri River. During their exploration of the Missouri River, Lewis and Clark found the birds nesting frequently, particularly along the lower river. Today, terns breed primarily on the relatively free-flowing river stretches that remain. According to Corps data on terns compiled since 1986, over 90% of terns on the Missouri River nest on riverine sandbars.

EnSp 41 (con't)

Interior least tern reproduction is closely tied to the spring rise and subsequent lowering of summer flows that used to characterize the Missouri River. Least terns prefer to nest on sandbar islands that are largely free of vegetation that can hide predators. High spring flows are necessary to build new sandbars to scour existing sandbars of vegetation. Because least terns nest close to water, rising water levels after nest initiation will destroy the nests. The Service has consistently found that existing Missouri River water management has resulted in the loss of thousands of acres of sandbar habitat, significant vegetative encroachment on remaining sandbars, and direct flooding of tern nests in a manner that kills eggs and chicks.

EnSp 50

Least terns also depend on productive foraging habitats, both immediately prior to breeding and within a short distance of the nest. Good foraging habitat is critical to the energy reserves needed for successful nesting. Sloughs, side channels, tributaries, and other shallow water habitats "produce the fish and benthic invertebrates that terns and plovers, respectively, depend on for food."[17] Fish and invertebrate reproduction also depends on a more natural river flow pattern.

Like the least tern, the piping plover received federal protection in 1985. Naturalists once found the piping plover common in the central United States. Since that time, the population has decreased over most of its range, and the plover has vanished as a nesting species in many areas. Because a critical source of the plover's ongoing decline is the loss of essential habitat, the failure to protect and restore nesting habitat will contribute the species' extinction.

Piping plover nesting behavior is similar to the least tern. Like the tern, the plover relies on sparsely vegetated sandbars and nests in virtually the same areas as the tern. The impacts of current Missouri River dam operations on piping plovers are therefore largely identical to those identified for the least tern. Current operations of the Missouri River system have destroyed much of the piping plover's essential nesting habitat. According to the Service, these losses "are significant and threaten the survival and recovery of the plover."[18]

In the early 1990s, the Service established reproductive goals necessary to restore stable populations of terns and plovers on the Missouri River system. Recovery fledge ratios of 0.7 for terns and 1.44 for plovers were established to provide guidance on the status of the two birds on the Missouri River. Prior to 1998, the Corps consistently failed to meet these reproductive goals. Between 1986 and 1999, for example, the average fledge ratio (the number of chicks fledged per adult pair) for the least tern was 0.65 and for the piping plover was 0.80. Nest success for terns during that same time was only 43.3 percent and was only 43.6 percent for plovers.

[17] *Ibid.*
[18] *Ibid.*

Unusually high dam releases in 1997 established the clear connection between the presence of clean sandbars and successful tern and plover reproduction. Until dam releases were increased and adequate sandbar habitat created, the Corps had never met legally-mandated reproductive goals for the least tern and piping plover. During 1997, the Missouri River system experienced record runoff, resulting in sharply higher flows on the river at critical periods. The following summer (1998), more normal flows revealed a dramatic increase in the availability of clean, high-elevation sandbars in some of the river's more natural segments like the National Recreational River stretch below Gavins Point Dam for nesting by terns and plovers. That summer, for the first time on record, both the interior least tern and the piping plover met their recovery fledge ratios. Many of those sandbars have persisted on the river's more natural segments, and as a result, terns have met their recovery fledge ratio every year since, and plovers have met their recovery fledge ratio two out of four years.

EnSp 50 (con't)

However, the sandbars created by the high runoff of 1997 are continually eroding and being covered by vegetation. Although the terns and plovers have continued to meet their recovery fledge ratios, the numbers are slowly declining as the sandbars disappear or become unusable. For example, the least tern fledge ratio declined from 1.73 in 1998 to 1.06 in 2001, and the plover fledge ratio declined over the same period from 1.61 to 1.38.[19] With reproductive success declining, and since the CWCP does not provide rising flows in the spring to build and scour sandbars or lower flows in the summer to expose sandbars, the Corps will soon once again fail to meet the required reproductive goals for both birds unless dam releases are increased and new sandbars established.

The GP2021 alternative increases tern and plover nesting habitat on the Missouri River by 74% over the CWCP, according to the RDEIS. This is the largest increase in tern and plover habitat among all of the modeled alternatives in the RDEIS. In particular, this alternative includes increased habitat below Garrison, Ft. Randall, and Gavins Point Dams, which have been identified by river biologists as the priority reaches for terns and plovers on the Missouri River.

Conclusion

The Corps must immediately implement dam reforms to avoid the extinction of three federally protected species and to reverse the decline of more than 70 other species native to the Missouri River. The Final Biological Opinion anticipates immediate implementation of dam reforms. The Opinion states on p. 243 that the Corps should "implement components of recommended flows (e.g. spring rise only, summer low flow only, modified rise, or low flow) as quickly as possible." And, the recent National Academy of Sciences report on Missouri River science calls for "decisive and immediate management actions" to restore the river's pattern of high and low flows.

Other A, 14, 56

The Corps continues to delay dam reforms despite ongoing violations of the Endangered Species Act and overwhelming evidence of the economic benefits of dam reforms for riverside communities. As the Service noted on p. 234 in the Final Biological Opinion, "the primary

Other 7, 182

[19] U.S. Army Corps of Engineers. 2001. *Results of Monitoring of Interior Least Tern and Piping Plover Nesting on the Missouri River system, 1986-2001.* Omaha District. Yankton, SD.

elements necessary to avoid jeopardy have not substantially changed since they were first outlined in the 1990 biological opinion and later refined further in the 1994 Draft Biological Opinion."

Other (con't) 7

Unfortunately, this pattern of delay by the Corps has a long history:

Legal 8

- The Corps consistently refused to enter into formal consultation with the U.S. Fish and Wildlife Service to address the needs of the pallid sturgeon.
- The Corps failed to include alternatives in a 1994 EIS and a 1998 EIS that adequately addressed the needs of endangered species.
- The Corps proposed dam operations in 1994 and 2000 that would not comply with the ESA.
- The Corps consistently delayed completion of the Master Manual Review.
- The Corps refused to implement interim conservation measures to recover listed species, including habitat restoration and modest dam reforms.

The Corps has a legal duty to immediately implement dam reforms. Congress enacted the Endangered Species Act to provide a means "whereby the ecosystems upon which endangered and threatened species depend may be conserved." Section 9 of the ESA makes it illegal for the Corps to "take" protected species, and the term "take" is broadly defined to include actions which "harm" or "harass" the species and their habitat, including habitat impacts that significantly impair essential behavior, including breeding, feeding, and sheltering.

Section 7 of the ESA requires that federal agencies ensure that agency actions are not likely to jeopardize the continued existence of any listed species; that is, to engage in an action that would reasonably be expected to reduce appreciably the likelihood of both the survival and recovery of a listed species by reducing the reproduction, numbers, and distributions of that species. Section 7 also requires the Service to consult with the Corps and to suggest reasonable and prudent alternatives that, if implemented, would prevent actions likely to jeopardize the continued existence of the species.

The Corps has ample flexibility to implement the Reasonable and Prudent Alternatives proposed in the Final Biological Opinion. In fact, according to the Congressional Research Service, there is "no statutory mandate for any particular flows, levels of navigation depth, or for length of season of operations, etc. in the principal legislative authorizations."[20] Indeed, Section 1(b) of the Flood Control Act of 1944 suggests that Congress did not intend for navigation to be conducted in a way that impairs other project purposes, and the 1958 Fish and Wildlife Coordination Act ensures that fish and wildlife (an authorized project purpose) must "receive equal consideration with other project purposes."[21] Thus, the Corps has tremendous discretion in how it manages Missouri River flows and navigation seasons, and this management must be carried out in a way that gives equal weight to all the authorized project purposes of the Missouri river system, including fish and wildlife and recreation.

[20] Congressional Research Service. 2000. *Duties of the Army Corps of Engineers Regarding Missouri River Flows and the Endangered Species Act.* Washington, DC.
[21] *Ibid.*

The Corps has not identified other alternatives that would lead to the recovery of listed species and reverse the decline of the Missouri's other troubled wildlife. In particular, expansion of the Missouri River Fish and Wildlife Mitigation Project, or other measures that restore habitat, are not by themselves measures that avoid jeopardy. In light of the historic destruction of Missouri River habitat by the Corps,[22] we support proposals to accelerate the restoration of floodplain and aquatic habitat, including the expansion of the Missouri River Fish and Wildlife Mitigation Project. We urge the Corps to quickly expand the Mitigation Project, and to expand the project's focus on aquatic habitat restoration.

Legal 8

However, habitat restoration alone will not meet the Corps' legal duties under the ESA. The National Academy of Sciences concluded that current habitat restoration efforts on the river are "insufficient to noticeably recover ecological communities and fundamental physical processes in the Missouri River ecosystem."[23] Further, the Academy went on to conclude the following:

> "Degradation of the Missouri River ecosystem will continue unless some portion of the hydrologic and geomorphic processes that sustained the pre-regulation Missouri River and floodplain ecosystem are restored – including flow pulses that emulate the natural hydrograph…The current dam and reservoir operation… to provide a steady and reliable 9-foot deep navigation channel… run(s) counter to established river science, in which a large degree of natural hydrograph variability is essential to biological productivity and species richness."[24]

Without flow restoration, physical habitat restoration efforts will fail to achieve a meaningful level of ecosystem health, according to the Academy report. As the Final Biological Opinion and the Academy report repeatedly demonstrate, the availability of habitat and the health of Missouri River native species are shaped by the frequency, duration, magnitude, timing, and variability of the natural hydrograph, and dam releases are a driving variable controlling flows on the river. Until dam operations are reformed to include higher spring dam releases and lower summer dam releases, listed species will creep inexorably closer to extinction and additional species will be listed as endangered and threatened.

EnSp 4

Except for GP2021, the GP or "environmental" alternatives receiving detailed analysis in the RDEIS all fail to fully capture the elements of the RPA in the Service's Final Biological Opinion. The RPA recommendations have been described by the Missouri River Natural Resources Committee as "biologically sound and scientifically justified."[25] According to the RDEIS, the GP2021 alternative outperforms all of the other GP alternatives in nearly all of the

Other A

[22] The Corps' channelization of the Missouri eliminated nearly all of the river's sloughs, side channels, and sandbars, including more than 90 percent of the Missouri's islands and adjacent wetlands and 97 percent of the Missouri's sandbars between Sioux City and St. Louis. Corps channelization cut off most of the lower Missouri from the river's floodplain, contributed to an 80 percent decline in the vegetation and insects available to aquatic life, and helped reduce suspended sediment loads by more than two-thirds.
[23] National Research Council. 2002. *The Missouri River Ecosystem: Exploring the Prospects for Recovery.* National Academy Press. Washington, DC.
[24] *Ibid.*
[25] Missouri River Natural Resources Committee. May 21, 2001. Letter to Interior Secretary Gale Norton.

analyzed environmental categories. From a biological perspective, GP2021 is the alternative that will lead to the most meaningful restoration of the Missouri River's form and function.

Other (con't) A

The GP2021 alternative provides substantial environmental, recreation, and economic gains for the Missouri River basin in comparison to the CWCP. This compromise alternative combines sound and, in some cases, legally required fish and wildlife objectives with improvements in the economies of both the Missouri River basin and the nation. Traditional uses of the river will remain intact, yet the Missouri will more adequately support native fish and wildlife, a variety of recreational opportunities, and economic growth, and will better balance the needs of the upper basin and lower basin states.

We therefore urge the Corps to adopt GP2021 as the Preferred Alternative in the Final Environmental Impact Statement for the Missouri River Master Water Control Manual and implement that alternative as soon as possible.

Thank you for the opportunity to provide input. If you have questions, please contact Chad Smith at 402-477-7910 or csmith@amrivers.org, or Scott Faber at 202-387-3500 or sfaber@environmentaldefense.org.

Sincerely,

Chadwin B. Smith
Director, Nebraska River Field Office
American Rivers
650 J Street, Suite 400
Lincoln, NE 68508
402-477-7910
402-477-2565 (F)
csmith@amrivers.org

Scott Faber
Water Resources Specialist
Environmental Defense
1875 Connecticut Avenue, NW
Washington, DC 20009
202-387-3500
202-234-6049
sfaber@environmentaldefense.org

Enclosures:

Baumel, P. 1998. *The Competitive Benefit of the Missouri River? A Review of "Rail Rates and the Availability of Barge Transportation: The Missouri River Region"*. Environmental Defense Fund. Washington, DC.

Babcock, M. and D. Anderson. 1999. *An Evaluation of the U.S. Army Corps of Engineers' Measurement of the Economic Benefits of Missouri River Navigation*. Environmental Defense Fund. Washington, DC.

MASTERMANUAL NWD02 N0100014

From: Jane Clark [jrclark@radiks.net]
Sent: Thursday, February 28, 2002 6:40 PM
To: Mastermanual
Subject: Master Manual Revision Comments

To whom it may concern:

Please enter these comments on the Master Manual revision.

Among the alternatives discussed in the RDEIS, GP2021 provides the best hope for recovering federally listed species, and is the best option of the available choices for fish and wildlife and the restoration of natural habitats along the Missouri River.

Other A

In the final environmental impact statement, the Corps should identify an alternative that truly represents the best alternative for fish and wildlife, and the river ecosystem. GP2021 is not where a compromise for fish and wildlife should begin, but where compromise should end. Central Iowa Sierra Club urges the Corps of Engineers to identify an alternative that will maximize benefits to native fish and wildlife.

The Corps must reject attempting to avoid the Endangered Species Act (ESA). Any attempt to seek an exemption from Section 7 of the ESA will impose yet another lengthy process on this undertaking to finally revise and update the Master Manual. The ESA requires the Corps to consult with the USFWS about the future existence of federally listed species. Attempting to avoid the law in this case would be a severe disservice to future generations of Iowans who would be denied the benefits of these species. The Corps must reject any alternative that would involve seeking an exemption from the ESA.

Other A

Even though the Master Manual requires that "the reservoirs will be operated for maximum benefit to recreation, fish and wildlife" to the extent possible, without interference with other purposes, the needs of fish and wildlife have not been met. It is time for the Corps to recognize that commercial navigation traffic is not significant on the Missouri River, but that the effect of trying to maintain navigation services is having a tremendous impact on the ecosystem.

Other 7

In revising the RDEIS, Central Iowa Sierra Club urges the Corps to clarify its analyses in the Final Environmental Impact Statement and address the following:

-Native habitat restoration: This should be an over-riding goal of Missouri River Management.

-Basin-wide mitigation funding: The US ACOE has been authorized large amounts of funds to conduct mitigation efforts that will counter the negative impacts of the past decades of river management. The Sierra Club supports appropriations to the Corps targeted for such mitigation.

-Conservation easement funding: Easements should be purchased through WRP, EWRP, and other long-term or permanent set-aside programs.

-Monitoring for water quality, habitat quality, species decline, species

Other 70, 119, 129

recovery: A component of any Missouri River management plan should be monitoring to ensure that the plan is contributing to habitat restoration, water quality improvement, and recovery of indigenous species and also to prevent habitat loss.

-Manage the Missouri River for other than navigational purposes.

We urge the Corps to proceed with updating the Master Manual to provide maximum benefits to fish and wildlife and to implement beneficial actions immediately. We also urge the Corps to proceed with a comprehensive review of the entire river system that would include completing ongoing studies, identifying additional information needs, monitoring fish and wildlife habitat and their responses to new conditions.

Other A

Sincerely,
Jane R. Clark
Chair, Central Iowa Sierra Club
9871 Lincoln Avenue
Des Moines, Iowa 50325

2

MASTERMANUAL NWD02 N0100015

From: GMDeBarthe@aol.com
Sent: Wednesday, February 27, 2002 9:17
To: Mastermanual
Cc: caroline.pufalt@sfsierra.sierraclub.org
Subject: (no subject)

Gina DeBarthe
20 Oak Hill Cluster
Independence, Mo.
64057
816.224.0734

February 27, 2002

Rose Hargrave
Master Manual Project Leader
US Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, NE 68144-3869

Dear Ms. Hargrave,

I am writing to submit comments on behalf of the Ozark Chapter of the Sierra Club. The Ozark chapter includes 10,000 citizens of the state of Missouri who care about the health of the Missouri river.

We support option GP2021 because it represents the best of the available options. Implementation of GP2021 will help restore the Missouri river to a more natural state. It provides the best hope for recovery of endangered species and most closely resembles the USFWS RPA.

Other A

For too long the ecological health of the Missouri river has taken a back seat to other priorities such as navigation, hydro power, irrigation, recreation and flood control. While all these aforementioned interests have advocates speaking for their particular interests, the river itself does not have a voice, as neither does the wildlife that call it home.

The current degraded state of the river as described by the USFWS and more recently the National Academy of Sciences' Missouri River Ecosystem report reflects these skewed priorities. Here is a quote from there report, The Missouri River Ecosystem: Exploring the Prospects for Recovery.

"Degradation of the natural Missouri River ecosystem is clear and continuing. Large amounts of habitat have been transformed to enhance social benefits, and the ecosystem has experienced a substantial reduction in biological productivity as a result. Natural riverine processes...have been greatly altered."

Other A, 7, 14, 182

While advancement of other priorities is not necessarily always at odds with restoration of fish and wildlife habitat, the continued relegation of ecological interests to "last place" is unacceptable.

We feel that the influence of navigation has been detrimental to fish and wildlife habitat in and along the river. This is evidenced by the fact that dozens of species native to the Missouri River are either on the federally endangered species list or state watch lists. Furthermore, navigation
along the Missouri has remained minimal, (less the 1 % of the total use of the Missouri) despite the alteration to the river system and the costs associated with maintaining navigation channels.

GP202 is only the first step in restoring the river's natural habitat. It is an important first step in that it halts further degradation of the river. Habitat restoration of endangered and threatened species also needs to take place along the river. The are currently 150 species of fish and wildlife that call the Missouri River home. The Water

Other A, 70

3/9/2002

Resources Development Act in one way in which the corp can help restore lost habitat. So far over 25,000 of the authorized 166,750 have been restored, while only 9,600 have been restored.

The river as a whole needs to be examined not just it's parts. What happens in one part of the river will effect another. It is a sum of it's parts and if restoration is to be successful than the river needs to big looked at in it's entirety.

Thank you for taking time to read my comments.

Sincerely,
Gina DeBarthe
Ozark Chapter Conservation Chair

3/9/2002

N0100016

U.S. Army Corps of Engineers,
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Revised Draft Environmental Impact Statement (RDEIS) for the Missouri River Master Water Control Manual (August 2001).

The Sierra Club Midwest Region appreciates the opportunity to comment on the US Army Corps of Engineers study of revisions to the Master Water Control Manual for the Missouri River. The Sierra Club Midwest Region represents thousands of members involved in organized chapters and groups throughout the entire Missouri basin, from Montana to Missouri, and as such has local, as well and regional and national interest in the makeup of proposals for restoring the Missouri River and protecting its natural resources.

The prolonged development of the Master Manual proposals outlined in the EIS demonstrates the complexity between the biological and hydrologic relationships that the Corps EIS attempts to manage, in concert with an evolving and dynamic human community. For the last 150 years, human settlement has dramatically altered these relationships with little regard for the natural resource base of the river. The loss of habitat and water quality, the disruption of critical natural processes, and the total imbalance in Corps management activities slanted to one special interest, has brought the Missouri River to the state where it requires immediate and remedial actions to preserve and restore nationally important species. The Sierra Club urges the Corps to select the alternative that provides maximum benefits to fish and wildlife resources as the preferred alternative in the Final Environmental Impact Statement. For the reasons discussed below, the Corps should revise the Master Manual to implement the flexible flow GP2021 option, which would provide the widest range higher spring flows and lower summer flows below the Gavins Point dam among the alternatives presented.

Other A, 178

As documented by the National Academy of Sciences National Research Council's January 2002 report, *The Missouri River Ecosystem: Exploring the Prospects for Recovery* (*Missouri River Ecosystem*), the Missouri River was a dynamic system that sustained incredibly rich biological diversity and production before the human activity of the twentieth century changed it. Efforts to improve navigation and protect against floods have degraded significantly the Missouri River as a resource for fish and wildlife.

Other 14, 56

The following sections represent the Sierra Club comments regarding implementation of management changes required within the broad scope of legal requirements under which the US Army Corps of Engineers conducts Civil Works projects. Past Corps practices of ignoring their complete management responsibilities for all uses of the Missouri River system in order to benefit a limited navigation industry, and failing to conduct periodic

Other 182

reviews of its management practices through its' period of management responsibility, has brought the nation to this point of needing immediate and thorough actions to protect critical habitat and species through the recommendations proposed in the Biological Opinion and the EIS.

Other 182 (con't)

I. Introduction.

Revisions to the Master Manual and the Corps' management and operation of the six mainstem dams ought to be the first steps in an effort to recover the lost biological diversity in the overall Missouri River system. The Missouri River, which served as the major thoroughfare for the eastern half of Lewis and Clark's Expedition, has been played an incredibly significant role in America's development. It supports critical forest and aquatic habitat for hundreds of different species of fish and wildlife. The Missouri River is also one of America's most highly engineered river systems. Areas that fish and wildlife need to feed, reproduce and conserve energy have been eliminated. Stable flows from March through November have replaced the river's natural pattern of high flows in the spring and low flows in the summer. Findings and conclusions in the National Academy of Sciences' *Missouri River Ecosystem* report provides significant evidence that returning the Missouri River to a more natural state can put the river on a path of ecosystem restoration. In addition, significant questions remain about whether the Missouri River should continue to be managed to provide for commercial navigation.

Other A, 14, 56, 178

Any further delays to revising the Master Manual would be a mistake. Sufficient data exists to support the selection of a preferred alternative that involves changes to the Gavins Point dam releases. Changing the mainstem dam operations to include a spring rise and low summer flows will substantially reduce the adverse impacts of the current operations on native fish and wildlife, and their habitat. While the GP2021 option is not the best alternative for native fish and wildlife and their habitat, it represents a compromise with other river interest that provides the maximum benefits for fish and wildlife as compared with any of the other alternatives identified in the RDEIS. In the final environmental impact statement, however, the Corps must identify an alternative that truly represents the best alternative for fish and wildlife, and their ecosystem. Failing to do so is deceiving by making GP2021 appear as a position from where compromise begins. The truth is GP2021 is where the compromises must end. Sierra Club supports GP2021 because it does not wish to see the current process prolonged unnecessarily, but urges the Corps to identify an alternative that would maximize benefits to native fish and wildlife.

Other A

The Corps must also look beyond the current Master Manual revisions and continue to monitor and evaluate the health of the Missouri River ecosystem through adaptive management. The Corps must work with the U.S. Fish and Wildlife Service to implement the Missouri River Biological Opinion, as well as a recovery action plan, like the one described by the National Academy of Sciences (NAS, *Missouri River Ecosystem* at 109-118). We urge the Corps not only to proceed with updating the Master Manual to provide maximum benefits to fish and wildlife and to implement beneficial actions immediately, but also to proceed with a comprehensive review of the entire river system that would include completing ongoing studies, identifying additional information needs, monitoring fish and wildlife habitat and their responses to new conditions.

Other A, 119, 179

II. The Corps Must Adopt the GP2021 Option as the Preferred Alternative.

Over the past century, the Corps has engineered the Missouri River and controlled the Mainstem Reservoir System to serve multiple purposes, including navigation, flood control, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife habitat – but only to the extent fish and wildlife do not interfere with the other purposes. (RDEIS at 1-1). Fish and wildlife habitat have been relegated to the lowest priority in terms of the system's management and operation. As the National Academy of Sciences notes, as a result of regulating the Missouri:

EnSp 3,4

> the production and the diversity of the ecosystem have both markedly declined. One of these impacts is a reduced ability for trees to regenerate. On the Missouri River and many of its tributaries, this has especially been the case for the cottonwood, largely as a result of the current low rate of river meandering. The habitat through a typical cross-section of the post-regulation Missouri (in the non-submerged portions) has been greatly simplified. Side channels and backwater areas have been greatly reduced, thereby eliminating important habitat for many species of fishes, birds and game. The water, sediment, and nutrients previously spread across the floodplain by overbank flows and the meandering river are now primarily restricted to the main channel or contained in the system's reservoirs. These changes, combined with other human activities in floodplain areas, ***have produced an ecologically impoverished ecosystem.*** (NAS, *Missouri River Ecosystem* at 55 (emphasis added) (internal citations omitted)).

The symptoms of this sick system include three species native to the Missouri River that are on their way to extinction because their habitat is disappearing. Once lost, these resources can never be recovered. The Corps must firmly and aggressively address the needs of the piping plover, the least tern and pallid sturgeon and adopt a preferred alternative that will give these species the best chance of recovery, and that will maximize benefits to other native fish and wildlife and their habitat. A conservative approach to species recovery is not acceptable because underestimating the real needs of the least tern, piping plover and pallid sturgeon could be an error the Corps cannot reverse. Providing these species the best chance of recovery will lay a solid foundation for addressing many of the river's other ailments. The Corps must adopt the GP2021 option because: (1) it gives the federally listed species the best hope for recovery, and is the best option available for other native fish and wildlife and the ecosystem upon which they depend, and (2) it no longer makes sense to manage the river to benefit other purposes at the expense of wildlife. In addition, the Corps must revise the Final Environmental Impact Statement to clarify the analysis of the selected alternatives.

EnSp 3,4,5

Other A, 3

A. The GP2021 Option Provides The Best Hope For Recovering Federally Listed Species, And Is The Best Option Available For Other Native Fish And Wildlife And The Ecosystem Upon Which They Depend.

Among the alternatives presented and discussed in the RDEIS, GP2021 represents the best option for native fish and wildlife and the ecosystem upon which they depend, and should be selected as the preferred alternative in the Final Environmental Impact Statement.

Other A

1. USFWS' Reasonable and Prudent Alternative Requires Modifying the Gavins Point Dam to Provide a Spring Rise and Split Low Summer Flows.

As part of the Endangered Species Act (ESA) Section 7 consultation process, the U.S. Fish and Wildlife Service (USFWS) completed an ecosystem-based Biological Opinion (BiOp) regarding the Corps' Missouri River projects, which includes operation of the Missouri River Mainstem Reservoir System. The USFWS concluded that if the Corps continues current operations of the Mainstem Reservoir System, the continued existence of the pallid sturgeon, least tern and piping plover will be in jeopardy. Sierra Club agrees with the USFWS that "the Corps should make conservation of federally listed endangered and threatened species, and the ecosystem upon which they depend, a priority objective in future operations." (USFWS BiOp at 230).

Other 101

The BiOp describes a "reasonable and prudent alternative" (RPA) that the Corps could implement consistent with the project purposes to avoid jeopardizing the continued existence of the least tern, piping plover and pallid sturgeon. (USFWS BiOp at 234). The key elements of the USFWS RPA are (1) adopting an adaptive management framework that allows the Corps to monitor and evaluate the actual results of changes to system operations and to adapt system operation as new information becomes available; (2) implementing unbalanced intrasystem regulation of the reservoirs, which would enhance creation and availability of nesting and foraging habitats for the least tern and piping plover, and also enhances habitat for the pallid sturgeon; (3) creating, restoring and acquiring habitat for wildlife; and (4) modifying flow releases at the Fort Peck and Gavins Point Dams to provide an ecologically improved hydrograph in the lower Missouri River.

Other than the no action alternative, which would maintain the status quo, each of alternatives presented by the Corps in the RDEIS incorporates an adaptive management strategy, unbalanced intrasystem regulation, and modified releases at Fort Peck Dam. Habitat creation, restoration and acquisition are outside the scope of the Master Manual, and thus, not an element in the alternatives. The Corps should address the need to create, restore and acquire habitat as part of a comprehensive approach to the Missouri River ecosystem. The most critical element to discuss regarding the Corps' selection of a preferred alternative for the Master Manual revisions is the spring rise and low summer flow releases at Gavins Point Dam.

Other A, 70

2. GP2021 Most Closely Resembles the USFWS RPA.

The RDEIS presents six alternatives for revising the Missouri River Master Manual. Two of the options do not include any changes to the Gavins Point Dam releases and therefore, lack key elements of the USFWS RPA to avoid jeopardizing the federally listed species. These two alternatives are (1) the no action alternative, which would continue the current Water Control Plan (CWCP), and (2) the modified conservation plan (MCP), which would alter the CWCP by incorporating unbalanced storage among the upper and largest lakes in the Mainstem Reservoir System, increased drought conservation, and a spring rise approximately every three years from the Fort Peck Dam, but no spring rise from the Gavins Point Dam.

The other four options are referred to as the "GP options" because, in addition, to the elements contained in the MCP alternative, these alternatives include increased spring releases and lower summer flows from the Gavins Point Dam. The RDEIS distinguishes among the GP options by referring to the thousand cubic feet per second (kcfs) above the amount normally required for full service navigation for the spring and summer flows. The RDEIS presents the following GP alternatives: (1) GP1528, which includes a 15 kcfs spring rise followed by a minimum flat release of 28.5 kcfs that ends on September 1; (2) GP2021, which includes a 20 kcfs spring rise, followed by a 25 kcfs release to mid-July and then a 21 kcfs release until mid-August when the 25 kcfs resume until September 1; (3) GP1521, which includes a 15 kcfs spring rise, followed by a 25 kcfs release to mid-July and then a 21 kcfs release until mid-August when the 25 kcfs resume until September 1; and (4) GP2028, which includes a 20 kcfs spring rise, followed by a minimum flat release of 28.5 kcfs that ends on September 1. (RDEIS at 7-1).

While the four GP Options seem to comply with the USFWS RPA because they modify the Gavins Point Dam releases, only one most closely resembles the scenario identified in the USFWS' BiOp as the starting point for implementing the revised releases. The USFWS RPA describes a scenario that would implement an initial spring rise of 17.5 kcfs above the full service navigation level up to 20 kcfs. The summer flows would target 25 kcfs between late June and mid-July, followed by 21 kcfs until mid-August, with a return to 25 kcfs until September 1. (USFWS BiOp at 242-243). This is the GP2021 option.

The endangered least tern and threatened piping plover depend on unvegetated sandbars and islands in the river for nesting and are directly affected by water level changes. The endangered pallid sturgeon and other native fish require overbank flooding in the spring for habitat. Higher spring flows also provide critically important spawning cues for the native river fish. The GP2021 option includes a 20 kcfs spring rise every three years on average and a spilt summer release of 25/21 kcfs each year from Gavins Point Dam. An additional 20 kcfs in the spring would provide the maximum habitat for the least tern and piping plover in all four-river reaches, as compared with the other alternatives. Although the USFWS RPA indicates that a range of spring flows between 15 to 20 kcfs may be acceptable, there is marked improvement at the upper end of that range

EnSp 5

EnSp 46

versus the lower. (RDEIS at 7-45 to 7-46). Similarly, the split summer release is critical to providing exposed sandbars for the birds in the summer. A flat release of 28 kcfs may not provide adequate nesting habitat for the least tern and piping plover. The USFWS RPA does not include a flat summer release.

EnSp 5

Similarly, the endangered pallid sturgeon needs higher flows during the spring to supply the spawning cues it needs to reproduce. GP2021 is the alternative presented with the highest spring flow on an average of every three years, and is likely to provide substantial benefits to the pallid sturgeon's reproductive cycle. It is not necessary for the Corps to know with certainty the exact number of cfs needed to provide adequate spawning cues. There is no denying the fact that the pallid sturgeon evolved and once thrived in the Missouri River. Over the years, as their habitat has been eliminated and the river's natural hydrology has been replaced with steady flows, this species has suffered. In addition, there is evidence that pallid sturgeon spawned in response to high flow years in 1993, 1995 and 1997. Because the eggs of pallid sturgeon require several years to mature, the reproductive effects of the high flows were documented in 1999 and 2000. There is sufficient scientific data to support the USFWS' recommendation that an additional 15 to 20 kcfs would provide substantial reproductive benefits to the pallid sturgeon. An additional 30 kcfs could provide benefits to the fish habitat. Any uncertainty regarding the spawning cue needs of the pallid sturgeon must be addressed through adaptive management. For these reasons, the Corps must start at the upper end of the range recommended by the USFWS, 20 kcfs, and determine whether additional flows are needed through adaptive management. In sum, GP2021, which provides the largest range of flows between the spring and summer months, is the alternative presented in the RDEIS that produces the greatest benefits to federally listed species, other native fish and wildlife, and the ecosystem generally.

EnSp 5,57

EnSp 5,29,49

Other A

The Corps identifies the GP1528 option as the potential starting point because "it has the smallest changes of the four options from the releases" of current operations in the spring and summer, which is currently a 34.5 kcfs flat release. (*See, e.g.,* RDEIS at 7-1). There is no evidence to support that the Corps ought to minimize changes in the current operations. It may be politically attractive to attempt to minimize the changes in the flow releases, but it bears no relationship to what is best for the Missouri River ecosystem or the federally listed species. The list of species in danger of extinction is growing – 82 species along the Missouri River are listed as rare, threatened, or endangered by the seven states bordering the river. NAS, *Missouri River Ecosystem* at 65. GP1528 starts with an incorrect premise. While Sierra Club supports the concept of flexibility to allow the Corps to alter the Gavins Point Dam releases based on actual experience without requiring lengthy procedures, the Corps needs to start with the option that is best for the native fish and wildlife and the ecosystem upon which they depend. Rather than trying to minimize the changes to current operations, the Corps ought to be striving to return the Missouri to as close to its natural state as possible. In the few areas where the Missouri River retains a free-flowing nature, such as in Montana, upstream of the mainstem dams, "the moderately regulated reaches have retained their essential pre-regulation state including overbank flooding, adequate sediment supply to prevent channel degradation, scattered populations of cottonwood forests similar to those

Other A

observed by Lewis and Clark, and productive native fisheries." NAS, *Missouri River Ecosystem* at 59 (internal citations omitted).

3. Alternatives That Fail to Avoid Jeopardizing the Threatened and Endangered Species Must Be Rejected.

The RDEIS recognizes that the non-GP options risk a "jeopardy finding" by the USFWS because they do not meet the standards of the USFWS RPA, and suggests ways by which the Corps can avoid the requirements of the ESA. (RDEIS at 6-6). These should not be considered viable alternatives by the Corps. The Corps must reject attempting to avoid the ESA for two reasons. First, any attempt to seek an exemption from Section 7 of the ESA will impose yet another lengthy process on this undertaking to finally revise and update the Master Manual. Second, and most importantly, the ESA requires the Corps to consult with the USFWS about the future existence of federally listed species for a very good reason – to avoid sending the piping plover, least tern and pallid sturgeon into extinction. Without addressing the merits of an exemption request, attempting to avoid the law in this case would be a severe disservice to future generations who would be denied the benefits of these species. The Corps must reject any alternative that would involve seeking an exemption from the ESA.

Other A

B. It Does Not Make Sense to Continue to Manage the Missouri River System to Benefit Navigation, Flood Control, Irrigation and Hydropower At the Expense of Fish and Wildlife.

The Missouri River mainstem reservoir system serves multiple purposes, including: (1) navigation, (2) flood control, (3) water supply and irrigation, (4) hydropower, (5) fish and wildlife, and (6) recreation. Even though the Master Manual requires that ". . . the reservoirs will be operated for maximum benefit to recreation, fish and wildlife" to the extent possible, without interference with other purposes, the fish and wildlife have suffered woefully. NAS, *Missouri River Ecosystem* at 40-41. Since the Missouri River reservoir system was constructed, "there has been a shift in emphasis in the United States from the development of water resources to better management of water resources in highly developed, mature systems like the Missouri River, and specifically to explore the prospects for restoring some level of ecosystem benefits that have often been diminished with river regulation." *Id.* at 45. It simply does not make sense to make these other project purposes a priority over the needs of the fish and wildlife and the ecosystem upon which they depend.

Other 7

The cost of giving the least tern, piping plover and pallid sturgeon the best chance of recovery under the Master Manual plan is **one half of a percent** of the total average annual national economic development (NED) benefits. (RDEIS at 7-179). The RDEIS reports the total average annual NED benefits under current conditions to be approximately $1,853.6 million. Under the best option for fish and wildlife, the GP2021 option, average annual NED benefits increase by $5 to almost $9 million, depending on whether navigation would continue before and after the split flows in the summer. The GP2021 NED benefits, however, are calculated to be $7-11 million less than the NED

benefits under the GP1528 option, depending on whether navigation would continue before and after the split flows in the summer. That $7-11 million is just 0.4 to 0.6 percent of the total NED benefits. (RDEIS at 7-179).

The largest economic drivers in the NED calculation are hydropower, water supply/irrigation and flood control (in that order). Navigation – which the Corps describes as "a primary concern regarding changes in a Water Control Plan for the Missouri River Mainstem Reservoir System" – has by far, the smallest impact on the NED benefits. (RDEIS at 7-196). Recreation accounts for 12 times the amount of the annual average NED benefits as navigation under current operations. (RDEIS at 7-179).

Other 7, 182

1. Navigation Accounts For Less Than 0.4 Percent of the Average Annual NED Benefits.

Navigation on the Missouri is far less than projections from 50 years ago and should no longer be a "primary concern." The Missouri River navigation channel extends 735 miles from St. Louis to Sioux City, Iowa. Commercial navigation on the lower basin has dropped considerably over the past 40 years – falling well below the Corps' projections in 1950. Commercial traffic peaked in 1977 at 3.3 million tons, and by 1997, the traffic had dropped to 1.6 million tons. In the last decade, commercial traffic leveled off at an average of 1.5 million tons. (NAS, *Missouri River Ecosystem* at 74-75). Using the Missouri River to transport agricultural grain, food and food products proved to be unfavorable because these products tend to be bound for export markets and the Missouri is not well positioned to reach export markets. Instead, to the extent the Missouri River is used for commercial navigation, it is dominated by sand and gravel traffic. Sand and gravel, along with the material needed to construct and maintain the navigation channel account for almost 80% of the total waterway tonnage. (NAS, *Missouri River Ecosystem* at 75-76).

Navigation benefits currently account for less than 0.4% of the average annual total NED benefits. (RDEIS at 7-179). The RDEIS reports average annual total navigation benefits to be approximately $7 million under the current operations, with the total average annual NED benefits at about $1,853.6 million. RDEIS at 7-171, 7-179. Taking into account the cost of operation and maintenance results in net benefits of less than $3 million per year at full-service flow levels. When flows fall below full-service levels the benefits drop rapidly and actually reach zero at about 30 kcfs. (NAS, *Missouri River Ecosystem* at 75-76 (citing, USACE, 1998)). Moreover, the calculation of navigation benefits ignores the opportunity cost of ecosystem restoration services and recreation benefits, which could easily make net navigation benefits a negative number.

Nav 9,18, 34

It is time for the Corps to recognize that commercial navigation traffic is not significant on the Missouri River, but the effect of trying to maintain navigation services is having a tremendous impact on the ecosystem. The total amount of commercial navigation traffic that will be affected by the change in operating conditions under GP2021 is small and will not significantly impact the total NED benefits. The RDEIS dedicates a separate section (7.15.4) to navigation efficiencies and shows a loss of approximately $7.39 million in navigation efficiency costs due to the low water volume in the summer. The only chart presented on this subject shows the loss – even though the Corps' final conclusion is that "additional flows in the fall months are coincident with extreme low stages on the Mississippi River and provided sufficient savings to offset the summer losses." (RDEIS at 7-196).

Nav 9, 37

2. Hydropower Benefits Increase with GP2021.

More than 40% of the average annual total NED benefits are derived from hydropower production under current operating conditions. Under all of the proposed alternatives, including each of the GP options, hydropower production benefits increase. GP2021 would provide an additional $13+ million to the average annual hydropower benefits. While GP2021 does not provide the maximum hydropower benefits, as an ancillary purpose to the project, the Corps should select an alternative simply because it provides the maximum hydropower benefits.

HPower 15

Hydropower was never intended to be the primary purpose of the mainstem dams. In the early 1900s, Congress gave the Federal Power Commission (now known as the Federal Energy Regulatory Commission) primary responsibility for approving nonfederal hydropower dams on navigable waters. Congress decided that rather than having the federal government coordinate hydropower development, hydropower should be developed by the private industry subject to federal government regulation. The Corps may include hydropower as a project purpose, but only as ancillary to flood control or navigation. (NAS, *Missouri River Ecosystem* at 22).

There is a marginal difference between the hydropower production benefits under GP1528, as compared with GP2021. (RDEIS at 7-143, 7-152). The increase in benefits is, in part, due to the higher spring flows that would come with the GP Options. Summer and winter, however, are when power demands tend to be at the highest, which is generally due to increased heating and air conditioning use. The amount of energy generated at a hydropower dam is directly related to amount of flows in the river. Because the GP2021 option would provide lower flows from Gavins Point Dam in the peak summer months than GP1528, the dam's capacity to produce hydropower in those months will be less under GP2021, as compared with GP1528. The differences among the GP options in general, however, are small and should not be considered a barrier to selecting the GP2021 option.

Hpower 16

In addition, the RDEIS presents insufficient information regarding the impact of changing the dam operations on Western Area Power Administration's (WAPA) customers. WAPA markets the capacity and energy generated at the mainstem dams on the Corps' behalf. The RDIES describes who some of WAPA's customers are, but does not provide adequate information about how those customers will be affected. Because the effects are stated as a percentage increase in purchased power costs, it is impossible to analyze how many dollars, megawatts and people are affected. WAPA's customers should not experience a substantial increase in their electricity prices – or if they do – it is

WAPA 12

not a result of the changes in the mainstem dam operations. But without more information, it is not possible to understand the predicted effects on purchased power.

The remaining elements of the NED benefits are flood control, water supply and irrigation and recreation. Here again, the differences in economic benefits among the alternatives for each category are relatively small. The GP2021 option would provide $1.6 million less in water supply benefits than the current operations and $2.6 million less than the GP1528 option. Flood damage reduction benefits decrease by $2.6 million under the GP2021 option compared to current conditions, but are $1.9 million higher than the GP1528 option. Finally, recreation benefits increase under the GP options as compared with the current operations. While more could be said about each of these topics, the key point to make is that balancing the mainstem dam operations does involve some trade-offs. Sometimes there is a positive economic effect and sometimes there is a negative economic effect. The National Academy of Sciences makes this pointed conclusion:

WS 11

Other 7

FC 9

> The Master Manual is the key document for distributing the benefits of the river and its reservoir operations. However, the procedures in the Master Manual used to produce the current suite of benefits largely reflect social values from the mid-twentieth century. As a result, the Master Manual may not adequately be meeting contemporary social demands, which place a greater emphasis on ecosystem benefits, water- and nature-based recreational pursuits, preservation of endangered species, the enhancement and conservation of biodiversity, and maintenance of the river's corridor's cultural heritage. . . . *On the Missouri River, there is a distinct prospect that a reversal of tradeoffs that would favor ecosystem restoration may be justifiable solely on the grounds that it represents an economic improvement on current mainstem dam operations*. (NAS, *Missouri River Ecosystem* at 87 (emphasis added)).

As the Corps prepares to plan its operation and maintenance of the Missouri River mainstem reservoir system for the twenty-first century, the Corps must recognize that protecting and restoring the ecosystem can and should outweigh other interests.

III. The Corps Must Improve Its Analysis of Alternatives To Fully Present the Environmental Impacts of Each Alternative.

For more than a decade, the Corps and other state and federal agencies have collected a great deal of data about the Missouri River and the issues that concern many of the stakeholders. While there is still more information to obtain about how the proposed changes will impact the Missouri River's ecosystem, Sierra Club believes that the RDEIS contains sufficient information for the Corps to present a preferred alternative. The information, however, is not presented in a clear way that is easily understood by the public. In revising the RDEIS, Sierra Club urges the Corps to clarify its analyses in the Final Environmental Impact Statement and address the following:

Other 10

- Provide a complete explanation of how the Corps intends to implement adaptive management with each of the identified alternatives. As currently drafted, the RDEIS provides a broad description of what adaptive management is, but does not describe what specifically would be done to implement it for each of the alternatives.

Other 141, 156, 180

- Discuss the benefits the GP options would provide to other native fish and wildlife and the Missouri River ecosystem generally, rather than limiting the benefits to the federally listed species. While the least tern, piping plover and pallid sturgeon are of most immediate concern, it is wrong to present the material in a way that ignores the other fish and wildlife benefits, which may include avoiding future federal endangered species listings.

- Provide summary tables for all data sets. In various sections of the RDEIS there are charts that present certain data, but not others. Many times the text describes a conclusion that is different from what one would expect based on the charts and figures that are presented. Pictures speak more loudly than words and it is critical that the Corps presents such tables and charts for all critical data.

IV. Corps of Engineers Authorities and Regulations

- **Multiple Use Considerations and Environmental Responsibilities**

The Pick-Sloan Missouri River Basin Program under the Flood Control Act of 1944 originally designated multiple use of the Missouri River waters, particularly the usage of waters from the system of six integrated dams and reservoirs. These congressionally authorized purposes of the Missouri River are flood control, irrigation, navigation, recreation, fish and wildlife conservation, municipal water supply, water quality control and power generation. The Pick-Sloan Program called for the most efficient use of the waters of the Missouri River basin for all purposes. An amendment to the Flood Control Act of 1944 (Section 1: O'Mahoney-Millikin Amendment), established that navigation use of the System shall be considered so long as it does not conflict with any beneficial consumptive use that exists now or in the future. Congress therefore has authorized multiple System uses and the Corps has managerial discretion to fulfill the multiple uses authorized under congressional authority. The Corps has then extracted its version of its interpretation of priority uses through implementation of a series of Master Manuals guiding its operations of the System and its Annual Operating Procedures (AOP). Flood Control became the highest priority, releases from Gavins Point Dam, lowest on the system brought navigation to a priority, and fish and wildlife and recreation were managed as subservient to all other authorized project purposes, minimizing responsibilities from other federal laws: the 1958 Fish and Wildlife Coordination Act, which directs equal consideration for fish and wildlife resources on federal projects; the 1969 National Environmental Policy Act; and the 1972 Clean Water Act.

Legal 78

- **Ecosystem Approaches Required**

The US Army Corps of Engineers has virtually ignored its responsibilities to adopt and implement equal considerations for fish and wildlife resources, and to conduct management activities utilizing a systems or watershed management approach on the

Legal 79

Missouri River project, despite its clear legal responsibilities under law, its recognition of those responsibilities through modifications made in its own Engineering Regulations developed to implement new Corps responsibilities for environmental considerations, and from a Memorandum of Understanding adopted in December 1995, "To Foster the Ecosystem Approach", in which 13 federal agencies committed to a new federal policy.

On a system as large and complex as the Missouri, an ecosystem or watershed management approach is vital to providing full attention to all beneficial uses of the System, as well as preserving its natural resource base. When a System is degraded as the Missouri is, this approach becomes even more vital. The Corps modified Principles and Guidelines (ER 1105-2-100, Apr 2000) and its previous iterations, emphasize a watershed planning perspective; its regulations regarding Ecosystem Restoration (EP 1165-2-1, 15 Feb. 96A) emphasize activities to meet natural resource restoration and stewardship objectives **will** be conducted using an ecosystem approach. (emphasis added) The previously referenced MOU commits the Corps to "…provide leadership in and cooperate with activities that foster the ecosystem approach to natural resource management, protection and assistance.

One such Engineering Regulation which Corps management has failed to implement properly in its management of the Missouri system, is Water Quality and Environmental Management for Corps Civil Works Projects (ER-1110-2-8154, 31 May 1995), which establishes a policy for water quality management programs at Corps civil works projects. While Corps management has limited implementation of this policy to merely chemical water quality considerations at Civil Works projects, the regulation itself indicates its reach was intended to guide significantly more Corps actions at Civil Works projects. (see definitions at Section 5c and 5d) This regulation states "It is Corps policy to develop and implement a holistic, environmentally sound water quality management strategy for each project…developed in concert with other authorized project purposes. However, the environment will be addressed as equal in value and importance to other project purposes when developing or carrying out management strategies." (Item 6b) Further, "The Corps policy is to take a leadership role in carrying out the goals and objectives of the national policy by managing the nation's water resources that are under our control so that they are protected, maintained, and restored. …It is Corps policy to develop and implement a holistic, environmentally sound water quality management strategy for each project." (Section 6b) The Corps commitment is further indicated as: "It is the policy of the Corps that the environment be given equal standing not simply consideration in **all** aspects of project management and the operational decision-making process. (Section 7a) "The water quality program and the Corps are committed to holistic watershed ecosystem based resource management." (Section 7b)

Significantly for the Missouri Master Manual System revision, whose management procedures could have been modified through the Annual Operating Procedures, for an agency who's policies express a commitment to environmental leadership, conservation, restoration and stewardship, the failures to implement a sequence of operating changes to protect natural resources has lead to the significant requirements being called for in the Biological Opinion and EIS.

IV. Recommendations and Conclusions.

The current Master Manual for the Corps' management and operation of the six mainstem dams along the Missouri River is in dire need of revision. Since 1979, changing economic and social conditions in the United States have caused the Manual's focus on navigation and flood control to be far less desirable in the face of other ecological considerations. The fact that these dams were built before many of our nation's most important environmental laws, such as the Endangered Species Act, further necessitates a management plan that decreases their negative impact on native fish and wildlife and the ecosystem upon which they depend. Revising the Master Manual to implement the GP2021 option would be significant first step in helping the federally listed species to recover and restoring the Missouri River to a more natural state.

Other A

The Sierra Club Chapters located on the Missouri River have extensively studied the issues required to move the System to a more balanced and sustainable operation for all uses of the river. Necessarily this will require changes in current operations of the reservoirs. In addition to our comments in other sections of these comments we provide the following cautions and recommendations for consideration as part of a more comprehensive management approach for the Missouri River within changes to the Master Manual:

Other 7

1. No new dams in the Missouri River basin.

Pending development of a basin-wide comprehensive plan, including a comprehensive study of the hydrology and flows of the entire basin, the Corps should advocate to all other agencies and state governments that no new dams should be considered in any of the major or minor tributaries of the River. The disruption of natural flow regimes has wrought havoc for the natural resource base and until these processes are modeled and their effects fully identified there can be no justification for new disruptions

2. No new levees that protect beyond the "agricultural" level (5 year flood).

"Industrial" (100+ year protection) levees have separated the river from its floodplains and provided similar disruption effects to the natural resources as have dams. Scientific reports over the past decade, including the Corps 1995 Floodplain Management Assessment and the Galloway Report, highlited some of the impacts to flooding caused by separation of the river from its floodplain. Further studies have universally itemized the need to reconnect the river to its floodplain for successful restoration for species recovery and water quality. The Missouri River Mitigation Program is nearly wholly based upon its successful for restoring floodplains and avoiding further encroachment on the existing floodplain.

dilema. Finding ways to redistribute the sediments and waterflows necessary to rebuild the natural communities of the entire lower Missouri River to the Gulf of Mexico should be a priority of future management considerations for the Missouri System. Short of physical removal of Gavins Point, it should become a "run of the river" structure (water in, water out).

Other 36

8. Opposition to out-of-basin diversions.

We oppose out-of-basins diversions that would potentially impact the historic natural fish and wildlife communities within the basin, or potentially introduce Missouri River basins species into other watersheds/basins.

9. Opposition to basin depletions

We oppose in-basin diversions where water does not return to river. Example: irrigation where large quantities are lost through absorption or evaporation.

10. Impacts of managing for recreation.

While supporting ecologically-sustainable recreation in the Missouri River basin, we recognize the need to regulate recreational activities that negatively impact other values of the river. Jet skis ("ski-doos"), large high-powered personal watercraft, and other high-impact uses should be restricted to times or places where least harm is caused.

11. Dredging - disruption of deposited sediment

While there exists dire need for redistribution of sediments, disruptions of sediments by dredging presents potentially serious water quality concerns. As such, dredging should only be undertaken ONLY when there will be NO negative impact on water quality.

12. We oppose the introduction of non-native species and support efforts to reduce current populations that have been previously introduced.

Wildlife and plants should not be introduced into habitats where they are not native when introduction may have adverse effects. Proposed wildlife and plant introduction and removals should be prohibited until an adequate research study is completed that indicates whether or not such action will have an adverse effect on the natural ecosystem involved. The Sierra Club supports the removal or control of non-native species and rehabilitation and restoration of native ecosystems, unless it is no longer feasible to do so or there is not a documented conflict with the native ecosystem.

The time is now for the Corps to implement its own policies and proscriptions for operating Civil Works projects. Significantly for the issues facing the Missouri System, clear procedures are identified. ER 1110-2-8154 states that "Environmental success will not be measured by production of single or limited numbers of species, or enhanced recreational opportunities, but by **expertise in reestablishing flow regimes,**

Legal 80

3. Impacts to lower Missouri River flows below Boonville and Mississippi River flows.

Other 183
Miss 26

The Corps of Engineers presented NO evidence at the public meetings held in the fall or provided any evidence in the EIS that there were significant impacts to flows on the Missouri River below Boonville nor on the Mississippi River below the confuence with the Missouri. The Corps should proceed to changing the Master Manual based upon this evidence and act to modify flows based upon the evidence collected over ten years of developing the Master Manual EIS.

4. Support "unbalancing" the reservoirs

Other 184

If the "split-season" flow regime is utilized, the flows from the upper basin reservoirs should be cycled, rather than drawing down one reservoir year after year. This will allow exposure of the sandbars and mudflats in the upper basin reservoirs on a cyclical basis, and should enhance nesting success for the endangered bird species. However, careful monitoring and adaptive management should be utilized to ensure that the results are contributing to natural resource recovery.

5. Oppose bank stabilization and destruction of riparian zone - basin-wide

Other 185

The current bank stabilization program operates independently of considerations for reconnecting the river to its floodplain and destroys the ability of resource managers to restore a more natural flow process to the river as required in Corps Engineering Regulations and as recommended by virtually all river scientists. This program should be reassessed and scaled bank to fit within modern management principles.

6. Implement setbacks for housing/residential developments floodplain preservation, riparian zone protection, setbacks for aesthetics. Minimum of 100 year flood level

Other 186

Riverfront development is destroying the public ownership values of the Missouri River at an alarming rate; trophy homes built close to the river command a premium price but destroy riparian habitat and diminish the aesthetic quality of the river. Carefully planned zoning ordinances, when combined with federal incentive programs, can minimize many of the negative impacts of riverfront housing developments. These include setbacks for houses, screening of buildings using natural vegetation, and blending homes with natural topography. The Corps of Engineers should exhibit leadership within the basin to effect protections for the floodplain and support and work with local zoning boards and county commissions, as well as citizens groups, to secure and implement proper ordinances that focus on the public ownership values of the river.

7. Retirement of Gavins Point dam as a flood control or water retention structure.

Other 187

As Gavins Point Dam approaches the end of its useful life due to the sediment buildup behind the dam, consideration should be given to the possibility of removal and restoring the sediment flows to the river. The Corps should immediately implement modeling to determine solutions for this critical infrastructure and natural resource

rehabilitating wetlands and riparian areas, managing sediment delivery, controlling the chemical and physical aspects of the aquatic systems, and overall ability to restore a dynamic, self-sustaining aquatic ecosystem." Modifying the Master Manual to not only meet its specific requirements under the Biological Opinion and the GP 2021 recommended modification from the options outlined in the EIS, but following its own "**leadership"** declarations are the proper steps to follow in meeting its obligations to the People of the United States and the natural resources of the Missouri System.

Legal 80 (con't)

Submitted by:

Mark N. Beorkrem

Mark N. Beorkrem
National Rivers Committee
Midwest Region
Sierra Club
P.O. Box 370
204 N. Wyandotte St.
Morrisonville, IL 62546
mbeorkrem@hotmail.com
217-526-4480

N0100017

THE WILDLIFE SOCIETY
South Dakota Chapter

P.O. Box 2140B
Brookings, SD 57007

February 28, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha NE 68144-3869

To Whom It May Concern:

The South Dakota Chapter of the Wildlife Society (SDTWS) would like to take this opportunity to comment on the Missouri River Revised Draft Environmental Impact Statement on the Master Water Control Manual.

The Missouri River is one of the great natural resources of South Dakota. Bisecting the state the river has figured prominently in our history, our development and even our culture as evident as to whether you are "West River" or "East River." The four reservoirs created by the dams on the Missouri in South Dakota and the natural sections of the river below Fort Randall and Gavins Point Dams are major recreation destinations for South Dakotans and visitors from other states and countries. Any changes to the management of this river needs to be carefully considered and thought out.

That said, the current water management plan (CWCP) used by the Corps of Engineers is outdated, outmoded, and overly favors a select group of river users to the detriment of others. Worse, from a fisheries and wildlife standpoint, the CWCP diminishes the Missouri River ecosystem, has resulted in a decrease in native fish and wildlife along the river and has led to a jeopardy opinion from the U.S. Fish & Wildlife Service in regard to the endangered pallid sturgeon and least tern and the threatened piping plover.

Other 7

The Modified Conservation Plan (MCP) is a step in the right direction. Adaptive management is vital in managing a system as dynamic and changing as the Missouri. Managers need the flexibility that is inherent in adaptive management. The current water management plan straight-jackets management of the river. The drought conservation measures in the MCP returns a balance to the management of the river where fisheries and wildlife values and recreation on the river and reservoirs are not sacrificed to maintain a marginal navigation interest. The changes in flows from Fort Peck Dam are heartily supported as a means of recovering the endangered pallid sturgeon. Likewise the SDTWS supports the unbalancing of the reservoirs component of the MCP. This concept

Other 77, 184, 188

will provide spawning habitat and cover for fish and replenish sandbar and beach habitat for shorebirds including the endangered least tern and the threatened piping plover.

The Modified Conservation Plan in itself however does not effectively restore the Missouri River ecosystem below Fort Randall and Gavins Point Dams or recover endangered species that utilize those parts of the river. The MCP paired with any of the four Gavins Point (GP) alternatives that include an increase in spring releases and a corresponding decrease in summer releases out of Gavins Point Dam is superior to the CWCP and the MCP alone. Although each of the four GP alternatives is acceptable to the SDTWS, the Chapter recommends the implementation of GP2021. (Increase spring releases by 20,000 c.f.s. every third year followed by annual summer releases of 21,000 c.f.s.). This alternative is the most effective in restoring the Missouri River. It will benefit the native fish and wildlife that use the river by mimicking the natural spring rise and low summer flows. Finally this alternative will provide the best chance for recovering the pallid sturgeon, least tern and piping plover.

Thank you for your time and consideration.

Other A

Sincerely,

Daniel E. Hubbard
President

N0100018

From: Doug Backlund
Sent: Monday, October 29, 2001 10:01 PM
To: Mastermanual
Subject: Comment on the master manual

Doug Backlund, President
Missouri Breaks Chapter of the National Audubon Society
PO Box 832
Pierre, SD 57501
(605) 945-0511

The mission of the National Audubon Society is to conserve and restore natural ecosystems, focusing on birds and other wildlife for the benefit of humanity and the earth's biological diversity. Therefore, the Missouri Breaks Chapter of the National Audubon Society supports management alternatives for the Missouri River that mimic natural conditions as closely as possible, for the benefit of endangered birds and fish as well as other native wildlife and their riverine habitats.

Other A

N0100019

Other 7

From: Chuck Clayton
Sent: Friday, October 26, 2001 11:32 AM
To: Mastermanual
Subject: Attn: Missouri River RDEIS

US Army Corps of Engineers,

The South Dakota Division of the Izaak Walton League, feels it is imperative to change the management of the Missouri River in the Master Manual.

The upper basin states have long suffered the effects of the river management for the benefit of a few down stream states and even fewer industries that have been heavily subsidized by the taxpayers for years.

In our state, tourism is our second biggest industry bringing in millions of dollars --- more than the total barge industry.

Our portion of the river has been severely neglected by the present management practices. The Corps needs to consider the needs of our wildlife, fisheries, and drinking water on an even plain with the downstream states.

We should deserve some consideration for the flooding of our land to help protect the downstream states and their property. In a year that is slightly below normal for precipitation, our lakes and fisheries suffer due to the current operation of the main stem dams for constant flow during the shipping season. This, even when only a minute portion of the grain moved in the US travels the Missouri. The Barges haul mostly rock (to maintain rip-rap for you) and occasionally fertilizer.

The downstream states seem to want us to take the bad (flood our land) and the bad (low water levels in our reservoirs), while they get the good (flood protection) and the good (a highly subsidized barge industry that has very few people working in it with just a few owners that make huge profits).

Please give the Corps the ability to manage the Missouri with more natural flows in the Spring and Fall in the basin. The upper states deserve as much from the Missouri River as the lower states.

Chuck Clayton
Vice President, National Izaak Walton League
President, SD Division
Izaak Walton League
798 11th SW
Huron, SD 57350
605-352-2598
clayton@santel.net

This page is intentionally left blank.