U.S. ARMY CORPS OF ENGINEERS

NORTHWESTERN DIVISION

COMMENT SESSION

REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

MISSOURI RIVER MASTER MANUAL

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HEARING SESSION, taken before me, Gary A. Barnes, Court Reporter and General Notary Public within and for the State of Nebraska, commencing at the hour of 7:00 p.m., on the 19th day of February, 2002, at the Holiday Inn Hotel & Suites Ameristar, 2200 River Road, Council Bluffs, Iowa.

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HEARING OFFICER:

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I N D E X

I N D E X, Cont'd

I N D E X, Cont'd

COLONEL UBBELOHDE: Welcome to this evening's comment session on the Revised Draft Environmental Impact Statement for the Missouri River Master Manual.

My name is Colonel Kurt Ubbelohde, Commander of the Omaha District, U.S. Army Corps of Engineers.

With me tonight are members of the team that prepared the Revised Draft Environmental Impact Statement: Rose Hargrave, Paul Johnston, Roy McAllister, Rick Moore, Mary Roth, Larry Cieslik, Jody Farhat, Patti Lee and Betty Newhouse. Also with us are Pam Haverland, from the USGS, and Jimmy Black, who is with our Western Area Power Administration.

This hearing is the last of 20 sessions that have been held from Helena, Montana to New Orleans, Louisiana.

This afternoon we conducted an open-house workshop. I hope that many of you were able to stop by and study the displays, pick up handouts and talk with the staff. If you weren't, please take a few minutes this evening to visit the displays.

Our agenda tonight will start with a

short video. There is a welcome, followed by a description of the projects, the features of the Revised Draft Environmental Impact Statement and the major impacts.

We want everyone to have a common understanding of the RDEIS. Copies of the summary and handouts, as well as the entire documents are available at libraries, project offices throughout the basin and you may also get a copy by writing to us or off of our website.

Following the video, I will give a fuller description of the comment process this evening and then we'll take your comments. And we'll stay as long as necessary for everyone to be heard.

And with that, we'll begin.

(Videotaped Presentation.)

COLONEL UBBELOHDE: This hearing session will come to order.

Our purpose this evening is to conduct a public hearing on the proposed changes to the guidelines from the Missouri River Mainstem System operations.

Before I proceed, I'd like to recognize a few elected officials.

The Mayor of Council Bluffs, Tom Hanafan.

The Mayor of Omaha, Mike Fahey.

Senator from the State of Iowa, Hubert Houser.

Also, from the Iowa State Senate, Melvyn Houser.

Iowa's Secretary of Agriculture, Patty Judge.

Representing Senator Chuck Hagel, from Nebraska, James Niger.

And representing Congressman Greg Ganske, Mr. Ben Post.

Do we have any other elected officials or their representatives here who wish to be recognized?

MS. BARRY: Donna Barry, representing Charles Grassley, Senator Grassley.

COLONEL UBBELOHDE: Thank you.

Yes, ma'am.

DR. PIPER: Dr. Barbara Piper, representing our Honorable Mayor of Carter Lake Iowa, Emil Hausner.

COLONEL UBBELOHDE: Yes, sir.

MR. NELSON: Representing the

Senator of Nebraska, Ben Nelson, Don Nelson.

COLONEL UBBELOHDE: Yes, sir?

MR. GOEDEKEN: David Goedeken representing Mayor Jerry Ryan, Bellevue, Nebraska.

COLONEL UBBELOHDE: Are there any others who wish to be recognized?

This hearing is being recorded by Gary Barnes of Barnes Reporting Service. He will be taking verbatim testimony that will be the basis for the official transcript and record of this hearing.

This transcript, with all written statements and other data, will be made part of the administrative record for action. Persons who were interested in obtaining a copy of the transcript for this session or any other session can do so. Persons interested in receiving a copy need to indicate this on one of the cards available at the table by the entrance. Also, if you are not on our mailing list and desire to be placed on it, please indicate this on one of the cards, as well.

In order to conduct an orderly hearing, it is essential that I have a card from

anyone desiring to speak, giving your name and who you represent. If you desire to make a statement and have not filled out a card, please raise your hand and we'll furnish one to you.

I'd also like to ask if there's an empty seat next to you, raise your hand so that one of these fine folks who are standing around could also sit down. It's going to be a long evening. Please take advantage of the chairs, folks.

The purpose of tonight's session is to help ensure that we have all the essential information that we will need to make our decision on establishing the guidelines for the future operations of the Mainstem System and that this information is accurate. This is your opportunity to provide us with some of that information. We view this as a very important opportunity for you to have an influence on the decision. Therefore, I'm glad to see you all here tonight.

I want you to remember that tonight's forum is to discuss the proposed changes in the operation of the Missouri Mainstem System that are analyzed in the Revised Draft

Environmental Impact Statement. We should concentrate our efforts this evening on those issues.

It is my intention to give all interested parties an opportunity to express their views on the proposed changes fully, freely and publicly. It is in the spirit of seeking a full disclosure and providing an opportunity for you to be heard regarding this decision that we have called this hearing. Anyone wishing to speak or make a statement will be given the opportunity to do so.

The Missouri River Mainstem System consists of Corps of Engineers' constructed and operated projects, so officially that makes us a project proponent. However, it is our intention that the final decision on the future operational guidelines for these projects reflects a plan that considers the views of all interests, focuses on the contemporary and future needs served by the Mainstem System and meets the requirements established by Congress.

As Hearing Officer, my role and responsibility is to conduct this hearing in such a manner as to ensure the full disclosure of all

relevant facts bearing on the information that we currently have before us. If the information is inaccurate or incomplete, we need to know that and you can help us make that determination.

Ultimately, the final selection of a plan that provides the framework for the future operations of the Mainstem System will be based on the benefits that may be expected to accrue from the proposed plan as well the probable negative impacts, including cumulative impacts. This includes significant social, economic and environmental factors.

Should you desire to submit a written statement and do not have it prepared, you may send it to the U.S. Corps of Engineers in Omaha, Attention: The Missouri River Master Manual. You may also submit your comments by fax or electronically. If you need further information on how to submit your comments, please stop by the table outside this room and we'll be glad to give you that information. The official record for this hearing will be open until the 28th of February, 2002. To be properly considered, your written statements must be postmarked by that date.

Before I begin taking testimony, I would like to say a few words about the order and procedure that will be followed. When we call your name, please come forward to the lectern, state you name and address, specify whether or not you're representing a group, agency, organization or if you're speaking as an individual. You will be given five minutes to complete your testimony. If you're going to read a statement, we would appreciate it if you could provide a copy to the court reporter prior to speaking to facilitate taking down your verbatim remarks.

After all statements were made time will be allowed for any additional remarks. During the session I may ask questions to clarify points for my own satisfaction. Since the purpose of this public hearing is to gather information that will be used to evaluate the proposed plan or alternatives to it, and since open debate between members of the audience would be counter productive to this purpose, I must insist that all comments be directed to me, the Hearing Officer.

With the exception of public

officials, or their representatives who will speak first, speakers will be given an equal opportunity to comment. Please remember, speakers, you will have five minutes. We will be using a lighted timer. When the yellow light comes on, it means you have two minutes of time remaining. When the red light comes on, your five minutes are up. No portion of unused time allotted to each speaker may be transferred to another presenter. The purpose of the hearing is to permit members of the public an equal opportunity to concisely present their views, information, or evidence. If we allow one speaker to stockpile the unused time of others, the result may be that the hearing record will be unfairly tainted and others waiting to speak may be discouraged from doing so. I'll now call the names of those who have submitted cards, beginning with elected officials.

MR. CIESLIK: Mayor Hanafan?

MAYOR HANAFAN: Tom Hanafan, Mayor of the City of Council Bluffs, 209 Pearl Street, 51501.

Well, thank you for the opportunity this evening to speak.

There are three (3) major issues that we're concerned with in the City of Council Bluffs. We've been a part of the Missouri River Basin, obviously, since our existence. We go back to 1890s, and we had our first flood in the area; 1940's, when we had our second flood; and the great flood of 1952.

In 1952, we created a dike system that surrounds, goes to the north, throughout the west and south, into Council Bluffs and, then, of course, with the Loess Hills that we have to the east, we've actually created somewhat of a bowl system. And when the water or rain and snow that comes down from the Loess Hills and then with any increase in the levels in the Missouri River, which also includes the Mosquito Creek and the Indian Creek Basin. And as you raise water on the Missouri River, we have nine pump stations in place and we are in the process of building two more pump stations, that we actually draw the water down on the south and the west side of town and if the river rises above that we shut those pumps down, we shut down the gates to the river. And, obviously, what happens is the groundwater continues to increase, floods basements and does

IntD

a tremendous amount of damage to our area.

We've learned how to live with it the way the levels are today. Any increase in spring runoff or increase in the spring water normally causes us some major problems. So we're obviously -- we build our community on sewer system control system around that front, so any change makes a major difference in what we do with our water levels.

IntD

The second area is economic development. We have the facility that you stayed in today was created by the State of Iowa, by law, for gambling. And the people in the state, in the Pottawattamie County area have voted it in. We have three (3) hotels -- four (4) hotels that set along the river and the river boats employ approximately three thousand (3,000) people. Any major change, again, the design standards were done according to the levels of the Missouri River today, and any change of that could create major problems in economic development along the river. That also includes new economic development as we look into the future north of here, as you move towards North 25th Street.

Other

The third area is quality of life. The City of Council Bluffs takes a hundred (100) percent of its water for its levee, the people to live, to drink and to eat out of the Missouri River. When there are low levels in the summertime and they can create some major problems.

What we've done, we've built two new reservoirs to help that situation out. But, as the water levels go down, it makes it very difficult for us to do anything about bringing water back. And we also have, one other issue is that we have just signed on with MidAmerica Energy to build a new power plant and that power plant relies, the current power plant relies on water from the Missouri River for cooling water, which not only takes care of Council Bluffs and Western Iowa, but actually distributes electricity throughout the State of Iowa.

Thank you.

MR. CIESLIK: Mayor Fahey?

MAYOR FAHEY: Thank you and good evening.

My name is Mike Fahey, Mayor of the City of Omaha, 1819 Douglas Street, 68183.

WS

MoPower

First off, let me thank the Corps for hosting this evening's public testimony. I really do appreciate the opportunity to talk about this and you kept your word. I told you I would be thank of that and, obvious, judging by the turnout.

I appreciate the opportunity to further define and paint Omaha's new vision and dreams for its Missouri Riverfront and address the potential negative impact these new river proposals could have on that new vision.

Like any other important decision, there are many perspectives to consider. Many sides to study and often the best solution lies somewhere in the middle. The concerns raised by wildlife and ecological experts are valid, but the Omaha/Council Bluffs Area also have valid concerns that need to be considered.

The City of Omaha has four (4) major concerns. I would like to be clear that the devil is always in the details and tonight is just a review and summary of those issues.

Omaha and Council Bluffs rely on the Missouri River for many essential services. Much of our water supply comes from the river. River

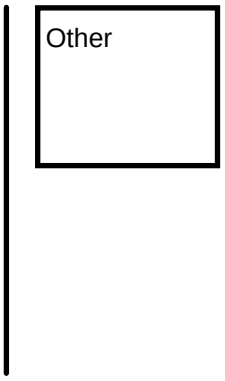
levels have an impact on the releases of our sanitary and storm sewers. The Missouri River is utilized to cool area power plants, provide water for agricultural purposes and allows our city's industry barge transportation as a transportation alternative.

Now, regarding our economy, Tom talked about it briefly, I just want to reemphasize a few points.

Omaha has committed millions and, when it's all said and done, billions of dollars into new development and redevelopment of our Riverfront. So much is planned that we loosely titled it "Back to the River."

With our Convention Center marina, Gallup's new corporate headquarters, a fabulous pedestrian bridge linking hundreds of miles of trails and new restaurants and parks, Omahan's will soon have unprecedented access to the banks of the Missouri River. So the water levels, in particular during the warmer months, is imperative. We cannot underestimate the economic importance of having a functional and environmentally pleasing river.

Tom talked about the quality of



life. Omaha is not blessed with large lakes, but recreational boating has steadily grown more important to Omaha's quality of life and Omaha's economy. All river proposals recommend lowering releases to a level equal to or, worse yet, below the minimal navigational channel requirements. Low summer flows would dry up our marinas. Boat docks would rest on mud and boats could be marooned. The planned docks for our new restaurant over there would not be feasible.

Nav

Our image is important to our city. Missouri River is a mud bottom river. The look of the Missouri River is a significant factor to consider when building on the Riverfront. A walk along our path, over our pedestrian bridge or through our parks will be less interesting if all we can enjoy are the muddy banks and the bottom of the Missouri River, throughout the warmer months.

Other

We are building a new front door to Omaha and a vibrant flowing Missouri River is an integral and key element.

In conclusion, the health and vitality of the Missouri River is critical to all of us. No doubt we all want the river to be the

best it can be, but we must find a middle ground.

To avoid severe economic outcomes, Omaha respectfully requests that the summer river levels be maintained at no less than sixteen (16) feet, as measured at the Omaha Station.

I thank you for your time.

MR. CIESLIK: Hubert Houser?

DR. PIPER: Good evening, I'm Dr. Barbara Piper, representing the Honorable Mayor from our City, Carter Lake, Iowa.

I would also like to wish the Colonel, you and the other engineers of the U.S. Army Corps of Engineers a very happy National Engineers Week.

I would like to read into testimony a letter that we have composed from the City of Carter Lake.

Elected officials and other public representatives of the City of Carter Lake, Iowa want to have this letter read and entered as part of the formal testimony recorded this evening regarding the Missouri River Master Manual Revised Draft Environmental Impact Statement.

Carter Lake, a horseshoe-shaped oxbow lake of the Missouri River is located on

the eastern edge of Omaha on the Iowa/Nebraska state line. The lake is situated directly across from the Missouri River at River Mile Six Twenty (620) on the right bank. The lake is approximately three (3) miles long, has a water surface area of three hundred and twenty (320) acres and varies in width from five hundred (500) to fourteen hundred and fifty (1450) feet.

Carter Lake has a rich history since being separated from the Missouri River in the late 1800s. Today high value, residential properties, as well as public parks, follow its lake front. Property values along the lake front exceed eighteen point six (18.6) million dollars and additional high value properties along the lake front are being developed.

Adjacent property owners and the public can intensively use the lake for recreation.

We have reviewed the six options discuss in the Revised Draft and are concerned that the negative impasse to Carter Lake have not been adequately addressed.

GW

Oxbow lakes are connected to Missouri River levels through both surface water

GW (con't)

flooding and groundwater movement. This fact is contained in an engineer research report issued by the University of Iowa, in cooperation with the Iowa Geologic Society, entitled "Water Management, Water Quality and Alluvial Morphology of Selected Iowa Oxbow Lakes."

This report states that the water balance of the lake is depending upon recharge by precipitation, surface water and groundwater at times of high precipitation and groundwater levels. This is the case for Carter Lake.

The desired level of the lake is between nine hundred seventy point five (970.5) and nine hundred seventy-one (971) feet above mean sea level. The mean Missouri River level between April to October near Carter Lake is nine hundred seventy point six (970.6) feet on gauge data recorded between 1953 and 2000.

Missouri River elevations above nine hundred seventy-one (971) feet raise the level of Carter Lake. River levels lower than nine seventy-one (971) feet lead to increased lake seepage losses.

As a consequence, any change in the Missouri River levels from historic operations

will have a direct impact on water levels in Carter Lake. Higher groundwater levels will increase Carter Lake's water elevation and will cause shoreline erosion, boat and dock damage and lowland flooding.

GW (con't)

Lowering Missouri River levels will in turn decrease Carter Lake depth levels, leading to not only aesthetic damages, recreational limitations and water quality problems, but also to aquatic habitat damage.

WRH

Carter Lake is a relatively shallow lake and any loss in lake depth has pronounced ecological and recreational effects.

Property damages resulting from the proposed Missouri River changes would be directly attributable to the flow alterations from the 1953 historic levels.

As a consequence, the City of Carter Lake is opposed to flow alterations that would be to higher river levels in the spring and lower river levels in the fall.

We recommend that the U.S. Army Corps of Engineers install an improved Carter Lake Water Level Management System to mitigate the damages that would otherwise occur with

Other

fluctuating river levels.

Thank you very much.

MR. CIESLIK: Hubert Houser?

SENATOR HOUSER: Colonel, Ladies and Gentlemen, my name is Hubert Houser, 34697 Beechnut Road, Carson, Iowa. I'm a member of the Iowa Senate. I represent several Iowa Counties adjoining the Missouri River.

With yesterday's action in the Iowa Legislature, both the Iowa House and Senate have now passed Senate File 2051. This bill establishes an Iowa Inter-Agency Missouri River Authority. The bill directs this Authority to denote management of the Missouri River in a manner that does not negatively impact landowners along the river or negatively impact the State's economy.

Iowa has been represented on the Missouri River Basin Association by a staff person from the Iowa Department of Natural Resources.

The bill just passed by the Iowa Legislature expands Iowa's representation to include the Departments of Economic Development, Transportation, Agriculture and the Utilities

Commission. We believe this group will more fully represent Iowa's interest as it relates to Missouri River matters. We would encourage other member states in the Missouri River Basin Association to do likewise. It is important that all interests be at the table and not just natural resources.

The Governor of Iowa is directing state agencies to oppose a spring rise and to advocate for alternative methods and mitigate any impact on threatened species.

Other

Before the Corps implements any changes in the Master Water Control Manual that may put our communities, farms and economy at risk, we urge that the interest of all be first resolved.

Thank you.

MR. CIESLIK: Melvyn Houser? Melvyn Houser?

MR. HOUSER: My name's Melvyn Houser, representing the Pottawattamie County Board of Supervisors. The address is 27 South 6th Street, Council Bluffs, Iowa 51501.

I have submitted earlier today a resolution passed by the Pottawattamie County

Board of Supervisors asking that the Army Corps of Engineers maintain its Current Water Control Plan.

I would also like to take the opportunity to make a small talk on personal notes.

"The next World War will be over Water."

This quote was made by Ismail Serageldin, Vice President of World Bank.

I would like to congratulate the Army Corps of Engineers for bringing together such an eclectic diverse group of people who are against any changes in the Current Water Control Plan. This is a nonpartisan group of city and county officials, Farm Bureau members, farmers, power company and others who are united on this issue. They will tell you about potential economic losses, not only to the farmers, but about the ripple affect of those who supply the farmers. They will talk about potential losses in ability to economically produce the electrical power we depend on and they will tell you why we need water levels to remain as they are.

I don't want to talk about why we

need water, but why we have a right to it.

The name for Islamic law is "shari'a," which stems from the word meaning "The sharing of water."

Fourteen thousand (14,000) years ago, the fledgling Muslim religion states that water is a right. This was from a people who live in the desert. But now government and agencies who manage water treat it as a need, much like oil or transportation or high-speed internet service.

At first thought, one would think that "right" and "need" are the same, but they are not. A "need" is something that is necessary and desired, but can be denied. A "right," on the other hand, is an entitlement which cannot be denied. If water is a need, then it can be classified with roads and telecommunications, something people want, but not necessarily guaranteed. If it is a right, then local governments and agencies are required to provide it, as we do freedom and religion and speech.

Someday, I don't know when, these dams may be gone. There will be no Walleye fishing in South Dakota, no farming as we know it

Other

along the river. No houses or businesses in West Council Bluffs. The building and the levees will be gone, and for all we know, the Pallid Sturgeon will die, or thrive, regardless of what we do.

But, until then, we folks downstream do not want to be denied our right to a dependable flow of Missouri River water.

I respectfully ask that the Army Corps of Engineers keep in place the Current Water Control Plan.

Thank you.

MR. CIESLIK: Patty Judge?

MS. JUDGE: Good evening. Patty Judge, Iowa Department of Agriculture, Des Moines, Iowa 50319.

The comments I'm making this evening are made by me as an elected official of the State of Iowa. Official comments from the State of Iowa will be followed at a later date.

Iowa's mighty rivers are as much a part of our history as our farm heritage and as a child I remember, as I'm sure most of you do, reading about Lewis and Clark and their explorations of the Missouri River and how exciting that must have been to travel that river

back in 1804.

Well, recent debate has centered on returning the Missouri River to its natural state that Meriwether Lewis and William Clark found when they began that journey.

While that's a rather romantic thought, it's not one that a reasonable person can entertain for very long, any more than we can return to horse and buggy transportation, country schools, mud roads and outside toilets.

Over 60 years ago the comprehensive plan was developed called the Missouri River Basin Project and the Corps of Engineers' Project called for development of water resources on the river and the tributaries drained a half a million square miles, constructed dams with the storage capacity of seventy-three (73) million acre feet, created two point six (2.6) million kilowatts of hydroelectric generation and a navigable channel from Sioux City to St. Louis.

You heard earlier tonight six dams were built on the river, in Montana, South Dakota and North Dakota. Those projects were undertaken, in part, with the idea of regulating the flow of water as a flood control measure.

Those of us who remember the devastation of river flooding not so very long ago aren't very eager to return to that situation.

The projects have worked very well, allowing for commerce, energy production and agriculture to thrive along the river corridor.

The Corps is now considering a change in the management of the Missouri River. The proposed changes would decrease the flow of water from Gavins Point Dam in South Dakota, south along Iowa in the summer and increase the flow of water in the spring months. The result of this action would be a more stable water table at the lake, located at Gavins Point, which would allow for increased recreational activities in South Dakota.

Other

Meanwhile, here in Iowa we are hearing that the proposed changes are an attempt to return the river to a natural state and to protect certain birds and fish.

It's important to note that the current proposal only returns Missouri to a semi-natural state between Sioux City and Kansas City. The upper river is not part of the proposal and the removal of the constructed dams

Other

is not being considered. The only stretch of the river that is adversely affected is the section that borders Iowa.

If, in fact, the goal were to restore the Missouri to a pre-1944 status, would seem to me that that would require removal of the upstream dams, as well as downstream flooding.

I cannot believe that removing flood control dams in the Dakotas would be viewed by very many people as sound thinking. But, unless we're willing to adopt that type of thinking, we're not really talking about river restoration, we're talking about toying with the flow of water over a small stretch of the river. In addition, those affected species can be found in other parts of the river.

While the area under consideration includes only a small stretch of the river, it is a vitally important stretch to our state. In fact, the proposed changes will have a profoundly negative impact on the agriculture industry and on the communities in Iowa dependent on agriculture.

Competitive transportation structure, including barges, railroads and trucks

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help keep transportation costs down. Market data shows that farmers receive higher prices for their products the closer they are to the river. And higher prices reflect lower transportation costs.

Nav

The Corps' Current Water Control Plan offers the most benefit for flood control, which was the primary Congressionally-approved purpose of river management.

Increasing spring flows, as the Corps would do -- is considering doing, would increase the risk of flooding and drainage on one point four (1.4) million acres of farmland in Iowa, Nebraska, Kansas and Missouri.

FC

Finally, and very importantly, nearly forty (40) percent of Iowa's power needs are met by facilities on the Missouri River. These include both turbine generated power of the mainstem dams and coal-fired plants on the Iowa link to the Missouri River.

Power

According to the Corps' Environmental Impact Statement, western area power administration rates could rise by up to thirty (30) percent for many customers, including urban consumers in Council Bluffs, Sioux City and

Des Moines. That increase in electrical rates will affect not only the agricultural community but urban residents, also.

Iowa needs everyone of our family farmers. The struggles make the crop in this day's market very difficult. Goals should be aimed at sustaining farming operations while protecting the environment. It cannot and should not be an either/or approach.

The results of the changes as currently proposed by the Corps in handling the Missouri River will result in economic hardship for Iowa farmers, an increase in energy costs for Iowa consumers and the end of navigation on the river.

In short, the implications of these changes will affect nearly every Iowan. There has to be a better solution for Iowa, so let's keep working together and see if we can find it.

Thank you.

MR. CIESLIK: David Goedeken?

MR. GOEDEKEN: Good evening. My name is David Goedeken and I'm representing Mayor Jerry Ryan of the City of Bellevue, Nebraska, and I'd like to concur with many of the comments that

our neighbors in Iowa and the Omaha Metropolitan Area have given. I don't necessarily need to repeat them, I don't believe.

Particularly, we'd like to comment upon some things affecting higher waters in the springs, our citizens owning property in the low lying areas of the Bellevue Metro Area and the lower water levels in the summer.

The City of Bellevue has invested large sums of money in the marina in 1988. And our slip owners utilizing the marina have invested large sums of money in boats, et cetera, and we're concerned that the low flows during the summer will restrict their use of the goods that they purchased and flow is fluctuating up and down. Every time the water goes up and the river goes down we end up expending money to clean up the siltation that occurs in our marinas.

Rec

On February 11th, namely, the Bellevue City Council passed a Resolution supporting a position statement by the Papio Missouri River Natural Resource District and rather than read the entire Resolution, I'd like to have that entered into the record.

Thank you.

MR. CIESLIK: Robert Smith? Robert Smith?

MR. SMITH: Good evening, I'm Robert Smith. I'm the Chairman of the Board of Harrison County Board of Supervisors.

Our County Board is the trustees for several drainage districts in the western part of our county, which rely heavily on adequate drainage into the Missouri River. Also, at least one community in the western side of our county routinely uses pumps every spring to maintain a low water level or water table to prevent basement flooding. Those pumps also drain into these drainage ditches.

Any increase in the flow of the Missouri during the spring will have a dramatic negative impact on not only this community, but all of our drainage in the western part of the county, which will ultimately result in several thousand acres which we would surmise would not be able to be farmed.

IntD

We don't feel that it's fair to ask farmers, landowners and/or residential homeowners to be negatively impacted with increased flows in the spring for the purpose of wildlife or

recreation in the northern areas.

As Patty Judge said, Iowa is one of the states that will be negatively impacted by higher flows in the spring and Harrison County and the counties on further down the river from us will certainly be negatively impacted.

We're a rural county and our major economic contribution is derived from agriculture and we're dealing with changes in agriculture which are not necessarily positive and we don't think it's fair to ask our farmers and landowners in the western side of the county to be unable to farm some of the ground.

Not only that, we worry about what could ultimately happen to our tax base if some of this ground is not able to be farmed for several years. I would surmise it will become wetland, which will have a negative impact on our tax base in the county and since property taxes are the only means of financial support we have, we would be certainly in question about how much money we would have for revenue.

Other

Thank you.

MR. CIESLIK: Steve Oltmans?

MR. OLTMANS: Colonel, thank you

very much for holding this 20th hearing here in the, what we think is the River City, as far as the whole basin is concerned.

I'm here tonight representing the Papio Board of Directors of the Papio Missouri River Natural Resources District and I'm the General Manager of that District, with offices at 8901 South 154th Street, in Omaha, Nebraska.

On behalf of the Board we are appreciative to all the Corps efforts. We followed this process for the last 13 years very closely and our Board adopted formal statements and positions in this process in '94, '98 and again in December of 2001.

We have reviewed all the materials provided by your agency and the Fish and Wildlife Service, in-house and with consulting services helping us, as well.

We're in support of the MCP plan. We think that plan will provide significant improvements in the river's habitat, at the same time maintaining the flows as they are today in the river process.

We are of a strong opinion that if the Corps decides to dub something other than the

Other

current plan or the MCP plan, that they not go further than 1528 plan. We think if you go further in the flow regimes than that, you will unravel many things that we know the river has today, including power production, recreation in the summer months, water for cooling power production and navigation on the river, which we think is very important in the long-term in providing something competitive in the free market of commerce.

The District represents approximately a hundred and fifty (150) miles of the Missouri River, from the Platte to the Dixon Dakota County line up around Sioux City, so we're quite concerned with the changes that some of the flow regimes propose.

To our knowledge, there's no entity of Government, including the States of Iowa and Missouri and Kansas and Nebraska that have sponsored and are currently sponsoring rehabitation of the Missouri River habitat in our current District.

We currently have three (3), 1135 projects under contract with the Corps on our side of the river and two, 206's involved on the

Other
Power
Rec
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project.

So we are very intensified and really feel that in order to improve the habitat for the endangered species under consideration here, you must have habitat before the spring rises are going to be a great deal beneficial and we're pretty confident of that fact.

WRH

In conclusion, on behalf of the NRD Board, I will submit a statement addressing all of the key points in the proposed Master Manual schemes, but we really feel if the environmental interests, if the conservationist's interests, all four (4) states in the navigable river stretch, the power interests, if we really want to improve the quality of the river, then we should join hands and convince Congress and the current administration to put significant dollars in the Missouri River Navigation Act, which was passed in 1986. That, if properly funded, for a billion dollars ($1.000,000,000) over twenty (20) years, we feel that would return in that twenty (20) years approximately twenty-five (25) percent of the habitat that was on this stretch, seven hundred and some (700-) miles of river when Lewis and Clark looked at it two hundred (200) years

WRH

WRH (con't)

ago.

We think that would be significant. We think if you had that accomplished on a voluntary land purchase basis that then possibly some adjustments in the flow would then be beneficial and you would have a lot less impact on the current landowners as we know them today.

Let me conclude on that point, our Board is very strong as to the -- if that was the intent of the land when we built the mainstem structures, the policy of our government to encourage agriculture interest to clear repairing lands and produce more food and fiber, if we're going to change that policy to recreate some of that habitat, then we feel very strongly that those landowners should be compensated, and we see nothing in the current proposal that would accomplish that.

So, those are kind of our bullet points and we'll hand in our formal statement for the record and we appreciate the opportunity to be here.

MR. CIESLIK: John Whipple?

MR. WHIPPLE: Good evening. My name's John Whipple. My address is 2931 Fremont

Avenue, Shenandoah, Iowa 51601, and I'm currently serving on the Fremont County, County Board of Supervisors.

GW

One of the reasons for the dams on the river is flood control. If the spring rise is implemented the result will be that the part of the river that is below Omaha, Nebraska, will have controlled flooding. This will be caused by the rise in the water table that results from higher river levels.

A few years ago the Board of Supervisors in five counties that border the river and the Iowa Farm Bureau Federation contracted with the USGS to do a study on the impact of the spring rise. The results of that study showed that Fremont County would have a loss of some degree of production on fifty-five thousand, seven hundred and two (55,702) acres. When you add together the value of the land and the value of the crop that will be lost, the dollar amount is eighty-six million, five hundred and sixty thousand, six hundred and seventy-six dollars ($86,560,676).

The response to acres lost will probably be, well, just put those acres in

wetlands and pay the farmer for the value of an easement.

If the farmer's paid a thousand dollars ($1,000) an acre for the easement, that total is fifty-five million, seven hundred two thousand dollars ($55,702,000). What happened to the other thirty million, eight hundred fifty-eight thousand dollars ($30,858,000)?

Most of the people in economic development say that a dollar rolls over between five (5) and seven (7) times. If we use a rollover factor of five (5), this will be a loss of a hundred and fifty-four million, two hundred ninety thousand dollars ($154,290,000) in economic activity in Fremont County.

A loss of this magnitude will be devastating to the small rural towns that serve agriculture. It will also have an impact on the larger cities of the area. Has anyone ever figured the total economic impact from Sioux City to St. Louis and on to the gulf? And, you know, it brings into question, just what is the value of a couple of birds and fish that on a national level may or may not be endangered?

Navigation is the second important

Other

Nav

element of the Missouri River. I've heard people say that the traffic on the river is too low to be of any consequence. Just the fact that the river is there and usable helps keep a lid on rail and truck rates. This not only shows up on the bottom line for agriculture but for other industries that use products that can be shipped on the river.

Nav

A third reason is the electric power plants along the river that need a constant source of cooling water. If the spring rise is implemented, the river levels will drop at a time of year when the power is needed most and force reduction of power.

MoPower

On February 14, 2002, the Fremont County Board of Supervisors passed a Resolution that, in short, asked the Corps of Engineers to reevaluate and to address the provisions mentioned above before implementing any changes in their plan. And I have enclosed a copy of that Resolution for the record.

Thank you.

MR. CIESLIK: Doug Beckman? Douglas Beckman?

MR. BECKMAN: Good evening, Colonel.

I'm Douglas Beckman. My address is 55275 260th Street, Glenwood, Iowa, and I'm here as a representative of the Mills County Board of Supervisors.

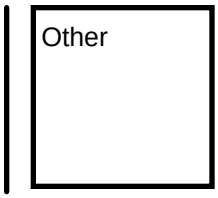
From what's already been said there appears to be some uncertainties as to whether the change imposed would help the endangered species in the first place and that in view of that there's just too much risk to all the things that we have along the river now to try to see if that would work.

The Board of Supervisors of Mills County made this Resolution:

Whereas, Mills County Board of Supervisors has reviewed the Revised Draft of the Missouri River Environmental Impact Statement, dated August, 2001, and,

Whereas, Mills County is opposed to granting any type of Adaptive Management practices and,

Whereas, Mills County recognizes several positive attributes to the Missouri River such as recreation, environmental, industrial, agriculture, transportation and commercial and education and,



FC

Whereas, Mills County is rural in nature with agriculture as its largest industry. Proposed changes in flow will expose valuable farmland and commercial development to flooding. Also involved would be drainage problems, stagnant water issues and adverse groundwater conditions,

Now therefore be it resolved, by the Mills County Board of Supervisors in session February 14, 2002, we request that management and flow characteristics remain as stated in the Current Water Control Plan.

In watching the film that we started the meeting with tonight and standing on what the river was like in the beginning, there was a lot of habitat and few people. Today there's a lot of people and I think maybe they should be considered as being the most important part of the river.

Thank you.

MR. CIESLIK: Allen Trumble?

MR. TRUMBLE: My name is Allen Trumble and I reside at 16350 County Road P 10 at Herman, Nebraska. I'm a member of the Burt and Washington County Drainage Board Directors. I'm

here to read a Resolution.

The following is a Resolution adopted by the Board of Directors of the Burt and Washington County Drainage District at its regular meeting held February 2nd, 2002.

The Drain District maintains drainage ditches in Burt and Washington Counties on agricultural lands in the Missouri River Drainage Area from south of Decatur to Blair, Nebraska.

The Resolution is, whereas, Burt and Washington Drainage District drains lands in both Burt and Washington County, Nebraska, and is dependent on the Missouri River as an outlet for its several drainage channels in the said Counties, and,

Whereas, the stage of the Missouri River flow directly affects the efficiency of said drainage channels and any increase in the discharge from Gavins Point during the spring adversely affects the efficiency of the District's drainage system,

Now therefore be it resolved by the Board of Directors of this Drainage District that the District supports the Current Water Control

IntD

Plan with minor adaptive management variables, as utilized in the past, and urges adoption of said alternative plan, the Current Water Control Plan.

MR. CIESLIK: Ione Werthman?

MS. WERTHMAN: Colonel, I'm Ione Werthman, 11649 Burt Street, Omaha, Nebraska. I'm Conservation Chair of the Audubon Society of Omaha.

I did testify in Nebraska City, and at that time we asked the Corps of Engineers to adopt the Flexible Flow Alternative, GP2021, for the Missouri River Management Plan. I come here this evening to reiterate that testimony.

GP2021 is still the best option to use for the management of the Missouri River.

Environmental research on large rivers with similar problems of native species preservation supports the requirements for correctly timed and suitably sized water releases from dams as the essential ingredient for native species preservation. Both the U.S. Fish and Wildlife Biological Opinion and the 2002 National Academy of Science study has spoken and endorsed the larger Flexible Flow Alternatives. We believe a serious error will occur if sufficient

Fish

water releases are not included in the future long- and short-term dam operational plans.

We believe it would be best to start with the higher flows, with more flexibility built in, than to be sorry later on. Money that could be spent on habitat development projects would be for naught if the key ingredient, water releases, could not be properly adjusted and sufficiently increased.

EnSp

We do applaud the decision of the Missouri River Basin Association for endorsing a ten-year plan to experiment with the flow changes in an effort to help endangered wildlife. This is certainly a step in the right direction. However, as we see it, the alternative they have indicated that should be used for the ten (10) year plan tests will not give the Corps the flexibility it needs in options to make sure the project succeeds. If the experiments fail, if the Corps has their hands tied and the experiments with GP1528 would prove that larger flows are definitely needed, I would certainly hate to see us have to go through another twelve (12) to fourteen (14) years of debate ten (10) years from now. Our poor wildlife by that time

Other

will be all but extinct.

We also agree with the MRBA that a habitat mitigation program with proper monitoring must be put into place for both the Endangered Species Act and the Missouri River Mitigation impacts. This source of funding is long over due.

WRH

We again urge the Corps to initiate GP2021 in your Master Manual plans for restoration of our historic Missouri River.

Thank you.

COLONEL UBBELOHDE: I must caution everyone to please respect the speakers. Everybody's going to get there fair share at the microphone. Be respectful of others.

MR. CIESLIK: Maurice Welte?

MR. WELTE: Thank you, Colonel.

My name is Maury Welte, a member of the Woodbury County Board of Supervisors, which also includes Sioux City.

My address is 2014 Roundtable Road, Sergeant Bluff Iowa.

This morning we passed a Resolution, which is similar to the Resolution passed and forwarded by the City of Sioux City two weeks ago

and I'd like to read it.

Whereas, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and,

Whereas, the proposed changes will damage property, the economy and the recreational use of the Missouri River and communities downstream from Gavins Point Dam in Yankton, South Dakota; and,

Whereas, changes in Missouri River water levels could move nearby contaminants to Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and,

WQ

Whereas, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and,

FC

Whereas, elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting in higher transportation costs and straining the ground transportation infrastructure; and,

Nav

Whereas, reduced summer flows

jeopardize electric power supply during peak usage months; and,

MoPower

Whereas, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans.

Other

Now, therefore, be it resolved by the Woodbury County Board of Supervisors that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

Passed and approved this 19th day of February, 2002, Woodbury County Board of Supervisors.

Thank you.

MR. CIESLIK: Terry King?

MR. KING: Yes, thank you, Colonel.

My name is Terry King. I am the Executive Director of the Nebraska Chapter, Associated General Contractors of America.

That's a mouthful, but that is an organization that represents the highway construction industry in the State of Nebraska

and the heavy construction industry also in that state.

My concern mainly that I want to address, as the other concerns have been addressed very well by the other speakers, I want to address the summer flows, the reduction of summer flows that would limit the transportation on the river.

There are several construction products that come up river and other construction products that go down river and the river transportation is essential to maintaining a competitive environment for those materials.

There's a cement facility in Omaha that receives cement by barge. It's one of the only other alternative sources of cement in Eastern Nebraska, other than for the Ashville Plant near Louisville.

There are oil transports that go up river to Sioux City. That oil is used in the making of asphalt oils. It's a very competitive situation and if the barge traffic were eliminated, again, you'd be looking at pipeline or truck sources that might not be as competitive as sources that come up river on the barge.

Sand and gravel and aggregate go down river and that's important to the sand and gravel producers in the state of Nebraska and other aggregate businesses in other states.

We think these are important ingredients to maintain. I think any reduction in flows during the summer months that would eliminate those sources of transportation would have, as an impact, higher road construction costs and it would have an impact on the companies that rely on those sources and materials.

I'll submit written comments to the Board.

Thank you.

MR. CIESLIK: Franco Owens?

MR. OWENS: Hi, my name is Franco Owens. I'm at 2660 Stagecoach Road, Webster City, Iowa 50595. I represent Iowa Corn Growers Association and the Grain Merchandising and International Trade and Transportation Committee Chairman.

I've been thinking about what I needed to say tonight since about Quincy. I was at the meeting in Quincy and represented the Iowa

Corn Growers there.

Tonight I thought we've heard a lot of different things about there were issues from municipalities, from drainage districts and others. I thought I would just bring you a perspective from an Iowa farmer who's landlocked. I'm in the middle of the state. Our mode of transportation is rail.

I was just at the bankers today and so I thought I would propose to you the scenario that I ran into today, looking at the bank. They want to know what my plan is for the next year. And if you were the banker and the Fish and Wildlife brought you a scenario where they want to take care of a fish and two birds, they have a clue what they want to do, but do they have any idea what kind of results they're going to get?

My banker wants to know what my yields are going to be, what I think I can expect for a price at harvest and what my gross income's going to be.

Currently, the Fish and Wildlife plan starts with three (3) endangered species and we have a question with are they really endangered species? It's questionable. It's in

EnSp

litigation, as I understand. But, if they were to bring that plan to a financial institution would they get funding? I wouldn't. I'd get laughed right out of the bank.

I also wonder if they have thought about doing more to restore the fish through hatcheries. They do that with Walleye and Northern Pike and other fish. Have they tried increasing the Pallid Sturgeon by hatcheries? Have they done anything to help the birds out with habitat? Someone spoke to that. But, what kind of a -- what kind of a yield are they going to get for messing up the river?

EnSp

I tell you what it will do to me in Central Iowa. We stopped to figure out just some of the things that are happening. I talked to my electrical co-op man. We get twenty (20) percent of our electrical power from there. The barge industry keeps the railroads in check and the trucking industry in check in the rates.

We figured out that if the shipping was to cease on the Missouri, it would raise our International basis ten (10) cents. We're losing ten (10) cents a bushel on corn and beans. Just if the river stopped shipping. We all know that

Nav

if the river stopped shipping, the railroad would have to retool. They'd need more power, they'd need more cars and it wouldn't come free. Are our bases served?

It was a ten (10) cent minimum. My guess is it's going to double. It will be twenty (20) cents. We're already thirty (30) cents under basis of Chicago, which means we're making thirty (30) cents less than what the Chicago Board of Trade price is. If they do change that, we're going to have more problems with that basis. We're also going to have more problem with fertilizer prices. They will go up because of the decrease in competition.

My banker tells me if I lost that much in basis, I'm out of business today. I would get a loan.

Right now I have to go back and my father-in-law has to sign for me.

I want to just thank you for the opportunity to testify and I also want to add that the National Academy of Sciences has asked for a moratorium on changes in the river flow until they understand what's going on with the river and how it will affect these species.

Other

Thank you for the opportunity.

MR. CIESLIK: Michael Wells?

MR. WELLS: Good evening, Colonel.

My name is Michael Wells. I'm Chief of Water Resources for the State of Missouri. I'm here representing the State of Missouri tonight. I'm from Jefferson City.

I thank the Corps of Engineers for this opportunity to comment tonight. Tonight I want to express the concern that the analysis of impacts to electricity production and pricing was not properly carried out and that the portrayal in the RDEIS is misleading to the public and their elected officials.

MoPower

Utilities in Missouri are concerned that several of the proposed alternatives would result in low summer flows, which would cause NPDES violations of thermal standards that reduce power production at a time when power is most needed and most valuable.

We note that the Western Area Power Administration finds that the same alternatives, the so-called GP alternatives, do not take full advantage of the power production capacity of the Missouri River Mainstem dams which basically

Power

results in less power production and a decrease in WAPA revenues.

The State of Missouri believes that the Corps has misled the public by showing that the GP alternatives provide the greatest level of hydropower benefits to the nation when the loss of ten (10) to thirty (30) million dollars annually in revenues to the Western Area Power Administration was not included in the analysis.

Power

To not consider these losses in revenues to WAPA in the national economic development account does not comply with principles and guidelines for planning water resource products.

WAPA has informed us that the revenue shortfall will be made up through rate increases to WAPA customers.

I offer for the record the information provided to WAPA, the names of the communities in Montana, North Dakota, South Dakota, Minnesota, Nebraska and Iowa that would have their rates increased.

The communities in Iowa are: Akron, Alta, Alton, Anita, Breda, Coon Rapids, Corning, Denison, Fontanelle, Glidden, Greetinger, Harlan,

Hartley, Hawardan, Hinton, Kimbellton, Lake Park, Lake View, Laurens, Lenox Manilla, Manning, Mapleton, Milford, Onawa, Orange City, Paullina, Primghar, Remsen, Rock Rapids, Sanborn, Shelby, Sibley, Sioux Center, Spencer, Stanton, Villisca, Wall Lake, Woodbine.

The communities in Nebraska are Arnold, Beatrice State Development Center, Blue Hill, Callaway, Grand Island, Hastings, Hastings Regional Center, Nebraska State Penitentiary, Norfolk Regional Center, Omaha Tribe of Nebraska, Peru State College, Ponca Tribe of Nebraska, Sanlee Sioux Tribe of Nebraska, Spalding, University of Nebraska-Lincoln, University of Nebraska-Omaha, Wayne State College, Wilber, Winnebago Tribe of Nebraska, Winside and Wisner.

I would like to also enter for the record the "Scientific Evaluation of Biological Opinions on Endangered and Threatened Fishes in the Klamath River Basin," that was recently completed by a committee of the National Academy of Sciences. This report specifically examines the details of the biological opinion on three fish species in the river and found that two proposed actions were unjustified scientifically.

Other

The committee noted a lack of correlation between the proposed actions and expected results.

The following quote from the committee's principal findings appears to apply to the Missouri River as well. The committee, however, did not find clear scientific or technical support for increased minimum flows in the Klamath River Mainstem. Although the proposed higher flows are intended to increase the amount of habitat in the mainstem, the increase in habitat space that can occur through adjustments in water management in dry years is small, a few percent, and possibly insignificant.

Other (con't)

On the Missouri River the Corps has determined that the low summer flows recommended by the service would create only about a hundred (100) acres of Tern and Plover habitat along the entire length of the river. The Corps did not analyze Tern and Plover habitat along the reservoirs; habitat there would be lost to inundation in plans that incorporate the Modified Conservation Plan.

EnSp

Clearly, the Corps of Engineers must examine in detail the changes in river management under consideration and their actual benefits.

EnSp

In performing this important task, the Corps must adjust to the negative effects caused by the higher lake levels that occur with all alternatives, including loss of miles of free flowing river habitat and also Tern and Plover habitat around the reservoirs and degradation of remaining Tern and Plover habitat around the reservoirs.

Thank you again for the opportunity to comment.

MR. CIESLIK: John Niksick?

MR. NIKSICK: John Niksick, City of Omaha, Park and Recreation Department, 1819 Farnam 68183.

I'm the current manager of the NP Dodge Park Marina and I'd like to say a few words about where this marina has been, where it's at now and some doubt as about where it's going.

Now, as member of the Park and Recreation Department, our whole function is to provide activities and facilities for the enjoyment of the public.

Some twenty-five (25) years ago we were approached by voters in the area about the potential of constructing a marina. After

considerable deliberation, we decided to build the Marina. It was then Art Bradley who made this decision. What we did was to create a marina enterprise contract and we issued several thousand -- several hundred thousand dollars worth of revenue bonds to construct the current dock system that you see at the NP Dodge Public Marina.

Now, these bonds, these revenue bonds, were a direct responsibility to the marina. In other words, we had funding that would take the revenue from the facility to pay for the principal and interest payment on these bonds. These bonds were not an obligation, direct or otherwise, for the City of Omaha and, therefore, had no threat on the City's triple-A bond rating at that time.

We paid those bonds off in 1987, and there was considerable effort that we did that but, nevertheless, we got them paid off. So, from '87 to '97, we continued to invest some one point three (1.3) million dollars in the marina from excess marina revenue funds.

In 1997, we were approached by voters again to expand the marina, upgrade the

facilities. After careful deliberations, we issued an additional one point two five (1.25) million dollars worth of revenue bonds, exactly the same things we did when we created the marina.

These are a direct obligation of the marina. They have nothing to do with the City of Omaha. And again, have nothing to do with the City's triple-A bond rating. It must be paid from revenue from the marina itself.

Currently, we have nine hundred and eighty-five thousand dollars ($985,000) still on the books and due.

Now, depending upon which plan the Corps chooses here, if you choose a plan where the river levels are so low -- now, in our particular case at the end of each boating season we dam up our channel to the river and float our dock system and preserve it during the river months when the river is low.

Now, depending upon which plan you choose here, if the plan chosen and the river level is so low, we simply will not take out the dam because we will not be able to float our dock system. If the plan you choose is to close that,

Rec

Rec (con't)

we could open the marina, that we would be -- we would seriously have to consider a major whole dredging of the marina. That would put us in jeopardy, inasmuch as we already have a substantial debt on the books. And a full dredging of the marina, in a conservative estimate, would be four (4-) to five hundred thousand dollars ($500,000).

Now, even if we could dodge those two bullets, by the fact that you're going to have a spring rise that is billed to be every three years, it could be every two years and a couple of years lay off, it's very irregular, but the mere fact that you have a spring rise calls into question whether we would even spend four (4-) or five hundred thousand dollars ($500,000) on a full dredging. It doesn't address the issue at all of what other cost in just annual maintenance, not a full dredging, just for a normal annual maintenance for the year-to-year opening of this marina.

So, we're in serious jeopardy here. We would hope that whatever plan the Corps chooses here that it doesn't endanger any wildlife or water foul or any marinas.

Thank you very much.

MR. CIESLIK: Rob Robertson?

MR. ROBERTSON: Thank you. My name is Rob Robertson. I'm Vice President of Governmental Relations for the Nebraska Farm Bureau Federation, the state's largest farm organization.

Nebraska Farm Bureau is strongly opposed to proposals that contain spring rise and low summertime flows. The impacts these proposals would have on farmers along the river would be devastating due to additional flooding and inland drainage problems.

FC

In addition, the low summer flow would prevent season-long commercial navigation on the Missouri, which is important for our export markets and important for our prices at local elevators.

Nav

To emphasize this impact that the spring rise would have on farmers, I just received an unsolicited e-mail this morning on my computer from a farmer near Rulo, Nebraska, and I quote: "We farm along the Missouri and Nemaha Rivers in Southeast Nebraska. High river levels make it impossible to sleep for days with the

stress and worries of losing our crops and not being able to take care of our family's financial needs. Mother Nature causes that often enough without someone from outside our farms and communities that have nothing to lose trying to change something they know nothing about. The dams and levees were put there for one purpose and that is flood protection.

Any person that thinks a spring rise on my farm is such a good idea should stop and think about me wanting a spring rise that would flood their house, or flood their job, flood their work place, stop their income for one whole year and watch the tears of fear and sadness running down the faces of their sons and daughters and their wives, as they are now running down my face as I write this letter. And that's the end of his quote.

FC

That's who we represent along the river.

Since 1960, I know the Corps has managed the river and the six dams to meet the goals outlined by Congress. It's not an easy task, but we believe the Current Water Control Program in operation now is the best alternative.

People want to change the balance and we believe such changes upset the balance the Corps is seeking to achieve and very likely reduce the benefits of flood control, navigation, hydropower we all come to rely on.

Recently the Missouri River Basin Association has endorsed a ten (10) trial period of higher spring flows and lower summertime flows. While we realize the emphasis of this proposal is on flexibility, monitoring, evaluation procedures during the demonstration period, ten (10) years is a very long time any way you look at it, especially from a farmer's perspective, who could be flooded every year.

Farmers tend to develop solutions in a plain and simple way and maybe we're making the management of the Missouri River too complicated. It would seem logical to us that some efforts should be made to establish a biological baseline to adequately assess where we are now in terms of the conditions of the situation of protected species of concern. Things do change.

For example, the International Piping Plover census found that Plover numbers have increased four hundred and seventy (470)

EnSp

percent along the Missouri River the past five years and now over a thousand (1,000) Plovers are found there.

EnSp

If it's determined that more habitat is needed along the Missouri River for certain species modifications, it should be examined first to improve existing habitat by pursuing more enhancements of oxbow lakes, wetlands and other natural habitats along the river and the reservoirs. We believe that landowners would support this if it's on a voluntary and incentive-based approach.

WRH

If it's determined more is needed to be done to improve the habitat, perhaps some changes should be examined within the framework of the Current Water Control Plan.

Nevertheless, future management decisions for the river should not ignore the primary purpose of the mainstream dam system of flood control and other important benefits it provides. Moreover, these decisions should not threaten the people and communities along the river and they should not forget and place undue harm on individual farmers along the river who are part of the foundation of their nation's food

Other

and fiber system.

Again, we support the Current Water Control Plan, and I have a statement that I will submit for you.

Thank you.

MR. CIESLIK: Carl Jones?

MR. JONES: I'm Carl Jones, 2240 South 46th, Lincoln, Nebraska, and I represent myself and the River Rats Reunion out of Brownville.

We've been talking about the Missouri River and I'm looking at a couple of things.

Habitat; the Corps has done a lot in recent years in the way of mitigation on the river. We've seen improvement in the fish populations and I think that when we look at habitat, if you are a house owner, you know, and you want Wrens in your backyard, you don't put in a Martin house, you put in a Wren house. If you want Martins, you put in a Martin house, right?

If you want Sturgeons on the river, you've got to put in a Sturgeon house.

I don't think that a spring rise, as the Fish and Wildlife, you know, in their best

EnSp

available science, whatever that is, says is needed. Mother Nature's provided plenty of spring rises.

What is needed is, like down in Missouri, the situation where you have pebbles in the river, in a stream, good current and below that some died water with the nutrients that the Sturgeons need.

It worked down there. We have several places up here where the mitigation chutes started. Some of those probably developed enough that they could produce the same kind of habitat for the Sturgeon. It would eliminate that need for the spring rise.

Fish and Wildlife, you know, they like to sport fish and they use to define all the native fishes trash fish. So, you know, trash fish was whatever was native, the catfish, the Carp and some of those other varieties.

So, they have made no attempt now to let spawning of river fish in places like DeSoto Bend. Maybe we need to relook at that and the Fish and Wildlife needs to relook at that situation and I think that's some of the things that I've been looking at as we've been talking

EnSp

Fish

about the Missouri River and improving habitat, improving fish populations.

You know, we just heard that there's a lot more of the birds nesting between Gavins Point and, say, down at Ponca. There were less of them in some of the other places that had population. If we'd create a place for them to nest closer to their winter quarters, Texas and the coast, they're going to, you know, take the easiest route, stop at the first nesting place they see, whether it's on the Arkansas River, the Kansas, the Platte, Niobrara, the Missouri, wherever they go on north, clear up into Canada.

EnSp

So, I think that's kind of where we stand. We need to look at these things that the Fish and Wildlife people have suggested.

They don't have the kinds of scientists they had twenty-five (25), thirty (30) years ago. They've come down to just fish people, so whatever they say about birds, you know, they're not based on bird sciences and they're in-house, they're from other areas.

I think that covers what I would like to say tonight. We appreciate the opportunity to testify to tonight.

MR. CIESLIK: Clyde Anderson?

MR. ANDERSON: Good evening. I'm Clyde Anderson. I live at 7020 Burt Street, in Omaha, Nebraska. I am chair of the Nebraska Chapter Sierra Club.

Sierra Club supports the Variable Flow, Flexible Flow Alternative Master Plan because it is the closest to meeting our goals, as defined in our policy for the Missouri River Management.

A copy of this policy is attached to my written statement and is available to the public on the Nebraska Sierra Club website.

The Sierra Club sponsors outings on the Missouri River. I have been on many segments of the river, including the entire hundred ninety-seven (197) mile stretch from Boonville to the confluence of the Mississippi River.

Statements have been made, published that the Flexible Flow Plan will harm recreation boating on the river. Perhaps this is true for a few of the largest boats, but low flows are not a problem for the majority of recreationists who use shallow-draft boats. Small boat users like us welcome the lower flows that would occur

Rec

during part of the summer under the Flexible Flow Alternative. Lower flows not only make recreation safer, but also expose sand and gravel bars, which are normally submerged during the navigation season, for picnicking, camping or just observing wildlife. Most of us with shallow-draft boats use public boat ramps and these ramps are generally usable at all river levels.

Rec

Mr. Niksick mentioned earlier NP Dodge Park, the adjustments they make to keep the facility with water with that dam.

Rec

We were up there this past Saturday, with the mild winter, and there were a lot of trailers there, boaters out. I think a lot of them were fishing but we were out watching Eagles. So, there is a lot of use for the river even during the winter months.

The river level, at this point, during the four (4) months of the winter is lower than what's proposed during the low-level flow during the summer months.

Many farmers and agricultural associations object to the Flexible Flow Alternative because of the eight (8) week

cessation of navigation during mid-summer would have an adverse impact on shipment of food and farm products. We believe this impact will be minimal. Only seven hundred and thirty thousand (730,000) tons of food and farm products moved on the Missouri River in 1999. This amounts to less than one-half (1/2) of one (1) percent of the quantity of these products produced in Iowa, Nebraska, Kansas and Missouri.

Commercial navigation on the Missouri River provides minimal, if any, benefits to shippers of farm products. No growth is forecast for this traffic on the river for several reasons. First, the depressed volumes of U.S. grain exports, the only bright spot is the growth and grain exported to Mexico and this primarily moves by truck and rail.

Second, the increased use of farm products locally for making ethanol, sweeteners, oils is also drawing a lot of this traffic away from long-haul movements.

The Cargill-Dow at Blair, Nebraska, is even making plastic out of corn.

Also, the huge growth in factory farming means much more grain is consumed locally

Nav

to feed livestock, hogs and poultry. These short-haul grain shipments move mostly by truck. The meat being produced is shipped nationally and internationally and again mostly by truck. Barges aren't the only ones hurt by these market changes. Railroads are hauling a lot less grain, too. You just look over here in Council Bluffs and you'll see hundreds of empty, covered hopper cars, many of them haven't had a load in over five years.

For the past seventy (70) years, the Missouri River has been managed in a manner to promote commercial navigation at the expense of many other users, especially wildlife and recreation.

The Sierra Club believes the Variable Flow Alternative is an excellent compromise management plan.

Thank you.

MR. CIESLIK: Randy Asbury?

MR. ASBURY: Good evening, Colonel.

My name is Randy Asbury and I'm Executive Director of the Coalition to Protect the Missouri River.

The remarks I will be providing

tonight in regard to hydropower energy impacts have been provided by John Pozzo of Ameren.

In the Revised Draft Environmental Impact Statement the Corps evaluated the impact of the various flow alternatives on hydropower energy production.

Tonight I would like to call to the attention of the good citizens of Iowa and Nebraska the potential impacts of the reduced summer flows on their cost of electric service if certain flow alternatives are selected by the Corps.

The Western Area Power Administration markets and delivers reliable low-cost hydroelectric power within a fifteen (15) state region of the Central and Western United States. The Power Administration derives a portion of its energy production from the six dams of hydropower facilities located on the upper Missouri River. Electricity generated by these facilities is marketed to rural cooperatives, municipalities, public utility districts, irrigation districts, native American tribes and federal and state agencies. If insufficient amounts of electricity are generated

within the Power Administration, energy would be purchased from other sources to meet customer demand.

The amount of electricity generated by any hydropower facility is dependent upon the amount of water passing through the turbine generators at the dam. Less water flowing through a dam creates less electricity production. Less electricity production creates the need to secure power from other sources. Since hydroelectric plants are the most economical means of producing electricity, the acquisition of power from other sources, such as coal, oil, gas or nuclear power plants will come at a cost premium.

Power

The four (4) Gavins Point plans proposed by the Corps all have significantly lower summer flows than the Current Water Control Plan. This lower summer river flow comes at a time when demand for electricity is typically at its highest. Because of the high demand for energy during the summer and the limited availability of excess power, the price of purchased power is also at its highest.

The upper Great Plains Region of the

Power

Power Administration calculated revenue impacts of the Current Water Control Plan and the Gavins Point options to assess the potential impact to their customers. The analysis revealed that electric rates would increase on any proposed Gavins Point plan due to reduced generation from lower summer flows and the need to purchase more expensive power from outside sources.

With the Gavins Point 1521 plan, the Power Administration estimates a twenty-one (21) percent increase in purchase power cost for customers that receive seventy (70) to one-hundred (100) percent of their power from the Administration and a twelve (12) percent increase in purchase power cost for customers that receive forty (40) to seventy (70) percent of their power from the Administration.

Although I will not take the time to identify the customers in Iowa and Nebraska, as was done earlier, I have provided a complete customer list as part of my written comments.

Most everyone acknowledges that the Missouri River needs change. The contentiousness of this issue, however, revolves around whether the Fish and Wildlife Service recommendations

will actually benefit anything or if it's even needed for certain species.

Fish and Wildlife Service demands a more natural hydrograph, i.e., spring rise for the Piping Plover and Least Tern. Research completed by the Missouri River Technical Committee termed this assumption unfounded. They report, quote, "The timing of the spring rise in the brooding and mating season very nearly coincide. The proposed U.S. Fish and Wildlife Service spring rise once every three years during June, like the natural spring rise, will flood the sandbar and habitat for the Least Tern and Piping Plover at a time they are mating and nesting. Accordingly, the natural hydrograph is not the best type of graph for the Least Tern and Piping Plover. This contradicts the Fish and Wildlife's basic assumption on which they do devise the flow modification scheme."

EnSp

The Environmental News Service, on January 25th, stated that the USGS estimates in their 2001 International Piping Plover Census show that Plover population has increased four hundred seventy (470) percent in five (5) years and a hundred and forty (140) percent in the

EnSp

decade along the Missouri River. This increase has occurred under the Current Water Control Plan. The December, 2000 Biological Opinion states its Plover recommendations were based on, quote, "a substantial decline in population number," unquote.

The Current Water Control Plan has benefited the Plover; therefore, we request that formal consultation be reinitiated on the Biological Opinion as it relates to this new information about the Plover population.

EnSp Con't

My last comment with regards to the role of, or the lack thereof, of MRBA, Missouri River Basin Association, in representing the states' interests.

In their last vote in the Gavins Point 1528, it was six (6) to two (2), with Iowa and Missouri opposed to flow modifications. The populations of Missouri and Iowa is greater than for all other six states combined.

Other

I ask the Corps to keep in mind that the people did speak. We contend that MRBA doesn't represent or characterize state positions in an appropriate manner and uses their voice and position to skew recommendations. Therefore, we

question the need for Missouri or Iowa to participate in this biased organization any longer.

Thank you, Colonel, for the opportunity to speak.

MR. CIESLIK: Chad Smith?

MR. SMITH: Thank you, Colonel.

My name is Chad Smith. I live in Lincoln, Nebraska. I'm the Nebraska Field Office Director for the River Conservation Group, American Rivers.

On January 9th, the National Academy of Sciences released its report on the Missouri River entitled "Missouri River Ecosystem: Exploring the Prospects for Recovery." The conclusions of that report were definitive; that the Missouri River Ecosystem is degrading, that enough data exists to take action and that we should get busy.

That report puts to rest the claim that science does not support restoring more natural flows to the river. The proper discussion is no longer if flow changes should be made, but instead how we go about it.

The U.S. Fish and Wildlife Service

Other

has provided recommendations for a starting point in its Final Biological Opinion, and you, the Corps, has used those recommendations to develop several dam operation alternatives that would restore, in a modest way, some portion of the Missouri's natural flow. None of them are the silver bullet solution, but they certainly point us in the right direction.

Other (con't)

The conservation community continues to support the Flexible Flow Alternative identified by you as GP2021. It is the only alternative now on the table that fully captures the science-based recommendations of the Fish and Wildlife Service. It would give you the flexibility to restore more natural flows on the Missouri, an action that scientists with the Fish and Wildlife Service, the Missouri River Natural Resources Committee and the National Academy of Sciences, just to name a few, all recognize as a priority action that must be taken to help the Missouri River stop its slide or collapse.

Other

Last week, six states in the Missouri River Basin Association weighed in on this issue. Reflecting on the Biological Opinion and the National Academy of Sciences' report, the

basin states of Kansas, Nebraska, Wyoming, South Dakota, North Dakota and Montana all formally recommended to the Corps that they begin implementing a plan of experimental test flows out of Gavins Point Dam. That is a major breakthrough, and hopefully it signals to decision-makers both inside and outside the basin that the status quo will no longer suffice.

These six states provide you with the possible starting point from which you can work your way toward the Flexible Flow Alternative and begin the process to restoring the health of this most historic river system. Modest flow changes alone will not restore the Missouri River, but flow changes must be a part of any restoration plan for the Missouri. Ignoring this fact and delaying action is simply not an option.

Other

Flow changes on the Missouri will not be without impact. We need to focus on how extensive these impacts will be, how we best monitor and account for these high impacts and how we minimize or eliminate the cost various river users bear as we make changes on the river.

Other

We cannot ignore the fact that there

will be impacts, but we cannot let such impacts stop us from moving forward. All river interests have to work together to come up with a plan to deal with those impacts, utilizing the tools of mitigation and compensation. It won't be easy and in some ways it might be unprecedented, but it can be done and it must be done. Nobody should have to bear the burden alone of bringing this great river system back to health.

Other (con't)

However, we should also not fail to recognize the benefits of a restored Missouri River. Healthy populations of native fish and wildlife are important, but consider the tremendous benefits of increased opportunities for recreation and tourism. A healthy Missouri River will be a much better attraction for those that want to fish from its banks, picnic on its sandbars, hike along its course, and boat on its water.

Rec

There's no question that there is recreation on the Missouri River, on the Nebraska/Iowa border, but it is nowhere what it could be and many are prevented from using and enjoying the river at all. We are all missing out on the tremendous economic benefits that a

healthy Missouri River could bring.

For example, the Missouri River also runs through the City of Bismarck, North Dakota. There the river is wide, the river is shallow, there are sandbars and islands and the river level's move up and down. I urge everyone here to visit Bismarck on any summer day and you will notice several times more, many people on the river as there are at the same time in Council Bluffs and Omaha. Big power boats, jet skis, canoeists, anglers, kids swimming on sandbars and dozens of other river activities. Several marinas operate continuously throughout the summer and are adapted to fluctuating river levels. There is even a large excursion paddle-wheeler that operates on the river in Bismarck, taking large groups of people for slow cruises on the river.

So, it's obvious that a restored and healthy Missouri River holds enormous economic potential, we just need the leaders and agencies like the Corps to let us tap into that potential and to let us make a broader vision for the Missouri a reality. With a little elbow grease we can make the Missouri River truly a better

Rec

asset for Council Bluffs, Omaha and every community along its length.

This approach makes not only good environmental sense, but also good economic sense.

We do enjoy many benefits of the Missouri River System as it is now managed, like flood control and hydropower, but we also bear the burden of a river system that is in a sad state of decline.

We can have our flood control, our hydropower and our floodplain farming, but at the same time we can also have better fishing, better hunting and a healthy river.

As you finalize your plans for reforming how you manage the Missouri, we urge you to consider the leadership role you have before you. You have the opportunity to help us come together to restore and revitalize the river system that cuts through the heart of this basin and this station. Please seize that role.

Thank you.

MR. CIESLIK: Don Jorgensen?

MR. JORGENSEN: Hello. My name is Don Jorgensen. I'm a stakeholder from South

Dakota. I live at 33599 479th Avenue, Jefferson, South Dakota, and that makes me a rural resident along the Missouri River.

I'd like to talk about two concepts tonight.

We've been told that U.S. Fish and Wildlife says that spring rise is necessary to cure all ills, or basically all ills, from Sturgeon, to Terns, to Plovers, to all wildlife. This is the time, post-concept, of a gentleman named Bill K. Junk and it's very popular in the biologic world today. But we need to consider several things in doing that. And one is that a pulse or a flood of water, in itself, will not result in an increase in the biologic activity of the river at all. We need nutrients and we need habitat.

EnSp

So the bottom line is this pulse, especially in the channelized river, will not have the shoreline for the so-called aquatic ATLD, meaning an Aquatic Transit Littoral Zone, okay, which Junk says is required to get the carbon into the system. It will fail in the channelized river.

In implementing the spring rise, it

will not cure the biologic ills of the river.

So, at this time, I would -- unless it's accomplished in a joint effort, I would not do it.

I'd like to comment about recreational activity on the Missouri River. Now all I can comment is on where I live and I live near Ponca and that's the difference between the channelized and unchannelized river. I go to boat. I love boating. But, I can say that the channelized river has probably five (5) to ten (10) times as much recreation as the unchannelized. This is just my observation at Mile Seven Forty-Seven (747) on the Missouri River.

Rec

The last thing I would like to address is predator fish control. The National Academy of Science says in many reaches of the river non-eating fish, sport fish exist in greater abundance than the native species. The non-native fish may also contribute to the declining abundance of native fish.

Fish

I could read other quotes from other sources. My point of bringing this up is why is this not part of any plan or alternative

management for the Missouri River? I would suggest that any management plan include this.

Those are the only items I wish to speak on tonight.

I thank you for the opportunity.

MR. CIESLIK: Dave Sands?

MR. SANDS: Good evening, Colonel.

My name is Dave Sands. I reside in and near Lincoln, Nebraska, and I'm here tonight representing Audubon Nebraska, which is the state office of the National Audubon Society.

A few days ago I testified at a hearing on efforts to comply with the Endangered Species Act on the central Platte River. While it's a much different river, with different issues, there's some striking similarities.

Both rivers are extremely important for wildlife. There is a resistance to a change in management, as both rivers are vital to the economic health of those who live along their banks. Making a first step toward more balanced approach has also been a long and expensive process. On the Platte, that first step was a relicensing of Kingsley Dam and it took thirteen (13) years. Efforts on the Missouri has broken

this dubious distinction by taking nearly fifteen (15) years and we're still counting. Now with the recent position taken by the Missouri River Basin Association there could be one more very important similarity. A goal to create a management plan that begins to restore the ecosystem for wildlife, while minimizing any adverse consequences for people.

With the latest report from the National Academy of Sciences, there should be no question about the need for change. It is probably the strongest indication to date that the Corps must change management to comply with the ESA. The release of this report offers the Corps a perfect opportunity to agree that the best science available indicates that a change is needed.

Other

In doing so, the Corps would be in good company, as the MRBA has essentially stated the same position, breaking with its past history of supporting the status quo. The significance of this change should not be minimized, as it opens the door to a measure of consensus. It would start the river down the road to recovery. At the same time, it would do so in careful,

measured steps to ensure that we are benefiting wildlife, while also considering the needs of people.

In some ways, the proposal from the MRBA represents the future of ESA compliance. It is built upon adaptive management, which recognizes that current science is only a snapshot in time. And as our knowledge of the river improves, so can our management.

The proposal also calls for stakeholder involvement, which should be at the top of any conservation agenda. Finally, it offers realistic goals that are to be achieved during a prescribed period of time.

Other

While the MRBA proposal does not offer everything everybody wanted on either side, it does offer an historic opportunity for everybody to start working together. Please seize this opportunity so that the Missouri and Platte Rivers can have one more thing in common, a stakeholder-driven recovery program focused on good science and crafted to reduce economic conflicts.

Other

Thank you.

MR. CIESLIK: Jim Whiting?

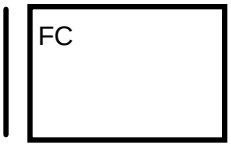
MR. WHITING: Thanks for the opportunity to say a few words for the record.

I am Jim Whiting, from Whiting, Iowa. Address, 230B Shannon Drive.

I'm an 80-plus year resident of Missouri Valley who remembers the '52 flood very well. Also, I'm up well past my bedtime, so I won't last long.

Also I have been designated as a representative of the Monona County Board of Supervisors, 610 Iowa Avenue, Onawa, Iowa, and they've already submitted a resolution for the record.

Monona County's western boundary, border, is the Missouri River. The Board of Supervisors is trustee for fifty-four (54) legally constituted drainage districts. Also in our county there are thirty (30) districts who have their own elected governance boards, in addition to the other fifty-four (54) districts. Of the four hundred and forty-six thousand (446,000) acres in Monona County, two hundred and seventy-eight thousand (278,000) are in drainage districts. Increased spring releases from Gavins Point would further compound their problems by



FC
(Con't)

backing up drainage.

Isn't the prime purpose of the Pick-Sloane Plan flood control? At least I thought it was, from the last, the day I flew up to Oahe to see the dam flows.

Anyway, the flood control has certainly enhanced the development.

One of the facts overlooked is the U.S. population. Talk about Lewis and Clark, we want it like that. Well, in those days there was five million (5,000,000) in the population of the United States, in 1800. Currently, the 2000 census, two hundred and eighty million (280.000.000). That's five hundred and sixty (560) people today for each one in 1800.

We want to upset the infrastructure that makes this possible. I think that's one thing that is widely overlooked. You have so many people that we just can't have things like we want them and they used to be.

I've seen a lot of outsiders, like Ms. Ragsdale, Des Moines Register, editorial writer, think they're experts because they have driven through the valley and could give us direction on how we ought to live here.

Considering Pick-Sloane and Lewis and Clark, development of the Louisiana Purchase, a spring rise and a low summer flow are a scenario for disaster for a presently highly workable system. By putting water in basements, adding to construction costs, which I'm involved in another development corporation up home, and we had some water in basements.

GW

Let's see, I've got two minutes, I better speed it up.

By putting water in basements, adding to construction costs and reducing electric power production in peak demand periods, possible increase in shipping costs if we lose water compelled rates, putting out of business a highly developed recreation industry, boats and marinas, and further degradation of the channel by increased spring flows.

HPower

Nav

Rec

ErSd

Iowa's had a problem when only our DNR with their tunnel vision was dictating this scenario. The people directly involved have changed that by getting a broader input.

As you heard tonight, the legislation has been passed. There's other input besides DNR.

I sense the same is going on in other areas, when I read the submission of the Papio/Missouri River Natural Resource District and hear comments made tonight.

All of these things, plus the report of the National Academy of Science lead me to be very skeptical of what I see in the summary of the Missouri River Revised Draft Environmental Impact Statement. Also, I have heard nothing about the effect of changing things to maybe save three (3) species when in a normal year about a hundred (100) species disappear. And the Director of Fish and Wildlife Service that stood up in Denver, I think, the last day of January, and said he wasn't at all sure this would really help.

Now, why should we do anything unless we know where we're going and we have something that works?

Do we really want the dinosaur and the three-toed horse back and mountain lions and bears? Saving the listed species could cause more problems than one could imagine. In my lifetime I've seen deer increase from near extinction to becoming a problem. Same with the

EnSp

Canadian geese. Now we have wild turkeys that cause havoc in some areas. Nature adapts.

As I said, I was speaking for the Monona County Board of Supervisors and they want in the record stating the listed species that will extinct, one of much greater importance to them, the local property taxpayer.

Thank you.

MR. CIESLIK: Bill Beacom?

MR. BEACOM: My name is Bill Beacom. I live in Sioux City, Iowa, 2423 Jackson, and I'm not a bit partisan, I'm a barge captain.

I'm going to read you a letter that I just had published in the Sioux City Journal this morning as kind of a lead in. It's called "The Spring Rise."

The U.S. Fish and Wildlife Service claims to have enough scientific data to not only justify, but make necessary a change in the Missouri River hydrograph. This change is supposed to aid the recovery effort of the Pallid Sturgeon, Least Tern, and Piping Plover. Common sense could tell anyone with the basic knowledge of this situation, it's not true.

The U.S. Fish and Wildlife says the

spring rise may cue the spawning of the Pallid, but there's convincing evidence available to show the Pallid's already being cued and that cue is the water temperature of sixty-five (65) degrees. There is also evidence that the Pallid does not spawn in the mainstream of the Missouri, but goes up into the tributaries. This take place in the month of May. Tarleton H. Bean, author of Fishes of Iowa, Report of the State Fish Commission, 1892-93 states: "Nothing is recorded of its habits, except it runs up into the small streams in May for the purpose of spawning."

EnSp

So all of the hoopla about cuing the Pallid Sturgeon's nonsense. Any attempt to changing the hydrograph in May will affect water temperature and defeat this natural reproduction cycle, which is already taking place.

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The Piping Plover and the Least Tern: Although the Piping Plover never successfully used the Missouri River for nesting prior to the building of the dams because of the day-to-day fluctuations of the river, they have readily adapted to the consistent flows afforded by the current operation of Gavins Point. The spring rise will be a disaster for them, because

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of their need to nest just inches above the waterline, coupled with their arrival in late April and early May, which means they will have laid their eggs just before the spring rise. The Least Tern will face the same plight. What happens to them then?

EnSp (Con't)

Let's return to the Pallid Sturgeon. Presume for a moment that in spite of the spring rise they were successful in getting their eggs laid. These larvae will eventually move into the mainstem of the river. But wait, just about the time they get comfortable the summer drawdown occurs. Summer drawdown, that means they get drawn down, eaten up by the birds that are left.

EnSp

This overview should convince any reasonable person that the spring rise and summer drawdown has problems. But, there is more. U.S. Fish and Wildlife Service says it's necessary to recreate the natural hydrograph. But, is it natural?

Let me present an analogy to show you the answer to that question is a resounding no.

We all know what mom's beef stew is and what constitutes the ingredients. We need

beef, vegetables, seasoning and water. Does anybody really believe you could put a bowl of cold water in front of mom and she would agree it's beef stew? This is exactly what U.S. Fish and Wildlife is asking. They have a spring rise with no carbon, no sediment, no humus and they are trying to say it's a natural hydrograph. Mom wasn't fooled on playing cold water being stew and that other mom, Mother Nature, is not going to be fooled, either.

EnSp

There's more than seventeen hundred (1700) miles or more above Sioux City. The introduction of non-native game fish above Gavins Point has wreaked havoc with a vast majority of these species. According to the NAS Report, fifty-one (51) native species are losing numbers. And there's convincing evidence that they are getting eaten.

Fish

The Sturgeon Chub and the Sicklefin Chub were listed for endangered species, but the Fish and Wildlife Service said, well, that's the reason they're endangered. You guys are putting fish in that are eating them.

One thing that everybody knows, barges aren't above Gavins and barges don't eat

fish, only game fish do. And this is the biggest threat to native species. Yet, American Rivers has aligned itself with American Sportfishing Association. It's way past time that the Sierra Club, the Audubon Society and the Nature Conservancy start looking at what their really interests are, instead of what they think their interests are.

Now, let's talk about the NAS Report. Does anybody understand what the word "moratorium" is? Does it mean they endorsed anybody?

No, they didn't endorse anything. They said "moratorium." That means stop, until you get some science.

The baseline science does not exist, but I have seen plenty of science here and that's sound science is what I call it, when the environmentalists say that if you pay for it, we're for it. That's sound science in anybody's language.

COLONEL UBBELOHDE: We've been going at this for about two hours. I'd like to take a fifteen (15) minute break.

(Whereupon, a short recess was had.)

Other

COLONEL UBBELOHDE: I'd like to get started again.

MR. CIESLIK: Duane Hovorka?

MR. HOVORKA: Good evening.

I'm Duane Hovorka, Executive Director of the Nebraska Wildlife Federation. I'm also testifying on behalf of the National Wildlife Federation, the nation's largest, member-supported conservation organization.

The National Wildlife Federation will be submitting written comments. The Nebraska Wildlife Federation has previously submitted testimony and my testimony today supplements, but does not replace the comments that we submitted earlier. We make just a few key points tonight.

First, I'd like to thank Roger Patterson and the folks at the Nebraska Department of Natural Resources for their work to bring together the states in the basin in support of an alternative that would begin to test the impact of a slight spring rise in the river. The fact that most of the states are recognizing the need to make changes in the flow is a very important step. And I think their efforts

deserve our thanks.

Second, while the current discussion centers on the flow issues on a portion of the Missouri River below the Gavins Point Dam, we should not lose sight of the many positive changes that were included in the draft rewrite of the Missouri River Master Manual. Especially, with respect to the management of the river upstream from Gavins Point.

Third, while the current debate centers on flow issue, we should all recognize the need for habitat restoration and protection measures throughout the basin. And much of that work is outside the jurisdiction of the Missouri River Master Manual. The Big Muddy Refuge and other efforts to create a "string of pearls" along the Missouri, to begin to restore the side channels, backwaters and wetland complexes that we've destroyed is vitally needed as part of the restoration effort.

WRH

We cannot rely solely on those habitat restoration and protection efforts, because there's still a need for the spawning cues and other benefits provided by the more natural river flow pattern. Likewise, we cannot

EnSp

rely solely in changes in the river flow under the Master Manual, because the spawning cues will not be effective unless spawning habitat is available. The two have to go hand-in-hand.

Fourth, I think you need to ask yourself, as you rewrite the Master Manual, what is the signal that we're sending?

If you refuse to make changes in the flow patterns on the lower Missouri, you tell people, the U.S. Government is standing pat. You tell landowners along the river, like your utilities and industries that depend upon the river for cooling water, the marina owners along the river, the barge industry and others that they don't have to change. You send a clear message that they can continue to do what they're doing and you tell people who would invest their dollars in hunting and fishing businesses to take their money someplace else.

And if you do that, ten (10) years from now things will only be worse. The species on the decline will continue to decline. The people who live along the river will have made few changes. The fishing, hunting and wildlife recreation industries will not invest and you

EnSp

Other

will likely have even more industries, even more power plants and even more marinas built along the river that are designed to be reliant on the current flow regime. In ten (10) years from now the solutions will be even harder and more expensive.

It seems clear to us that change is needed. The biology becomes clearer every day. The economic benefits and changes up to the Missouri's flows become clearer every day. And if you fail to send a clear message to people throughout the basin that change is coming, then you've failed not just the river, itself, but the people on all sides of these issues.

Other

Our problems with the alternatives put forth by the Missouri River Basin Association is based on at least two (2) important counts.

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First, it falls short of what is clearly needed to meet the minimum needs of fish and wildlife. The Fish and Wildlife Service and our own biologists have articulated those minimum needs and urge you to adopt a plan that meets the species' needs that have been identified.

Second, it fails because it sends the wrong message. It sends the message that the

Corps is going to stand pat, stick with the current plan, and only engage in short-term tests of the different flow regime. It may be a feel-good message that people want to hear, but the people who are impacted need better from you, they need the truth.

The truth is that the river's flows have to change and ultimately they are going to change. People need to start planning now for that change.

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Fifth, we cannot afford delay. We urge you to work quickly to bring this Master Manual rewrite to a close, so that the changes can begin to take place as soon as possible. We may not know everything about the biology or economics of the river, but we know enough. We need to continue to monitor and research the Missouri because we cannot delay any further the start of making needed changes.

Other

And one final point, for about a hundred and seventy (170) years we've molded the Missouri River to fit people. We've swung the pendulum just about as far as we can to the side of agriculture and power production and the barge industry and it has come at the expense of the

fish and wildlife in the basin and the people connected to fish and wildlife.

We're not asking for a return to 1804, to the Lewis and Clark river. We're not even asking that you balance the needs of people and wildlife. What we're asking for and indeed what the endangered species calls for is only the bare minimum. The bare minimum needed to prevent these imperiled species that we've driven to the brink of extinction from falling to extinction.

Unfortunately, in our view, the bare minimum is all we're talking about here. Where changes in the river flow, such as that proposed in the GP2021 option, plus restoration and protection of habitat up and down the river. We think they're good for wildlife and we think, ultimately, they're good for people throughout the basin.

Thank you.

MR. CIESLIK: Lanny Frakes?

MR. FRAKES: Good evening, Colonel.

My name is Lanny Frakes and I live at 13371 Southwest State Route KK, in Rushville, Missouri 64484, which is located in Southwestern Buchanan County near Missouri River Mile

Other

Marker L Four Twenty-Eight (L-428).

I'm a fourth generation farmer and I've lived and farmed in the area my entire life. I'm Secretary/Treasurer of the Rushville-Sugar Lake Levee Association, which is a non-federal levee that protects approximately eight thousand (8,000) acres. I'm Secretary of the Halls Levee District, which is a federal levee unit located out southwest of St. Joseph, Missouri and protecting eighteen thousand (18,000) acres.

I'm currently on the Board of Directors representing the Missouri Levee and Drainage District Association. And I mention the above to correlate my interest in the Missouri River policy.

I thank the Corps of Engineers and your staff for conducting these hearings and allowing public comment on the Missouri River issues. I ask that the public be allowed to continue to participate in offering their comments and the subsequent review of these comments by the Corps.

Other

I am opposed to a spring rise that is released from Gavins Point, as I believe the release of fifteen thousand (15,000) cfs to

FC

twenty thousand (20,000) cfs from May 1 to June 15, would have the potential to create flooding problems, delayed and/or prevented planting, drown or stunted crops and internal drainage problems.

I realize the Corps would not make these releases when the lower basin river levels were at or near flood stage. My concern is for when the spring rise release has begun under acceptable guidelines and rainfall events below Gavins Point coincide with these releases.

Weather forecasting is not an exact science and are not accurate for ten (10) to eleven (11) days in advance, which is the approximate time for releases to travel from Gavins Point to St. Louis. May 1 through June 15 is historically a time frame when large rainfall events occur.

Flood control is paramount for the lower basin, with a combination of levee units being constructed and dams completed in the upper basin have led to vast improvements and expenditures being made along the lower Missouri River Basin. Cities, towns, industry, agriculture, public infrastructure and residents

are dependent on flood control as we move into the upcoming century. We must not jeopardize flood control.

The spring rise causing the higher Missouri River levels of three and-a-half (3 1/2) to four (4) feet in the spring planting season would be detrimental to our area's farmers. Flood stage at St. Joseph, Missouri, is seventeen point 0 (17.0) feet and our area begins to experience internal drainage problems at levels above thirteen (13) feet. These problems are compounded as levels rise and cause delays in planting, along with stunted crops that are caused to develop a weak-root system that develops on top of the ground due to the high ground water table levels. As the heat of the summer months rise, these crops and root systems are unable to withstand the stress of going from one extreme to the other. The spring rise followed by reduced summer flows would cause a poor growing environment. Many acres could go unplanted if the spring rise coincided with the above normal rainfall in the lower basin.

IntD
GW

Internal drainage problems are compounded as Missouri River levels rise and

local rainfall and runoff from uplands, coupled with seep water caused by the high river levels cover land on the protected side of the levee system. These high Missouri River levels do not allow for the normal discharge of internal water through drainage structures. Crop planning and growing conditions deteriorate rapidly with each day these problems persist. Stunted crops rarely recover their potential from these conditions even if they actually do survive.

IntD

I realize the Corps is mandated by law to protect the endangered species. The recent census presented by the U.S. Geological Scientist Susan Haig, as documented by the Environmental News Service, Ameriscan, January 25, 2002, in regard to the field data for the 2001 International Piping Plover Census denotes that Plover numbers have grown four hundred and seventy (470) percent in the last five (5) years, one hundred forty (140) percent in the past ten (10) years along the Missouri River. Miss Haig further denotes that the increase in numbers along the Missouri River might be due to recent favorable habitat conditions.

EnSp

The Biological Opinion states there

EnSp (con't)

is a substantial decline in Plover population numbers, but the 2001 International Piping Plover Census shows a large increase in numbers under the Current Water Control Plan. I see the need for more review of this matter as these two reports are contradictory to the other.

I believe endangered species can benefit by improving habitat on the public lands in the Missouri River Basin without making flow changes. Human lives and their livelihoods must not be harmed through the enhancement of fish and wildlife habitat.

I thank you for this opportunity to express these views.

MR. CIESLIK: Susan Heathcote?

MS. HEATHCOTE: I'm Susan Heathcote and I represent the Iowa Environmental Council. We're located at 711 East Locust Street, in Des Moines, Iowa. I'm the Research Director for the Iowa Environmental Council and the Council is a coalition of seventy-eight (78) organizations in Iowa and we also have over six hundred (600) individual members of the Council, but actually our membership is quite, quite a bit larger than that, because within our coalition organizations

we represent over eighty thousand (80,000) Iowans and I'm here to speak to you about the Missouri River, because I want to make sure that you hear from the members of our organization, many of which are very concerned about the health of the Missouri River.

The Iowa Environmental Council, as a coalition, does support the Flexible Flow Alternative in the plans that have been put forward.

We see increasing flows from Gavins Point and Fort Peck Dams in the spring when water conditions permit that. And again, we understand the concerns about flooding. We certainly have had a lot of experience on what can happen during high water levels in the spring in Iowa over the last ten (10) years.

We also support the reducing the flows in the summer. We see that we need to help return the river to a semblance of its natural state. We also understand that this is not going to completely restore the river to the way it was back during Lewis and Clark's time. I mean, this, you know, is -- we understand that things have changed here and there are an awful lot of

Other

investments in infrastructure in the Missouri River Basin and, certainly, after sitting through and hearing all of the comments today, and I really do appreciate everyone who came today to speak about the concerns that they have and I want to assure everyone that our constituents are not insensitive to the concerns of the people living along the river and the impact that this change is going to have on landowners, farmers, the cities and the infrastructure that has been put in place along the Missouri River. But, certainly those folks in this area need to have a say in how this is going to be managed.

Given all of that, we believe that it is very, very important that we have a healthy Missouri River for the future and that during times of change there is always difficulties that we have to go through, but we have to keep our eye on what it is we're trying to achieve and hopefully we can come up with a way to compensate those who will bear the cost of this change.

Other

Looking at all of the alternatives, and again, I appreciated the opportunity to spend some time this afternoon going over the information here, it is clear to me that the

GP2021 alternative provides the most benefit to the biological community, including the endangered species, the Pallid Sturgeon, the Least Tern and the Piping Plover. We also have to recognize that these three species are not all of the species that would benefit from the changes in the flow.

EnSp

Certainly, we're talking about an entire ecosystem here and the restoration work that would need to go along with the changes in the flow, within the basin, along the river, and restoring habitat is all very important for a healthy ecosystem.

WRH

We also appreciated the National Academy of Science report because, again, we are very concerned that what we do be science-based. And it was very clear, from review of that report, that a return to the natural flows on the Missouri River is key to restoring the Missouri River's health.

Other

Also, we support the Adaptive Management Approach that has been put forward in this plan and we understand that we are going to need to continue to review the results of the changes that we make in the plan and that we need

Other

Other (con't)

to guide this process as we move forward to balance the various uses and interests of the people and the wildlife that are connected to the river.

Thank you very much for the opportunity to give these comments.

MR. CIESLIK: Lynn Muench?

Thank God I'm not following Bill Beacom.

I'm Lynn Muench, Vice President of Midcontinental office of the American Waterways Operators.

AWO represents the towboat and barge operators on America's coastal and inland waterways systems, including the Missouri, Mississippi and Illinois Rivers.

Today I'm here to articulate our industry's concerns with the alternatives presented in the RDEIS and our vision of the future.

The alternatives presented to the public are highly influenced by the U.S. Fish and Wildlife Service's Biological Opinion. AWO members are concerned that:

One (1), the scientific process used

to reach the biological opinion is highly flawed.

Two (2), the Service has broken federal law by not designating critical habitat for the endangered species.

Three (3), the Services has admitted that it does not have any notes or proof of over thirty (30) sources listed as personal communications in the Biological Opinion. Even first year biology students understand that this is unacceptable scientific conduct.

Does anyone here think that this might be somewhat like the Tom foolery that has happened out in the west with lakes and the grizzly bear?

AWO is concerned that what the Service hopes to achieve with their recommendations is fuzzy. AWO is also concerned that it is questionable whether the recommendations are based on scientific facts or politically-influenced beliefs. AWO's concerns include:

One (1), the split navigation season, which would destroy waterway transportation on the Missouri River and cripple it on the Mississippi River, will only increase

Other

Nav
EnSp

endangered species' habitats by a hundred and sixty-four (164) acres. According to the Missouri Department of Natural Resources, these acres could easily be created without flow changes.

Number two (2), the Missouri DNR has begun a Pallid Sturgeon breeding program. Intuitively, it appears more likely that the Sturgeons are not breeding in the wild due to their limited populations. They simply can't find each other. A breeding program would allow recovery of the species without negatively impacting navigation, power generation, water quality, historical properties or flood control.

EnSp

Number three (3), there are over two thousand (2000) miles of river, including parts of the Missouri, Mississippi and Yellow Stone Rivers, where a spring rise naturally occurs. The Pallid Sturgeon is still not increasing in population at these locations. The obvious question is, what could less than three hundred (300) more miles of spring rise do to improve their viability as a species?

EnSp

Four (4), the increased reservoir levels of the Modified Conservation Plan and all

Gavins Point plans will actually decrease habitat for the Piping Plover and the Interior Least Tern. Another obvious question, why should we decrease habitat already in place?

EnSp

Number five (5), why hasn't the Service evaluated the negative impacts on the species that are presently viable on the Missouri River, the Mississippi River and their tributaries? As a large basin-wide evaluation, negative environmental impacts that will likely occur must be considered.

Other

AWO members request that the Corps and the Service renew their search for a win-win solutions. As suggested by the NAS, a moratorium should be placed on this process until good scientific theory be confirmed as good science.

Other

AWO members are very troubled that the Missouri River navigation is not properly considered due to the following flaws with the study's assumptions including:

One (1), the Corps has underestimated flow levels needed for minimum service. The Corps used flows that were needed pre-1993 flood. Over one hundred (100) dikes have not been repaired since the 1993 flood,

Nav

increasing the amount of flow needed by several thousand cfs.

Number two (2), the economic potential of the Missouri River is greatly underestimated. Since the 1980s, when this big debate began and the future of the navigation industry became uncertain, business on the river has moved from five (5) year contracts to spot basis, and docks and terminals have been disinvested. Why would any sane business invest in a transportation system with its future so unpredictable? The adoption of CWCP could positively impact future investment and traffic.

Nav

Number three (3), the Corps did not take into account the effect of water depletions in the upper basin; therefore, all data on the water available for flows to support navigation is incorrect. This negative impact on the Mississippi River navigation has not been evaluated. Using the Corps' assumptions, initial industry analysis suggest that these changes in flows from the Missouri will increase shipping costs on the Mississippi and Illinois Rivers by seven point five (7.5) to thirty (30) million per year. The Corps has yet to provide even initial

Miss

impacts on this nationally important river system.

Number four (4), the split navigation season will eliminate barge traffic on the Missouri River, despite the Corps' optimistic tables. The Corps foresees a thirty (30) percent reduction in eight (8) months, from April 1 to December 1, on the Missouri River. Let's look at analogy. A thirty (30) percent reduction in Wal-Mart's twelve (12) month season would force closure from September 14th to December 31st. Does anyone believe this would not destroy the company's economic viability?

Nav

The MCP, one (1) of six (6) preferred alternatives, is also the underlying plan for the four (4) GP plans. But what is conserved? It appears the water is conserved for use in the upper basin. It is not conserved for navigation, drinking water, electrical generation or recreation in the lower basin. Where is the balanced approach the Corps and the MRBA has espoused?

Other

COLONEL UBBELOHDE: Lynn, you about done?

MS. MUENCH: Half a page.

COLONEL UBBELOHDE: Okay.

MS. MUENCH: Another major concern is Adaptive Management. This process will leave the annual operating plan open for change every year. The change will be mandated by the Service and the Corps with no public input. This is illegal under NEPA and deprives navigation of reliable flows of navigation. This will decrease or eliminate Mississippi River reliability.

Other

I'd like to thank the Corps for this opportunity. How we decide to balance the multiple uses of this important national treasure will indicate how much we, as a nation, value economic prosperity, the health of the family farm and our environment.

In summary, AWO endorses the CWCP without Adaptive Management.

I've also attached some information on the negative impacts on the Gulf with hypoxia with the changes of flows.

Miss

MR. CIESLIK: J. M. Peterson?

MR. PETERSON: Can you hear me okay?

MR. CIESLIK: Just pick the mic up.

MR. PETERSON: My name is Jim Peterson. I represent the Missouri River Bank

Stabilization Association. It's headquartered out of Newcastle, Nebraska, but I live at Vermillion, South Dakota, across the river. My address there is Poplar Avenue, Vermillion, South Dakota 57069.

I've lived along the Missouri River all my life, except for a couple of years in the service during World War II. Year-wise, I've been on the Missouri over seventy (70) years. I've boated the length of it from Three Forks, Montana to the mouth just above St. Louis and I spent a lot of years working in various projects on the river.

The Bank Stabilization Association is very much opposed to the increase in the spring flow and the summer drawdown.

ErSd

Our principal objection, and this has been made known to the Corps by written documents, is based on the problem we have in permitting or saying nothing when the landowners along the river are losing substantial qualities of land.

There's a farm south of Gayville, South Dakota, when the gentleman owns it bought it, his farm was not even on the river on the

west side. Half of the farm he bought is now gone.

Above the new bridge between Vermillion and Newcastle, if you would stop there this time of year you see a massive amount of litter in the river, in the Mulberry Bend and in the lower part of the North Alabama Bend. Most of that debris has come from a very severe erosion on the North Alabama Point. The farmer there tells me that since 1980, he's lost over a section of land. Now, you figure that land is worth a thousand dollars ($1,000) an acre or more, you can see what the loss is to him, personally.

There are any number of landowners who can tell similar stories. I know the Corps has bought one landowner out with an easement, because it was better to do that, apparently, than to try to prevent the loss of land.

Well, let me put it this way: Mr. Beacom used an analogy, I'll use one, too. If I take a garden hose and I go to Mr. Sealey's home here and I proceed to wash his front yard into the gutter, the police are going to be there very quickly, and intentional

destruction of property. And we feel that if anybody gives the order to put that spring flow into effect, they are intentionally destroying property and they ought to go to jail. And yet we stand by and casually say, well, yeah, there are burdens to be borne and all that sort of thing.

But, getting away from the landowners' interests for the moment, let me touch on another aspect of this and that is that the Park Service and the Corps are jointly responsible for administering the stretch of river between Yankton and Ponca, approximately, fifty-nine (59) miles of river which is still in a relatively natural state, although the flows are very closely governed by the Corps.

One of the responsibilities of the governing bodies is to protect that river and try to preserve the nature of it. That's why it was made part of the scenic river system. If nothing is done to protect those shorelines, the existing trees along the river, for example, are going to be gone. There won't be any more trees.

You'll go down that river and except where it impinges upon the wasp, you're going to

Other

be looking at soybean fields and cornfields and, with a high flow, you'll see extensive erosion.

We just don't think that's responsible management and several times this evening the Missouri River Basin States' vote in favor of a spring flow has been mentioned. I've heard no prior mention of the fact that the group also said that provision should be made to protect the landowners along that part of the river. At least that was a report in the papers I read and I get five (5) newspapers a week, I guess, including any provisions in "Plain Talk."

I see I've still got a yellow light here. I might make another comment or two.

I think most of us in this room probably have the same objective. We'd like to see the river preserved and protected, but the way you do it is very important and, again, speaking to that, mentioned several times this evening has been the American Society for the Advancement of Science, if that's the proper name.

As you probably know, they recently concluded that there was no credible evidence to support the Fish and Wildlife Service's findings

in the Plymouth Basin out in the Northwest.

I better stop, the light's red.

Thank you very much for your time.

MR. CIESLIK: Peggy Murdock?

MS. MURDOCK: Hi, I'm Peggy Murdock and I represent the Iowa Chapter of the Sierra Club.

Thank you for providing this opportunity to comment on the management plans for the Missouri River.

I am here on behalf of the Iowa Chapter of the Sierra Club to express support for GP2021, the Flexible Flow Alternative.

This is the alternative that will best suit the recommendations of the United States Fish and Wildlife Service. Recommendations that are strongly supported by a two (2) year study conducted under the auspices of the National Academy of Sciences.

The current management of strategy for the Missouri River has been designed with the interests of only one sector of the economy in mind, that of the barge industry. Now you are being asked to look at what this means to other sectors of the economy, as well as to the living

things that inhabit the water and shores of this great American river.

Mr. Christopher J. Brescia, President of the Midwest Area River Coalition, in his testimony before the Congressional Mississippi River Caucus in March said, "It's time for a national debate on the values of the waterway system." We would agree.

Let us take a look at the losses, for example, those of the commercial fisheries that once thrived on the Missouri. Let us look at the unrealized potential of hydroelectric power generation, which the National Academy of Sciences study tells us could be boosted by another ten million dollars ($10,000,000), if dams could be modified with energy and generation in mind, instead of being designed for the benefit of the barge industry.

HPower

Let us take a close look at the barge industry itself. As Mr. Tim Burrak of the National Corn Growers Association reported for the U.S. House of Representative last March, "Barge crews, specifically deck hands, are an entry-level position with a high turnover rate." If you investigate, I believe you will find that

Nav

railroad workers, on the other hand, are union workers who can sustain an American family on their salaries.

Barge operations are hampered by high winds, fog, rain, current flows, differences in water levels and by ice. Rail transportation is not. What if we were to take the national resources we now invest in the barge industry and invest them in our rail system? Could this make railroading more competitive and more rail transportation costs, not just along river corridors, but all over the nation?

Nav (con't)

U.S. Fish and Wildlife Service tells us that allowing this river to operate with a heavier flow in the spring and a lighter flow during the late summer will benefit three species, the Pallid Sturgeon, the Piping Plover and the Least Tern. These three species are of special concern to us because they have been placed on a threatened or endangered list, but these are not the only living creatures that depend on this river for their existence and certainly not the only species that have become vulnerable. For example, under present river management practices, habitat for insects, which

EnSp

provide food for our fish in the water as well as birds when they emerge into the air, have been reduced by as much as sixty (60) percent. Without food, no species can survive. Without ample food, no species can thrive.

EnSp

River edge rowcrop land is an economic and environmental liability. It is a source of revenue drain and losses need to be compensated in flood time and a source of anxiety to the landowner who experiences just how unreliable this land can be. What we haven't realized until recently is the value to the economy, the environment and the community of restoring these areas to wetland. Sierra Club supports easements for a wetland restoration that could be purchased through programs such as WRP, EWRP, or other long-term or permanent set-aside efforts. These wetlands, if we allow them to exist, will protect our farmland and communities by storing water, which serves to mitigate the effects of both drought and flood.

FC

WRH

One of the speakers at the December Pew Oceans Commission hearing in Des Moines presented his vision of a restoration project for the Midwest on the scale of the Everglades

restoration. What better place to start than with the Missouri River? What better time to start than now?

MR. CIESLIK: Corky Jones?

MR. JONES: My name's Corky Jones. I'm a farmer from Brownville, Nebraska, and we have fifteen hundred (1500) acres on the Missouri River that is affected by the river levels.

I'm also representing American Agriculture Movement, a family farm organization that represents farmers.

I think we need to look at some of the statements that have been placed here. I've attended many of the meetings that have been held over the past years, some I've testified at and some I have not. But facts are, number one (1), the so-called endangered species that we continue to hear about, possibly and very probably are not endangered.

EnSp

Fact, we talk about the barge percentage of traffic of grain being maybe one (1) percent or really low, but the fact is that the barge is there, that the barge traffic is there makes it competitive with all modes of transportation. It means a lot to the farmers.

Nav

FC

Facts, when we look at what would happen if some of the programs that have been submitted here were going to experiment with the fluctuation, fluctuation of the Missouri River levels.

Facts are, flood me out one time, flood any of the farmers out one time and it's a fact, it's really hard to continue. You're placed in an annihilation system.

If it's flooded in the spring, that's right when we need to plant. If it's flooded in the spring, it's going to continue to be wet. We've heard that testified to by many of the farmers that have testified earlier.

But, the fact is, they're experimenting with my income. All the farmers and the people that are opposed to the manipulation, or any difference of the water control releases, are not asking Fish and Wildlife or any other entity, be it Sierra Club or any of them, we're not asking to look at your paycheck or take it away with any of the actions we want. That, we feel, is a must. But, they're destroying every farmer, from St. Louis to Yankton, South Dakota, with this program,

especially the 2021.

I, as a farmer, say, and I, as an American Agriculture Member representing farmers nationwide, say that definitely, adamantly opposed to the 2021 program, the manipulation or altering of the levee and the water levels.

Current program, keep it.

There's many people that have testified and I can say that the threatened endangered species, they're there, I've seen the birds on my own land. I know they're there. I'm not saying I've counted them to see what the increase is, but people have testified tonight say it's on the increase. And I know they're there. The Pallid Sturgeon, I can't say anything about him, but it's not in our area. It never has been, Brownville, Nebraska. I guess I skipped over where I was from, but I am from Brownville, Nebraska, Route 1, Box 17, 68321.

Several years ago, back about twenty (20) years ago, I participated and was a part of the tractorcade in a protest of policy to Washington, D.C.

This is political, I think it needs another protest, whether it's a tractorcade or

what, but the farmers that are being affected, surely that diesel smoke should erupt and we should be smelling it, because there is a problem and we're not asking for anything other than what's fair and what's right.

Thank you for your time.

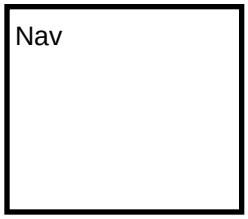
MR. CIESLIK: Doug Gronau?

MR. GRONAU: Colonel, Ladies and Gentlemen, my name's Doug Gronau. I'm a farmer in West Central Iowa. I live at 3245 K Avenue, Vail, Iowa. I'm a resident of Crawford County.

I have lived between eight (8) and fifty (50) miles of the river my entire life and I'm very concerned about the economic consequences of the proposed changes to the Current Water Control Plan for the Missouri River.

Reduced summer flows along the river will eliminate barge navigation for several months and give shippers one less option to move farm commodities to their final destination. This increases freight rates and will have a direct negative impact on the prices farmers receive for their products.

Recently, as an example, just the



threat of importation of Brazilian soy-meal by ship to the southeastern region of our country has reduced rail freight rates to that area for the Central United States. Low flow on the Missouri River could impact shipping on the Mississippi River, too, during the summer months, if a drought condition exists in the upper Midwest, and will cause serious market losses for farmers in all of Iowa and the upper Midwest region.

Miss

Reduced summer flows could hamper power generation in our region, just when demand for power is highest. Future economic activity is dependent on plentiful and reasonably priced power.

Power

Reduced summer flows will cause severe economic hardships for marinas and boaters by making the river unusable for boating activity during the summer months in an area already lacking large lakes.

Rec

Reduced summer flows could make any drought that may occur worse by lowering the water table when rainfall and soil moisture are most needed by crops.

GW

Reduced summer flows for wildlife

WRH

can be accomplished by other less costly methods, such as the use of chutes and backwaters.

WRH (Cont)

Excessively high spring flows can be a major problem for agriculture. Not only could very high flows limit navigation, but also it would raise river levels at a time when all farmers are facing seasonal drainage problems in their fields. These drainage problems, combined with a very high spring river level and sudden heavy spring rains could cause serious problems, not only for drainage, but could cause actual flooding, particularly in Southwest Iowa and further downstream.

FC

In conclusion, a change in management of the Missouri River to accommodate upper river interests at the expense of the interests of lower river states will have a devastating effect on our economic well-being far in excess of the economic benefits gained by upper river states.

The Corps of Engineers should use a balanced management plan, one that will not cause major economic and recreational disruptions to the citizens of the lower Missouri River.

Thank you for this opportunity.

MR. CIESLIK: Cliff Dorcy? Cliff Dorcy?

Paul Rohde?

MR. ROHDE: Well, good evening, Colonel.

My name is Paul Rohde, I'm Vice President of the Midwest Area River Coalition 2000 and, as you know, we testified at five other public hearings, focusing on various aspects of the RDEIS.

Today my comments relate to the conservation promise of the MCP and GP proposals.

Now, on its face, the concept of preserving water during times of drought seem to make common sense. In fact, during the two (2) years that we've participated in the MRBA negotiating process, navigation interests did something no other participants elected to do and that was indicate a willingness to accept a reduction in service earlier than provided for in the Master Manual, as a show of good faith to this notion of saving water for all future users in the basin.

Now, since water is such an important commodity during these times, we asked

Nav

for some sort of compensation, such as an exemption from the fuel tax paid under the Inland Waterway Trust Fund.

We also asked for a plan that met a bottom line necessary to sustain navigation. If service levels were reduced, then we need a season long enough to move grain to market. We made an offer to share pain, but what we got was a reduction in service, without the time needed at the end of the season and without any support for compensation.

MCP in its current form is not acceptable. It doesn't share water during times of drought. The triggers for lower navigation service are activated so soon in the process that any water saved isn't provided for downstream users in Iowa, Kansas, Nebraska, Missouri and on down the Mississippi River. In times of drought, only reservoir and interbasin transfers are provided with water, but navigation and downstream recreation and power supply are not. This is not a fair allocation of water between project-organized uses, which is why we oppose the MRBA proposal and still oppose the MCP proposal.

Other

A review of the hundred (100) year hydraulic records by the Missouri DNR reveals a consistent rise in the average pool levels in upper reservoirs, including years of drought. Essentially, negative impacts on riparian habitat, downstream recreation, downstream navigation, power supply, water supply, are balanced against increased upstream recreation benefits. This is hardly "shared pain" within the basin.

Other (Con't)

MCP is unacceptable not only to Missouri River navigation, but certainly unacceptable to Mississippi River navigation. Under the CWCP there's one (1) year of eliminated service on the Missouri and eight (8) shortened years. That same period reveals only seven (7) years when these low flow regimes can coincide with low water on the Mississippi, which is important because in low flow years that sixty (60) percent flow of the middle Mississippi is made up from the Missouri.

Miss

Now, we contrast the type of support with MCP, where we have five (5) years of no navigation support and thirty-five (35) years of shortened seasons. That's a three hundred and

forty-four (344) percent increase in adverse conditions. In addition, of the total forty (40) years of impacted service, thirty (30) of them coincide with the low water flows along the Mississippi River, yet we're presented here today, we've been at every public meeting, with a notion that MCP is, in fact, better for the Mississippi River than CWCP, and that conclusion is absolutely false. The real world implications of eliminated support are lost in the Corps' long-held averaging game, which results in a minimization of losses.

Miss (con't)

The Corps knew full well that single-year events could be catastrophic. Indeed, after playing with aspects of this data and former analyses, we also learned that drought events tend to be multi-year, compounding the economic impact. Regrettably, three (3) bad years in a row, followed by three (3) good years, don't average out to six (6) "no impact" years, despite the Corps' best intention.

Miss

Even within the parameters of the averaging scheme employed by the Corps of presentation of the data, if you eliminate one (1) year, 1939, from the mix it dramatically

shifts the average annual impact from positive results for MCP to significant negatives, averaging four point five (4.5) million per year in lost benefits on the Mississippi and this data is also suspect and incomplete. Because the final Mississippi River Impacts analysis conducted by the TVA won't be available prior to the conclusion of these public comment periods. We asked navigation experts to conduct their own analysis.

Miss (con't)

We found that the loss in water support under MCP could generate an average annual impact from seven point five (7.5) million per year to as much as thirty (30) million a year. This staggering impact has raised our opposition to the "conservation" underpinnings of MCP and the GP plans to a higher level.

But again, the real travesty here is that the public's being asked to evaluate alternatives when the impact analysis is incomplete. There are real world considerations to the effects of future depletions on the Missouri that have not been presented to the public or factored into the plans. We've asked for depletion runs on the MCP plan during this

Other

entire comment period and have been told that this request has been denied.

This is important because the depletion runs made on other previously considered proposals demonstrate that greater impacts would doom any of these alternatives in the opinions of stakeholders basinwide. Under CWCP, current depletions adversely affect over twenty-four (24) months of no navigation or service. A three point two (3.2) MAF depletion would triple that impact and under the old C 31 proposal there would have been forty-eight (48) months of impact and an impact of over five (5) times under a three point two (3.2) MAF depletion run.

Just to close, I wanted to say that MCP is not an acceptable solution, nor are its conservation assumptions based, according to the membership that I represent here for the Midwest Area Coalition 2000.

We need to get back to a more equitable distribution of water that benefits the entire basin during times of drought, not just one part of the basin.

I thank you for the opportunity and

I've already submitted my statement.

MR. CIESLIK: Tom Gartner?

CAPTAIN GARTNER: Good evening.

I'm Captain Tom Gartner. I'm Captain of the motor vessel Kanesville Queen, Director of Marine Operations and Facilities for Harrah's Casino and Hotel.

Harrah's operates a casino river boat year-round, which cruises daily, from April through October, pursuant to the requirements of the Iowa Racing and Gaming Commission. Harrah's concern regarding the altering of the river levels is two-fold.

The first concern is a public safety issue, both of patrons, as well as our employees.

The second is the negative impact that the proposed offering would have on recent Riverfront revitalization efforts by both Iowa and Nebraska.

To address this first concern, if the river levels were adjusted, new high water levels would lead to a greater quantity of unsanitary and unsightly debris in the river, such as logs, trees and livestock carcasses that interfere with the proper operation of engine

propellers, creating dangerous conditions for the casino boats and recreational boaters, as well. High water would also adversely affect surface parking. With water rising over the river bank, patrons would have limited access to our facility, reducing business and, therefore, decreasing the tax dollars we contribute to the local economy. Low water levels carry different, but equal safety concerns.

The current rate of silt buildup requires us to engage in costly dredging operations two times a year, in order to sail on the river. Further fluctuation in low water during the summer months would only magnify this issue. Marinas and floating docks would become ineffective during July and August, leaving both commercial and recreational boaters without river access. We can only speculate as to how quickly the silt will accumulate, restricting our ability to traverse the river, disenabling us from meeting our cruise requirements of a hundred (100) trips per season.

Harrah's Casino and Hotel employs approximately twelve hundred (1200) people. On an average Saturday over ten thousand (10,000)

people visit our facility.

We're deeply concerned that the Army Corps' plan to adjust the river level either up or down would affect not only our guests who come to enjoy the river boat and the waterfront atmosphere, but also our employees who derive their livelihood from the facility.

To touch on the second concern of negatively impacting the revitalization of the Riverfront. Both Omaha and the city of Council Bluffs are hard at work to make the improvements to all aspects of the Riverfront. These costly efforts are being made to draw people to the Downtown Omaha and Council Bluffs areas, thereby stimulating the local economy.

Two (2) new convention center facilities within a small radius of the river are presently under construction. New office towers and renovations in Omaha's Old Market District are underway. New marinas are planned as well.

We applaud those efforts and are concerned that any adjustment in river level may work against the overall goal of creating a safe, attractive center of activity to attract both local residents and tourists to the area.

In consideration of the aforementioned, we respectfully request that the river levels stay the same.

Thank you.

MR. CIESLIK: John Torbert.

MR. TORBERT: Good evening.

My name is John Torbert. I'm Executive Director of the Iowa Drainage District Association.

Thank you for the opportunity to appear today for this very important issue.

The Drainage District Association represents the interest of organized rural drainage districts in the State of Iowa. Although the bulk of our membership is in the "prairie pothole" region of Northwest Iowa, we also represent drainage interests on both Missouri and the Mississippi Rivers. Our membership represents more than three thousand (3,000) drainage districts in twenty-six (26) Iowa counties. In most counties that representation occurs with county board supervisors who, under state law, can become trustees for the districts. But, some districts continue to be represented by individual trustees

and you heard from both tonight.

The IDDA is here today to support the Current Water Control Plan for the Missouri River. Many farmers that farm land along the river have invested many thousands of dollars to drain that land to increase its productivity. We are very concerned about inland drainage and the impact it has along the river and behind the levees. The Iowa Farm Bureau presently has determined that increased river flows could result in production losses on more than one hundred thousand (100,000) acres of land, which will, in turn, result in economic losses of thirteen million dollars ($13,000,000). That's one (1) year.

The spring rise, which is included in all but one (1) option will not allow the planting of corn on affected acres. Planting of that land can be pushed back to July, which can also create harvest problems when early frost occurs. We're also aware that there have been substantial concerns expressed about the impact of changes in the river's flow would have on barge traffic. The Missouri River provides about half the flow of the Mississippi River, which is

a vital route for our commodities and plays a huge role in our ability to compete in the international marketplace.

Finally, we know that MidAmerican Energy has analyzed these plans to see the impact they will have to generate, on the ability to generate power. According to the Iowa Department of Natural Resources, forty (40) percent of Iowa's generating capacity comes from the Missouri River. What impact will the change in the flow of the river have on our ability to generate power?

It is for these reasons that the IDDA wishes to go on record in opposition to any change in the current flow plan. We believe that this option provides a balanced approach to the environment and to the farmers along the river that earn their livelihood from the land.

Thank you.

MR. CIESLIK: David Burkholder.

MR. BURKHOLDER: Thank you for this opportunity to testify.

My name's David Burkholder. I'm representing Consolidated Blenders, Incorporated.

I submitted testimony when you were

down in Nebraska City. I did not plan my evening that night to stay into the wee hours of the morning, so I had to leave before I had a chance to say anything, personally.

Consolidated Blenders produces about seventy thousand (70,000) tons of alfalfa pellets per year in Central and Eastern Nebraska. We ship about half of that production on the Missouri River each year.

Basically, we begin production in late May. Our main production months are June, July and August. In the normal year, I get my first barge loaded about the 1st of June. We've loaded lots of barges in June, July and August.

Our production starts to taper off in September and October and, generally, that production we keep back here in Nebraska for our Nebraska customers during the winter.

The idea of the split season on the Missouri River just doesn't work for us. When we want to ship the stuff in June, July and August, if you start to cut off the flow of the river on June the 21st or something like that, you know, my experience has been when the river's supposed to be opened 'til December 1st, barge operators

want to pick up the last barge from my place November 15th, November 18th, something like that, and make darn sure they beat the water down the river. That means that they'd want to pick up the last barge at my place on June 10th or 12th, something like that. Heck, that's just when I got started shipping.

Our customers are set up where we've got a barge-way facility in Blair, Nebraska, we've got another one at Guntersville, Alabama. That's the farthest southern point on the Tennessee River System. We unload barges down there and sell it to customers all over the Southeast out of that location. That's approximately half of the storage that I have available for my product. Alfalfa product that we produce mainly in the summertime, we consume it mainly in the wintertime, when seed's scares. We can't produce it if we don't have anyplace to store it. If you shut the river off from June 21st to the 1st of September, or whenever, you've just cut our production off from our storage facilities, especially if you put us out of business.

I've got another item that I want to

comment on and I just don't think the RDEIS has done a very good job at all of estimating the power costs associated with any of these plans.

I know we've had several people address power already tonight and I'm not really an expert on power, but I know how much more electricity costs me in July and August, than what it costs me in May and September and October and I can buy power pretty darn cheap in the spring and the fall. Power is expensive in July and August. Your plan actually shows you're going to produce a little more power if you maintain higher lake levels, because you'll have more head, or something like that.

But, power produced in April and May, in this part of the country, isn't a very valuable commodity, compared to power produced in July and August, and I get worried that if you start producing less power in the mainstem dam and then again curtail power production on the lower Missouri here because of temperature concerns, we can face a deal like California faced last winter where all of a sudden you have a shortage of power and, you know, it isn't worth a few cents more, it's worth twenty (20) times

more, because there just isn't enough of it to go around.

I really think that your analysis of what power costs will be under the new system are too low.

In conclusion, I just want to say, you know, if you attempt to put anything in like this split navigation season you're going to put my company out of business. I don't really think it's necessary. I think there's other ways to provide habitat for the endangered species on the Missouri River.

I think Papio Natural Resource District, among others, have provided a number of those alternatives and I guess I'd ask why the world aren't any of those alternatives included in your analysis of what can be done to save the endangered species on the Missouri River.

Thank you for this opportunity to comment.

MR. CIESLIK: J. Randel Smith? J. Randel Smith?

John Portera?

MR. PORTERA: I never thought I'd make it up here. There are more chairs than

people now.

But, anyway, I'm John Portera, 607 Dearborn Circle, Papillion, Nebraska 68046. I'm representing the Hazard Corporation, which has provided leisure-time activities for residents along the banks of the Missouri River.

The corporation, along with other business entities along the river, desire to be good neighbors with the developmental stages in regards to Missouri River. With that put forth, the corporation respectfully requests to present a few questions in the spirit of cooperation and with that, and with the geographic locations, we understand that you will not be able to answer these tonight, but perhaps at a time when it is essential to you and the opportunity presents itself, you will forward those answers to us.

So, those questions are:

What is the timetable with respect to this project, with concerns to the geographic area? Where will it begin? How will it begin, and at each segment? What will it encompass, as pertains to the Nebraska and Iowa elevations of the river with respect to the river banks? What will be the improved water level this project

desires to achieve? Please quantify prior and post-levels.

Is there any audit procedure set in place to monitor this mechanism and implementation? What will be the amount of change in the river with respect to the gradual flows and please quantify what the gradual flow will be with respect to the drag and how the depth change will be and what would be the dredge level?

Will it be an insignificant change or a significant improvement with respect to the river?

We all here tonight, we're concerned with the environment. Therefore, if the water level is increased, the environment is affected. Conversely, if the water level is decreased, the environment is affected. Therefore, what is the intent of preserving the environment with this proposal and what is the intent in regards to wildlife along the Missouri to coincide with the activities along the river bank?

The Hazard Corporation is involved in providing leisure-time activities along the Missouri River. Like any business, our intent is

to expand our operation along the river.

Our corporation is bound upon the decision and agrees with what is engaged by this committee.

A change in the water level will impinge our operation and further development of the new basin to complement our existing basin.

The corporation desires to work in harmony with all entities involved. Our goal is to enhance the ambience of the Riverfront, provide leisure-time activities for all by contributing to the economic development of this area.

We do appreciate the forum to present these concerns. We here tonight understand the goals set forth and how they arrive at that goal will determine the success or failure of this proposal. It is with that, that we trust the outcome of these endeavors will enhance the economic, social and leisure-time activities and not be to its detriment.

Thank you for this opportunity to present this.

I hope you guys can see the Late-Late Show tonight, too.

Thank you, Gentlemen.

MR. CIESLIK: Brad Lau?

MR. LAU: Thank you, Colonel, for the opportunity to testify this evening.

My name is Brad Lau. I am representing the St. Joseph Regional Port Authority in St. Joseph, Missouri and the nine (9) public ports, as Secretary of the Missouri Port Authority Association throughout Missouri.

As a Missourian, I would like to concur with the many strongly articulated points associated with the negative impacts of changing the Missouri River flow.

As a representative of the Missouri Port Authority Association, I specifically would like to voice our concerns and disapproval to the Army Corps of Engineers proposed Modified Conservation Plan.

This plan would have a severe economic impact on the operation of ports along the Missouri River. These multi-million dollar facilities serve as an important economic development infrastructure in providing an alternative and competitive transportation medium for businesses in their receipt and shipping of

raw materials and finished goods.

They're extremely important to the Missouri, Kansas, Nebraska and Iowa farmers in providing a cost-effective means for both transportation and agricultural products.

River-borne transportation is known to be the least cost alternative for bulk movement. In addition, river-borne transportation is also the most fuel efficient, the least polluting and the safest, in the least number of accidents. So, if anything, we should be encouraging river navigation verses hindering it.

Therefore, the Missouri Port Authority Association is opposed to the Corps' proposed Modified Conservation Plan for the following reasons:

Higher reservoir levels in the upper basin lakes would lead to decreased water commitments for lower basin states, such as Missouri, Kansas, Iowa and Nebraska, thereby negatively impacting navigation on the river.

The proposed spring rise could lead to flooding, which again would negatively impact navigation on the river, as well as flood

river-bottom farmland.

We are opposed to reduced river flows during the summer if it would split the navigation season, possibly ending navigation on the Missouri River altogether.

As the economic viability and the stability of the United States and our local communities are at risk, the Army Corps of Engineers should not adopt new policies that will stifle and eliminate economic opportunities associated with the Missouri River to the states of Missouri, Kansas, Nebraska and Iowa.

While we're not opposed to species habitat restoration, we are opposed to any measures involving changes to the Missouri River that could potentially impact the economic health of our communities and other communities along the Missouri River that rely on the economic benefits associated with the Missouri River, be that in the form of navigation, utility production, drinking water or irrigation.

We urge the Corps to continue the water control plan now in operation.

Thank you for the opportunity to comment.

MR. CIESLIK: Karl Momsen? Karl Momsen?

John Weeks? John Weeks?

I think it's Mike Hamilton? Hamilton?

R. J. Brown?

Jeff McDonald?

Dale Dilts?

David Boyd?

Sam Irwin?

MR. IRWIN: Thank you, Colonel. Thank you, Colonel -- is it on? I guess I've got a lower voice than I thought I had.

I'm Sam Irwin. I live at 321 Perrin Place, Council Bluffs, Iowa. I'm a past Mayor and City Council member of Council Bluffs, Iowa.

I'm going to repeat some issues that's already been here already tonight. So much has been said around the economic dollar factor, which would impact our city, obviously, as Mayor Hanafan talked about and Mayor Fahey.

The specifics that I'm concerned about, personally, because of my experience on the Council, is the water table in this town is terrible on the west end of town. We're trying

to develop it and we've spent sixty million dollars ($60,000,000) already on our sewer systems to mitigate some more problems. If we change that water table again, it's going to slow down our areas that could still be developed in our community.

Then, we have the power plant down here that's going to be putting in one point four (1.4) billion dollars and construct down there. I don't know the impact, I'm not a detail person, but I'm sure it may have an impact on that, because of the water flow, it's going to need to go through our wastewater treatment plant.

There's been discussions over the years, also, about our water treatment plant, just as Omaha has concerns about the revising of the quality of the water tables and lake tables and what it would do for our treatment plants. Same thing with our sewer treatment plant down south there. And, as Mayor Hanafan also said, when you close those gates along the river down there on those high-water times, it backs up and causes us some grief, probably some health problems with the mosquitos and whatever else transpires, even though we may be able to pump it

over. And I don't know where that's at. I've been out of the loop for a number of years, so I don't know for sure what transpires anymore, but Mosquito Creek, Indian Creek and 23rd Avenue that bypasses down there are very important for the city's growth and long-term use.

Therefore, my concerns have been echoed by a couple of Mayors already and I hope you take a look at the impact it might have on our community.

I thank you for your time.

MR. CIESLIK: Marvin Klein?

MR. KLEIN: My name is Marvin Klein. I'm a Director on the Rural Electric Co-op at Woodbine, Iowa, but I'm also a Director on the Midwest Electric Co-op at Denver.

My concern with the Master Manual has to do with the possibility of raising rates. And that's been talked about a lot, so I'm not going to be spend much time on it.

I just wanted to say that I had the opportunity, when I was in Denver, to hear General Fastabend give a very passionate address to a group. It was following September the 11th and we were all very moved by his speech.

He says that when he was assigned to this task he just assumed that he was going to get on with it and get it over with quickly. And, then, when he addressed the group and said that he had attended many of the meetings in the north and all around, realized that this was a very difficult task. And I'm thinking tonight, as I heard so many people with different opinions, there's a book by Anthony DeMello, One-Minute Nonsense and in this book he tells a story about the master brought his wife and a new baby home from the hospital and situated them in his home. He looked across the room as he saw her standing by the crib. He went over and he put his arms around her and he said, you know, I think just like you do. And she turned and looked at him, don't you wonder how they can build a crib for twenty-five dollars ($25)?

I think of that and what a difference we have just in the way we approach things. We come at it from all different angles.

I'm a newer member on the Rural Electric Board and one of the things the seniors have always told me is the worst fear they had is having to raise rates.

Well, I believe that, from after listening to what we've heard, the summer lows are going to cause the WAPA to go out and buy power at whatever the price might be.

This particular proposal shows us that under GP2021 there would be a loss of revenues of upwards to twenty-nine million (29,000,000). But, that's just showing the loss of revenues. It doesn't show what it will cost to buy that additional power that's going to be needed. And I have a fear that we are going to have to raise rates. And like the gentleman before said, you know what happened in California, the disaster there?

Well, we hope that won't happen and I don't think it has to, but I guess we just pray that the Corps can do the best they can coming up with the plan that's in the best good for all of us.

You know, with the scandal that we had with Enron and all the energy companies that are happening today, I think one of the fears the public is going to have is, what, they're going to raise our rates because of endangered species or fish? Their priorities are with them instead

of with people? I have a fear that that might happen. I mean, if I had to raise rates, I'd be afraid to tell those people that.

I thank you.

MR. CIESLIK: That's all the cards we have indicating to give testimony.

Is there anyone else that wishes to testify?

Sir? Come on up.

MR. SIECK: I would have filled out a card, but I felt like that I'd like to listen to what most people had to say tonight.

I'm David Sieck, Missouri River farmer in Mills County, Iowa. Also Treasurer of the Iowa Corn Growers Association.

Well, we're about ready to wrap up our twenty (20) hearings and all this time, I think most issues have been addressed, readdressed, over-addressed, under-addressed, you know, addressed.

I have one thing and maybe -- I feel that we've pitted so many interest groups here against each other in the process, it shouldn't be that way.

I think all of us understand the

aspects of everybody else and where we're coming from. We all have interests, whether its Chad, me, anybody, and I don't think that the process we've gone through has helped in any way to address any of that. I think it's just us against this war. And I don't know if we've found the right mix yet. I think we've been at it right now fourteen (14) years.

It seems what they propose is the 2021, which is the most extreme thing for the river and what we propose is no change.

That's the way my organization stands, the Iowa Corn Growers Association.

Adaptive Management; Adaptive Management's a scary creature for a person whose economics are dependent on the river, especially when Adaptive Management's one-sided. And I see that as my biggest fear and all six (6) of your policies apparently have Adaptive Management in it.

Whenever you're given the reins to my purse strings, as far as the farmer goes along the Missouri River, and you can change the river at will to try to adapt to scientific principles, we're not sure, really, right?

We hear one guy say it's the spring rise that triggers the fish and another person says it's water temperature. I don't think the sciences truly address that.

With the National Academy of Science, they think we should have a moratorium.

I would lean more toward that issue at this time, just for the simple fact that I don't think we know.

I guess I hate to see this thing close and still have us all pitted against each other. So, I don't have much else to say.

Whatever decisions you make will impact me. It will impact every person in this room. But, we really need to think about this carefully. We really need to take the time to make sure and I don't think we've taken enough time yet and I'd like to just close with that.

Thank you.

MR. CIESLIK: Sir, could you fill out a card for us?

MR. SIECK: Yes, I will.

MR. CIESLIK: Ms. Lee has those.

Anybody else wish to testify?

UNIDENTIFIED PERSON: I think we

ought to thank your staff and the recorder.

COLONEL UBBELOHDE: If there are no further comments, this hearing session is closed.

(Whereupon, this hearing session was concluded at the hour of 11:05 p.m.)

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C E R T I F I C A T E

STATE OF NEBRASKA)
) ss.
COUNTY OF DOUGLAS)

I, Gary A. Barnes, Court Reporter and General Notary Public in and for the State of Nebraska, do hereby certify that the hearing session as above set forth was reduced to print under my direction by means of computer-assisted transcription.

That the within and foregoing hearing session was taken by me at the time and place herein specified and in accordance with the within stipulations.

That I am not counsel, attorney, or relative of any of the parties involved, or otherwise interested in the event of this matter.

IN TESTIMONY WHEREOF, I have placed my hand and notarial seal this day of , 2002.

GARY A. BARNES
COURT REPORTER AND
GENERAL NOTARY PUBLIC

Mike Fahey
Omaha.

US Army Corp of Engineers – Missouri River Levels
February 19th, 2002 Public Hearing

Good evening. I would like to thank the U.S. Army Corps of Engineers for hosting this evening's public testimony. I appreciate the opportunity to further define and paint Omaha's new visions and dreams for its Missouri Riverfront and address the potential negative impact these new river proposals have on that new vision.

Like any other important decision, there are many perspectives to consider, many sides to study and often the best resolution lies somewhere in the middle. The concerns raised by wildlife and ecological experts are valid. But the Omaha/Council Bluffs areas also have valid concerns that need to be considered.

The City of Omaha has four major concerns. I would like to be clear, that the devil is in the details and tonight's review is a summary.

1. Omaha and Council Bluffs rely on the Missouri River for many essential services. Much of our water supply comes from the river. River levels have an impact on the releases of our sanitary and storm sewers. The Missouri River is utilized to cool area power plants, provide water for agricultural purposes and allow our city's industry barge transportation as a transportation alternative.

2. Regarding our Economy. Omaha has committed millions, and when it's all said and done, billions of dollars into new development and redevelopment of our riverfront. So much is planned that we loosely titled it "back to the river." With our Convention Center Arena, Gallup's new corporate headquarters, a fabulous pedestrian bridge linking hundreds of miles of trails, and new restaurants and parks Omahans will soon have unprecedented access to the banks of the Missouri River. So the water levels – in particular during the warmer months is imperative. We cannot underestimate the economic importance of having a functional and environmentally pleasing river

3. Our Quality of Life. Omaha is not blessed with large lakes, but recreational boating has steadily grown more important to Omaha's quality of life and Omaha's economy. All river proposals, recommend lowering releases to a level equal to or (worse yet) – below the minimum navigation channel requirements. Low summer flows would dry up our marinas. Boat docks would rest on mud and boats would be marooned. Planned docks for the new restaurant would not be accessible.

4. Our Image. The Missouri River is a mud bottom river. The look of the Missouri River is a significant factor to consider when building on the riverfront. A walk along our paths, over our pedestrian bridge, or through our parks will be less interesting if all we can enjoy are the muddy banks and the bottom of the Missouri River throughout the warmer months. We are building a new front door to Omaha and a vibrant, flowing Missouri River is an integral and key element.

In conclusion, the health and vitality of the Missouri River is critical to all of us. No doubt we all want the river to be the best it can be. But we must find a middle ground. To avoid severe economic outcomes, Omaha kindly requests that summer river levels be maintained at no less than 16 feet as measured at the Omaha station.

CITY OF CARTER LAKE
Office of the Mayor
950 Locust Street
Carter Lake, Iowa 51510
712/347-6320

Email: carterlakecityhall@cox.net

February 14, 2002

United States Army Corps of Engineers
Northwestern Division
Attention: Hearing Officer
Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 69144-3869

Dear Sir:

Elected officials and other public representatives of the City of Carter Lake, Iowa want to have this letter read and entered as part of the formal testimony recorded at the United States Army Corps of Engineers' (USACE) Public Hearing scheduled Tuesday evening, February 19, 2002 in Council Bluffs, Iowa regarding the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS).

Carter Lake, a horseshoe-shaped oxbow lake of the Missouri River, is located on the eastern edge of Omaha on the Iowa-Nebraska state line. The Lake is situated directly across from the Missouri River at river mile 620 on the right bank. The lake is approximately 3 miles long, has a water surface area of 320 acres and varies in width from 500 to 1,450 feet. Carter Lake has a rich history since being separated from the Missouri River in the late 1800's. Today, high value residential properties as well as public parks follow its lakefront. Property values along the lakefront exceed $18.6 million and additional high value properties along the lakefront are being developed. Adjacent property owners and the public intensively use the lake for recreation.

We have reviewed the 6 options discussed in the RDEIS and are concerned that the negative impacts to Carter Lake have not been adequately addressed. Oxbow lakes are connected to Missouri River levels through both surface water flooding and groundwater movement. This fact is contained in an engineering research report issued by the

CITY OF CARTER LAKE
Office of the Mayor
950 Locust Street
Carter Lake, Iowa 51510
712/347-6320

University of Iowa in cooperation with the Iowa Geological Society entitled Water Management, Water Quality and Alluvial Morphology of Selected Iowa Oxbow Lakes. This report states that the water balance of the lake is dependent upon recharge by precipitation, surface water and groundwater at times of high precipitation and groundwater levels. This is the case for Carter Lake. The desired level of the lake is between 970.5 and 971 feet above mean sea level (MSL). The mean Missouri River level between April to October near Carter Lake is 970.6 feet MSL based on gage data recorded between 1953 and 2000. Missouri River elevations above 971 feet MSL raise the level of Carter Lake; river levels lower than 971 feet MSL lead to increased lake seepage losses.

As a consequence, any change in the Missouri River levels from historic operations will have a direct impact on the water levels in Carter Lake. Higher groundwater levels will increase Carter Lake's water elevation and will cause shoreline erosion, boat and dock damage and dwelling flooding. Lower Missouri River levels will in turn decrease Carter Lake's depth levels leading to not only aesthetic damages, recreation limitations and water quality problems, but also to aquatic habitat damage. Carter Lake is a relatively shallow lake and any loss in lake depth has pronounced ecological and recreational effects.

Property damages resulting from the proposed Missouri River changes would be directly attributable to the flow alterations from the 1953 historic levels. As a consequence, the City of Carter Lake is opposed to flow alterations that would lead to higher river levels in the Spring and lower river levels in the Fall. We recommend that the USACE install an improved Carter Lake water level management system to mitigate the damages that would otherwise occur with fluctuating river levels.

CITY OF CARTER LAKE
Office of the Mayor
950 Locust Street
Carter Lake, Iowa 51510
712/347-6320

Thank you for your attention.

Mayor Emil Hausner, Fritz Dahlheimer & Ed Aldmeyer, City Council Members

Brad Hansen, Iowa State Representative & Dr. Barbara F. Piper, RN Planning Board & Dennis Rochford, Lake Issues Committee Members

Eric Dove & Barry Boyd, City Engineers

"The next World War will be over Water"
This quote was made by Ismail Serageldin, Vice President of the World Bank

I would like to congratulate the Army Corp. of Engineers for bringing together such an ecclectic diverse group of people who are against any changes in the current water control plan. This is a non-partisan group of city and county officials, Farm Bureau members, farmers, power company and others who are united on this issue. They will tell you about potential economic losses, not only to the farmers, but about the ripple affect to those who supply the farmers. They will talk about potential losses in ability to economically produce the electric power we depend on. They will tell you why we need the water levels to remain as they are.

I don't want to talk about why we need the water, buy why we have a Right to it.

The name for Islamic law is – shari'a- which stems from a word meaning "The sharing of water". Fourteen hundred years ago, the fledgling Muslim religion states that water is a right. This, from a people who live in a desert. But now, government and agencies who manage water, treat it as a need, much like oil or transportation or high speed internet access.

At first though, one would think that a right and a need are the same. But they are not. A need is something that is necessary and desired, but can be denied. A Right on the other hand, is an entitlement which cannot be denied. If water is a need, then it can be classified with roads and telecommunication, something people want, but not necessarily

guaranteed. If it is a Right, then local governments and agencies are required to provide it, as we do freedom of speech or religion.

Someday, I don't know when, those dams will be gone. There will be no walleye fishing in South Dakota, no farming as we know it, along the river, no houses or businesses in west Council Bluffs. This building and the levees will be gone, and for all we know, the pallid sturgeon will die or thrive, regardless of what we do.

But, until then, we folks downstream do not want to be denied our right to a dependable flow of Missouri River water. I respectfully ask that the Army Corps of Engineers keep in place the current water control plan.

Melvyn J. Houser
Pottawattamie County Supervisor

RESOLUTION NO. 8-2002

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO KEEP THE PLAN NOW IN PLACE FOR THE OPERATION OF THE MISSOURI RIVER MAINSTEM RESERVOIR SYSTEM.

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam; and

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting in higher transportation costs and straining the ground transportation infrastructure; and

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans.

NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD OF SUPERVISORS OF POTTAWATTAMIE COUNTY, IOWA, that the United States Corps of Engineers be urged to make no revisions in, and keep the current water control plan.

PASSED AND APPROVED THIS 15TH DAY OF FEBRUARY, 2002.

ROLL CALL VOTE

(AYE)	NAY	ABSENT	Delbert E. King, Chairman
(AYE)	NAY	ABSENT	Melvyn Houser
(AYE)	NAY	ABSENT	Betty Moats
(AYE)	NAY	ABSENT	Tim Wichman
(AYE)	NAY	ABSENT	Bob Williams

ATTEST: Marilyn Jo Drake
Marilyn Jo Drake, County Auditor

RESOLUTION NO. #R02-0211-05

WHEREAS, the Corps of Engineers is currently considering revisions to the Missouri River Master Water Control Manual (the "Manual"); and

WHEREAS, in conjunction with such revisions, the Corps of Engineers is required to consider the environmental impact of the same; and

WHEREAS, the Corps of Engineers is seeking comments on the current revisions and draft of the environmental impact statement for such purpose; and

WHEREAS, the City of Bellevue has a profound and sustained interest in the Missouri River and the Manual in that any revisions to the Manual have potential consequences for water quality and quantity, flood damage and soil erosion and sedimentation, domestic water supply, solid water management and pollution control, fish and wildlife, forestry, outdoor recreation and natural resources, and education, each of which impact on the economy of the City of Bellevue and the quality of life of its residents and taxpayers; and

WHEREAS, the Papio-Missouri River Natural Resource District ("NRD") has analyzed the potential adverse and other effects and consequences from the proposed revisions to the Manual and has prepared a position paper commenting on the environmental effect of such proposed revisions; and

WHEREAS, after careful study and consideration, the staff for the City of Bellevue concurs in the recommendations and analyses of the NRD; and

WHEREAS, the Bellevue City Council finds that it is in the best interest of the City of Bellevue and its residents, that the City of Bellevue articulate its position with respect to the proposed alternatives.

NOW, THEREFORE, be it resolved by the City Council for the City of Bellevue as follows:

1. That the City of Bellevue hereby endorses the position of the Papio-Missouri River National Resource District ("NRD") as articulated in its position paper dated December 13, 2001.

2. Specifically and without limitation to the foregoing, the City of Bellevue concludes (i) that the current water control plant as identified in the Manual should be maintained, modified only by those additional drought conservation measures included in the Modified Conservation Plan ("MCP") alternative more particularly identified by the Corps of Engineers in proposing alternative revisions to the Manual; (ii) that the Gavins Point Dam release changes (i.e., GP1528, GP2021, GP1521, and GP2028) be rejected in their entirety for reasons including that there is no endangered species justification for the negative impacts which would be caused by the Gavins Point alternatives and, as more particularly set forth in the position paper of the NRD, high water flow followed by low water flow causes sedimentation in

marina entrances along the Missouri River, which would include the Bellevue Marina, and low flows would drastically reduce or eliminate access to the river during such periods, any of which will adversely affect the operations of the Bellevue Marina, and consequently adversely impact on the economy and tax levies of the City of Bellevue and its residents; and (iii) as determined by the NRD, the State of Nebraska and the Missouri River Basin Association, in making recommendations concerning the MCP, none of the Gavins Point alternatives appear to be reasonable or prudent and the selection of one of them over the others would be arbitrary and capricious.

3. In addition and without limitation to the foregoing, the City of Bellevue hereby endorses (i) the NRD's position relative to the continued use the adaptive management and expansion of the Mainstem dams together with the formation of a recovery committee to provide leadership and support to active management; (ii) the NRD's support for the policy of releasing higher volumes of water from the Gavins Point Dam to maintain adequate river stages and river intakes when the conditions indicate the chance for river freeze over or ice jam formation; (iii) the NRD's support for federal authorization and funding of a sustained monitoring program on the Missouri River; (iv) the NRD's support for the rehabilitation and restoration of habitat to improve the ecosystem, the avoidance of jeopardizing the continued existence of species currently threatened or endangered and to prevent the decline of other species through the full and complete implementation of existing mitigation plans and the rehabilitation of restoration of back water areas former oxbows and chutes on the river, and (v) the recommendation of the NRD that the Corps of Engineers Fish and Wildlife Mitigation Project be fully funded to a tune of $1 billion over a 20 year implementation period.

4. That the staff of the City of Bellevue and the Mayor are hereby authorized to articulate and augment the matters addressed by the Resolution of this Council by such means and alternatives as shall be considered by them to be necessary or appropriate.

PASSED AND APPROVED THIS 11th day of February, 2002.

Jerry Ryan, Mayor

CITY OF BELLEVUE INCORPORATED

Attest:

Beverly Hrdy, City Clerk

PAPIO-MISSOURI RIVER
NATURAL
RESOURCES
DISTRICT

8901 S. 154th St.
Omaha, NE 68138-3621
(402) 444-6222
FAX (402) 895-6543
http://papionrd.nrc.state.ne.us papionrd

February 19, 2002

General David A. Fastabend
U.S. Army Corps of Engineers
Northwest Division
P.O. 2780
Portland, OR 97208-2780

Dear General Fastabend:

On behalf of the Papio-Missouri River Natural Resources District Board of Directors and our 630,000 constituents, we would like to publicly thank the Corps for holding this additional hearing on the Missouri River Master Control Manual. It does seem most appropriate to hold such a hearing in the "River City" for the citizens of Iowa and Nebraska.

The P-MRNRD has closely followed the process of developing an updated Missouri River Manual over the past 13 years while adopting position papers in 1994, 1998 and December 2001.

The P-MRNRD believes that the Modified Conservation Plan (MCP) is the best approach based on in-house and a private consultant's review of all materials provided by the Corps including the EIS by the Fish and Wildlife Service. It is the P-MRNRD strong opinion that if the Corps should select an option other than the MCP it must not go further than the GP1528 option. We strongly believe many things begin to unravel if GP2021/GP1521/or GP2028 were to be adopted.

To our knowledge no one, including the State governments of Nebraska, Iowa, Missouri and Kansas, has and are sponsoring more Section 1135, Environment Enhancement Projects, than the P-MRNRD. We strongly believe that 25% of the lost riparian habitat along the 740+ miles of the managed Missouri River needs to be replaced prior to a significant flow regime change occurs. It is the P-MRNRD's strong opinion that you must have appropriate habitat before the increased spring flows are to be significantly beneficial.

The P-MRNRD strongly suggests that all interested parties, landowners, environmental, navigation, electrical producers, recreation, provide a united front in significantly funding the Missouri River Mitigation Act (authorized in 1986 WRDA). **We suggested $1 billion over the next 20 years or approximately $50 million a year to annually complete approximately 5 or 6 major projects per year.** Such funding level would re-hab approximately 25% of the riparian lands along the Missouri River corridor over the next 20 years in the State of Iowa, Missouri, Kansas and Nebraska.

The attached P-MRNRD position paper addresses the many issues that must be fully considered before the Corps of Engineers adopts a new Master Manual with flow option(s) for the Missouri River Main Stem System.

Thus, on behalf of the Board of Directors of the Papio Missouri River NRD, I submit our formal Position Paper, dated December 13, 2001.

Optimistically,

Steven G. Oltmans
General Manager

Enc: P-MRNRD Position Paper

SO/ltr-fastabend

PAPIO-MISSOURI RIVER
NATURAL
RESOURCES
DISTRICT

8901 S. 154TH ST.
OMAHA, NE 68138-3621
(402) 444-6222
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Revised Draft Environmental Impact Statement, Missouri River Master Water Control Manual Review and Update

POSITION PAPER

December, 2001

POSITION PAPER

Revised Draft Environmental Impact Statement, Missouri River Master Water Control Manual Review and Update

Papio-Missouri River Natural Resources District

December 13, 2001

Introduction

The Papio-Missouri River Natural Resources District (NRD) covers 1,745 square miles along the Nebraska side of the Missouri River, including all of Sarpy, Douglas, Washington and Dakota Counties plus the eastern 60 percent of Burt and Thurston Counties. The NRD borders 140 miles of the Missouri River from the Platte River near Bellevue to the Dakota/Dixon County line upstream from South Sioux City. It has responsibilities for water quality and quantity, reducing flood damages, soil erosion and sedimentation, domestic water supply, solid waste management and pollution control, fish and wildlife, forestry, outdoor recreation, and natural resources education.

The NRD has a profound, sustained interest in the Missouri River. It is proud of its partnerships in a number of significant Missouri River projects:

- The Boyer Chute National Wildlife Refuge was developed in cooperation with the Corps of Engineers and the U.S. Fish and Wildlife Service.
- The Boyer Chute/Nathan's Lake Expansion was developed in cooperation with the Corps of Engineers and the U.S. Fish and Wildlife Service.
- The Hidden Lake/Great Marsh Restoration was developed in cooperation with the Fontenelle Nature Association, Nebraska Environmental Trust Fund and the Corps of Engineers.
- Mandan Park Rehabilitation was developed in cooperation with the City of Omaha.

Through its participation in Back to the River, Inc. and other Missouri River Corridor efforts the NRD has provided leadership and support for:

- Krimlofski Tract Addition to Neale Woods Nature Center for education and recreation
- Miller's Landing development for a Missouri River park
- Missouri River Ecology Lab
- Omaha Arena and Convention Center and Gallup Campus
- Conversion of former ASARCO hazardous waste property to recreational use (now known as Lewis and Clark Landing)
- Pedestrian bridge spanning the Missouri connecting the downtown areas of Omaha and Council Bluffs
- Marina development and rehabilitation (Bellevue and Omaha)
- Riverfront trails and access trails

- Corps of Engineers Missouri River Fish and Wildlife Mitigation Project

The NRD also provided comments on the Draft Environmental Impact Statement in December 1994 and on the Preliminary Revised Draft Environmental Impact Statement in December 1998. The future of the Missouri River is an extremely valuable local, regional and national resource.

Alternatives

1. Current Water Control Plan (CWCP)

In previous testimony the NRD indicated a preference for continuing the CWCP with minor variations. The fact that all of the analysis that has been done shows, with few exceptions, that not much improvement can be made by changing the plan is a tribute to the federal and state participants that developed the original plan in the 1950s.

It is also a tribute to the adaptive management concept that has been in place since the beginning. The Master Manual was revised in 1973, 1975, and 1979. Many additional adjustments were made as challenges such as agradation, degradation, winter ice jams, changes in water quality requirements, marina silting, endangered species listings, high runoffs and droughts, to name a few, were addressed and dealt with effectively through the Annual Operating Planning process. Continuation of adaptive management is supported by the NRD.

2. Modified Conservation Plan (MCP)

The additional drought conservation measures included in the MCP are a concern in our region because of the effects on interior drainage (- 3 percent). The NRD recognizes that these additional measures are part of the recommendation developed by the State of Nebraska and other basin states over a seven-year period under the leadership of the Missouri River Basin Association (MRBA). With some reluctance, the NRD supports this plan because of the overarching benefit of unity within the Missouri River Basin.

3. Gavins Point Dam Release Changes (GP Alternatives)

The increase in spring releases and decrease in summer releases incorporated in the GP Alternatives provide little benefit and a great deal of harm. These alternatives are deemed necessary by the USFWS to avoid jeopardizing the continued existence of the pallid sturgeon, interior least tern and piping plover. The facts do not support this contention.

First of all, the Revised Draft EIS indicates that the GP alternatives would result in only 1 percent improvement in Physical Habitat for Native Fishes, the variable used to measure value to the pallid sturgeon. This nearly imperceptible change can hardly be sufficient to make any contribution to ensure the continued existence of the pallid sturgeon. The RDEIS states that another purpose of the GP alternatives is to provide a spawning cue for the pallid sturgeon. However, the Revised Draft EIS further states: "Corps and USFWS

biologists agree that there are no data to support definition of a spawning cue that would successfully result in spawning on the Lower River." Furthermore, the Missouri River downstream from the Platte River currently experiences a spawning cue similar to the cue that would result from the GP alternatives (see Figure 22 in the "Summary") and there is no indication that reproducing this cue in the less hospitable reaches above the Platte River would make any contribution to the recovery of the species. From this it must be concluded that the GP alternatives would have no effect on the continued existence of the pallid sturgeon.

Also, there is evidence of heavy commercial taking of sturgeon in the lower Missouri and Mississippi Rivers. This is especially true with the current worldwide shortage of sturgeon and the high prices for caviar. Due to the difficulty of distinguishing shovelnose from pallid sturgeons, it is certain that pallid sturgeon are taken in the process. Restriction of commercial fishing is likely the most important element and possibly the only element necessary to prevent jeopardy or to recover the species.

That leaves the only justification for GP alternatives with the interior least tern and piping plover. The Revised Draft EIS indicates that the reach below Gavins Point Dam provides the greatest number of fledged birds even though it has 80 percent less habitat than the next most proficient reach of river. This can, in part, be attributed to the efforts of the Corps to manipulate flows to force the birds to nest higher on the islands and then protect the nests from river rises to the extent reasonable. The MCP alternative would increase the habitat for interior least terns and piping plovers by 43 percent. This vast increase in habitat should go a long way in reaching the USFWS goal of 400 adult terns and 300 adult plovers below Gavins Point Dam. The GP alternatives would only increase the habitat by another 16 percent (average). The additional harm caused by the GP alternatives does not justify this meager increase at least until the effects of the 43 percent increase resulting from the MCP alternative are known.

This leads the NRD to conclude that there is no endangered species justification for the negative impacts that would be caused by the GP alternatives.

Impacts of the GP Alternatives

Other than the potential effects on tern and plover habitat previously discussed, the only positive change of 5 percent or more resulting from the GP alternatives compared to the MCP alternative is a 6 percent improvement in cold water fish habitat in lakes.

The adverse effects, on the other hand, are large and widespread, particularly in our region. The Revised Draft EIS indicates:

- Increased costs to hydropower users would vary from one to 20 percent. Over 50 communities in Nebraska receive power from WAPA and the Pick-Sloan projects as well as two of the largest five customers in Firm Energy Sales & Revenue.
- From 140 to 390 MW of thermal generating capacity along the river would be at risk. Nebraska has four thermal power plants with 2500 MW capacity that use river water for cooling. This problem is created when summer flows are too low to absorb the

heat from full power plant operation and plant output is restricted in order to meet thermal water quality standards. A minimum flow of 25,000 cfs at Gavins Point Dam is required to prevent these impacts.

- Interior drainage and groundwater damages to farmers along the river, mainly in Iowa and Nebraska, would exceed $52 million per year, 9 percent more than for the MCP alternative. These damages result from the higher releases in the spring and fall. The four to five days it takes for release changes at Gavins Point to reach Nebraska City will make it difficult to keep damages at this level.
- Navigation benefits would be reduced by 37 to 86 percent! Providing for reduced or no navigation support during the low-flow summer months causes this reduction. This extreme impact does not meet one of the three stated Corps goals: "The alternative should serve congressionally authorized project purposes."
- Warm water fish habitat downstream from Ft. Peck, Garrison and Ft. Randall Dams would be 9 percent less than for the MCP alternative. The reach below Gavins Point Dam was not evaluated. It doesn't make sense to conclude that an alternative that reduces warm water fish habitat by this amount is beneficial to the pallid sturgeon.

The NRD is also concerned about the adverse effects that varying flows have on the marinas along the river between the Platte River and Sioux City [Decatur, Cottonwood (Blair), Dodge Park (Omaha), Sandpiper Cove (Omaha), and Bellevue]. High flows followed by low flows cause sedimentation in marina entrances. Further, low flows drastically reduce or eliminate access to the river during these periods. A good example is the recent experience at Dodge Park in Omaha. Problems occur whenever the stage at the Omaha gauge is less than 16 feet. Even the least egregious of the GP Alternatives (GP1528) would result in stages lower than 16 feet two-thirds of the time.

Conclusion

Although the current water control plan (CWCP) best meets the needs of this region, the NRD joins the State of Nebraska and the Missouri River Basin Association in recommending the Modified Conservation Plan (MCP) for operation of the Missouri River Mainstem Dams. None of the other alternatives presented (GP alternatives) are reasonable or prudent and to select one of them, based on the information presented in the RDEIS, would be arbitrary and capricious. Although they are presented as alternatives that will avoid jeopardizing the continued existence of pallid sturgeon, interior least terns and piping plovers, they provide no perceptible benefit to the pallid sturgeon and only add 16 percent to the 43 percent improvement the MCP alternative would provide for tern and plover habitat.

The NRD supports the continued use of Adaptive Management and expansion of the concept beyond the operation of the Mainstem Dams. It supports the formation of a Recovery Committee to provide leadership and support to the adaptive management concept.

The NRD supports the policy of releasing higher volumes of water from Gavins Point Dam to maintain adequate river stages at river intakes when weather conditions indicate a

chance for river freeze-over or for ice jam formation. This policy needs to be explicitly stated in the master Manual.

The NRD supports federal authorization and funding of a sustained monitoring program on the River.

The NRD supports the rehabilitation and restoration of habitat to improve the ecosystem, avoid jeopardizing the continued existence of species currently threatened or endangered and to prevent the decline of other species. The most cost-effective method to improve fish and wildlife habitat on the Missouri River is the full and complete implementation of existing mitigation plans, through a targeted approach. As proposed in our Missouri River Corridor Project, the District favors the rehabilitation and restoration of backwater areas, former oxbows and chutes on the river. These provide greater benefits to the Missouri River System than any of the alternatives investigated and are more likely to be implemented. A unified, basin-wide effort in this direction is the best and most worthwhile course of action. To this end, the NRD recommends that the Corps of Engineers Fish and Wildlife Mitigation Project be fully funded to a total of $1 billion over a twenty-year implementation period.

Fremont County

BOARD OF SUPERVISORS
COURTHOUSE
SIDNEY, IOWA 51652
TELEPHONE (712) 374-2415

My name is John Whipple. I serve on the Fremont County Board of Supervisors in the state of Iowa. Thank you for time to make a few comments on the operation of the Missouri River.

One of the reasons for the dams on the river is flood control. If the Spring Rise is implemented the result will be that the part of the river that is below Omaha will have controlled flooding. This will be caused by the rise in the water table that results from higher river levels. A few years ago the Boards of Supervisors in five counties that border the river and the Iowa Farm Bureau contracted the U.S.G.S. to do a study on the impact of the Spring Rise. The results of that study showed that Fremont County would have a loss of some degree of production on 55,702 acres. When you add together the value of the land and the value of the crops that will be lost, the dollar amount is $86,560,676.

The response to the acres lost will be, "We will just put those acres in wetlands and pay the farmer for the value of an easement." If the farmer is paid $1,000 an acre for the easement, the total is $55,702,000. What happened to the other $30,858,000? Most people in the economic development field say that a dollar rolls over between 5 and 7 times. If we use a rollover factor of 5, this will be a loss of $154,290,000 in economic activity in Fremont County. A loss of this magnitude will be devastating to small rural towns that serve agriculture. It will also have an impact on the larger cities of the area. Has anyone ever figured the total economic impact from Sioux City to St. Louis and on to the Gulf? It brings into question the value of birds and fish that on a national level may or may not be endangered.

Navigation is the second important element of the Missouri River. I have heard people say that the traffic on the river is too low to be of any consequence. Just the fact that the river is there and usable helps keep a lid on rail and truck rates. This not only shows up on the bottom line for agriculture but for other industries that use products that can be shipped on the river.

Fremont County

BOARD OF SUPERVISORS
COURTHOUSE
SIDNEY, IOWA 51652
TELEPHONE (712) 374-2415

A third reason is electric power plants along the river that need a constant source of cooling water. If the Spring Rise is implemented the river levels will drop and could force a reduction in power output at the time when the electricity is needed the most.

On February 14, 2002 the Fremont County Board of Supervisors passed a resolution that, in short, ask the Corps of Engineers to reevaluate and to address the issues mentioned above. I have enclosed a copy of the resolution. Thank for your time and please give this some very serious thought.

RESOLUTION NO. 2002-19

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri river in communities downstream for Gavin's Point Dam in Yankton, South Dakota; and

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans.

NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD OF SUPERVISORS OF FREMONT COUNTY, IOWA, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

PASSED AND APPROVED THIS 14th day of February, 2002.

ATTEST:
Lucille Hunt
Fremont County Auditor

David Aistrope
David Aistrope, Chairman

Keith Hickey
Keith Hickey

John E. Whipple
John E. Whipple

Estimated Impacts of Missouri River Spring Rise

	Fremont	Harrison	Mills	Monona	Pottawattamie	Totals
Agricultural acres						
Impact Area One	1,924	1,719	1,352	1,335	2,477	8,807
Impact Area Two	31,477	14,227	20,309	14,127	16,139	96,279
Impact Area Three	22,301	0	4,864	0	3,331	30,496
Totals	55,702	15,946	26,525	15,462	21,947	135,582
Corn Production *						
yield per acre (bushels)	135.95	135.97	131.35	129.48	137.50	
average price per bushel	$ 2.35	$ 2.35	$ 2.35	$ 2.35	$ 2.35	
* figures are based on 5 year averages						
Soybean Production *						
yield per acre (bushels)	41.80	41.55	40.99	40.88	43.74	
average price per bushel	$ 5.89	$ 5.89	$ 5.89	$ 5.89	$ 5.89	
* figures are based on 5 year averages						
Average Production Value per Acre	$ 282.84	$ 282.13	$ 275.05	$ 272.53	$ 290.38	
Impact Area One **	$ 544,189	$ 485,113	$ 371,733	$ 363,830	$ 719,162	$ 2,484,027
Impact Area Two ***	$ 3,116,085	$ 1,404,843	$ 1,955,145	$ 1,347,475	$ 1,640,268	$ 9,463,816
Impact Area Three ****	$ 946,132	$ -	$ 200,688	$ -	$ 145,086	$ 1,291,907
Total Impact	$ 4,606,406	$ 1,889,956	$ 2,527,566	$ 1,711,305	$ 2,504,516	$ 13,239,750
** 100 % Production Loss						
*** 35 % Production Loss						
**** 15 % Production Loss						
Estimated Loss in	$ 13,819,219	$ 5,669,869	$ 7,582,699	$ 5,133,915	$ 7,513,548	**$ 39,719,249**
Community Revenue (3x)						
Loss per Acre						
Impact Area One	$ 282.84	$ 282.13	$ 275.05	$ 272.53	$ 290.38	
Impact Area Two	$ 98.99	$ 98.75	$ 96.27	$ 95.39	$ 101.63	
Impact Area Three	$ 42.43	$ -	$ 41.26	$ -	$ 43.56	
Land Value						
2000 farmland value	$ 1,554	$ 1,700	$ 1,698	$ 1,561	$ 1,809	
Total Value of Impacted Land	$ 86,560,676	$ 27,108,887	$ 45,039,657	$ 24,135,552	$ 39,702,025	**$ 222,546,797**

Mills County Board of Supervisors

Courthouse
Glenwood, Iowa 51534
Ph. 712-527-4729

RESOLUTION 02-09

RE: Missouri River

WHEREAS, the Mills county Board of Supervisors have reviewed the Revised Draft of the Missouri River Environmental Impact Statement dated August 2001 and,

WHEREAS, Mills County is opposed to granting any type of Adaptive Management practices and,

WHEREAS, Mills County recognizes several positive attributes of the Missouri River such as recreational, environmental, industrial, agricultural, transportation, commercial and education and,

WHEREAS, Mills County is rural in nature with agriculture as its largest industry. Proposed changes in flow will expose valuable farmland and commercial development to flooding. Also involved would be drainage problems, stagnant water issues and adverse ground water conditions,

NOW THEREFORE BE IT RESOLVED, By the Mills County Board of Supervisors in session this February 14th, 2002, we request that management and flow characteristics remain as stated in the Current Water Control Plan.

Naomi Christensen, Chair	X Aye	Nay
Don W. Brantz	X Aye	Nay
Brian Fichter	X Aye	Nay

Attest:

Carol Robertson,
Mills County Auditor

Missouri River Talking Points

The Pick-Sloan Plan has worked for Iowa in most of the project purposes including flood control, hydro-power generation, water supply, navigation, and recreation.

Changes in the operation manual should not be made until impacts are understood and costs are known.

The Missouri River Management alternatives that include a spring rise and summer low flow are detrimental to Iowa interests.

The proposed summer low flow would end navigation in the Iowa reach and thus add to transportation of Iowa products.

Power boat recreation would be adversely affected by the proposed low flow.

Many agricultural acres could be adversely affected due to lack of drainage in the planting season.

Electric power rates would increase for Iowa consumers.

Water supply for Missouri River power plants could cause interruption in power generation forcing costly energy replacement during peak demand periods.

The proposed flow alterations have questionable benefits for the endangered species.

Natural shallow water habitats can and should be created to enhance indigenous species.

Existing Missouri River and related water research should be analyzed by competent, non-federal scientists.

A continued and expanded role for Missouri River stakeholders should be provided for.

The followig is a resolution adopted by the Board of Directors of Burt-Washington Drainage District at its regular meeting held February 12, 2002. This Drainage District maintains drainage ditches in Burt and Washington Counties in the Missouri River drainage area from South of Decatur, Nebraska, to Blair, Nebraska.

RESOLUTION

WHEREAS, Burt-Washington Drainage District drains lands in both Burt and Washington Counties, Nebraska, and is dependent on the Missouri River as an outlet for its several drainage channels in said Counties, and

WHEREAS, the stage of the Missouri river flow directly affects the efficiency of said drainage channels and any increase in the discharge from Gavins Point during the spring adversely affects the efficiency of the District's drainage system,

NOW THEREFORE BE IT RESOLVED by the Board of Directors of this drainage district that the District supports the Current Water Control Plan (CWCP) with minor adaptive management variables, as utilized in the past, and urges adoption of said alternative plan (CWCP).

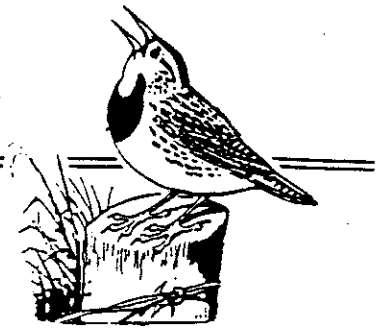
Question?
if the farmland
is wetland for 2
years in a row will
the Corp declare
the ground permanent
wetland

Allen Trumble

From ALLEN TRUMBLE 12
BURT/WASHINGTON CO. DRAINAGE

AUDUBON SOCIETY OF OMAHA

A chapter of the National Audubon Society
serving Eastern Nebraska and Western Iowa
Phone: 445-4138
11809 Old Maple Road, Omaha, Nebraska 68164-2639



February 20, 2002

TESTIMONY – PUBLIC HEARING – MISSOURI RIVER MASTER MANUAL RDEIS

I am Ione Werthman, 11649 Burt St., Omaha, Nebraska, Conservation Chair of the Audubon Society of Omaha. I testified in Nebraska City, and at that time, we asked the Corps of Engineers to adopt the Flexible Flow Alternative (GP 2021) for the Missouri River management plan. I come here this evening to reiterate that testimony. GP 2021 is still the best option to use for the management of the Missouri River.

Environmental research on large rivers with similar problems of native species preservation, supports the requirement for **correctly timed and suitably sized** water releases from dams as the essential ingredient for native species preservation. Both the U. S. Fish and Wildlife Biological Opinion and the 2002 National Academy of Science study have spoken and endorsed the larger Flexible Flow Alternative. We believe a serious error will occur if sufficient water releases are not included in the future long and short-term dam operation plans. We believe it would be best to start with the higher flows with more flexibility built in than to be sorry later on. Money that could be spent on habitat development projects would be for naught if the key ingredient – water releases – could not be properly adjusted and **sufficiently** increased.

We do applaud the decision of the Missouri River Basin Association for endorsing a 10-year plan to experiment with the flow changes in an effort to help endangered wildlife. That is certainly a step in the right direction. However, as we see it, the alternative they have indicated that should be used for the ten-year tests. (GP 1528), will not give the Corps the flexibility in options they will need to make sure the project succeeds. If the experiments fail, … if the Corps has their hands tied and the experiments with GP1528 would prove that larger flows are definitely needed…. I would certainly hate to see us have to go through another 12 –14 years of debate… ten years from now. Our poor wildlife, by that time, will be all but extinct!

We also agree with the MRBA that a habitat mitigation program with proper monitoring must be put into place for both the Endangered Species Act and the Missouri River Mitigation impacts. This source of funding is long overdue.

We again urge the Corps to initiate GP 2021 in your Master Manual plans for restoration of our historic Missouri River.

Thank you.

Ione Werthman
Conservation Chair
Audubon Society of Omaha

RESOLUTION NO. 9455

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans.

NOW, THEREFORE, BE IT RESOLVED, by the Woodbury County Board of Supervisors, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan

PASSED AND APPROVED: 19th day of February, 2002

WOODBURY COUNTY BOARD OF SUPERVISORS

Larry D. Clausen, Chairman

ATTEST:

Patrick F. Gill, County Auditor/Recorder

PREPUBLICATION COPY

Interim Report from the
Committee on Endangered and Threatened Fishes
in the Klamath River Basin

Scientific Evaluation of Biological Opinions on Endangered and Threatened Fishes in the Klamath River Basin

Committee on Endangered and Threatened Fishes in the Klamath River Basin

Board on Environmental Studies and Toxicology

Division on Earth and Life Studies

National Research Council

National Academy Press
Washington, D.C.

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NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

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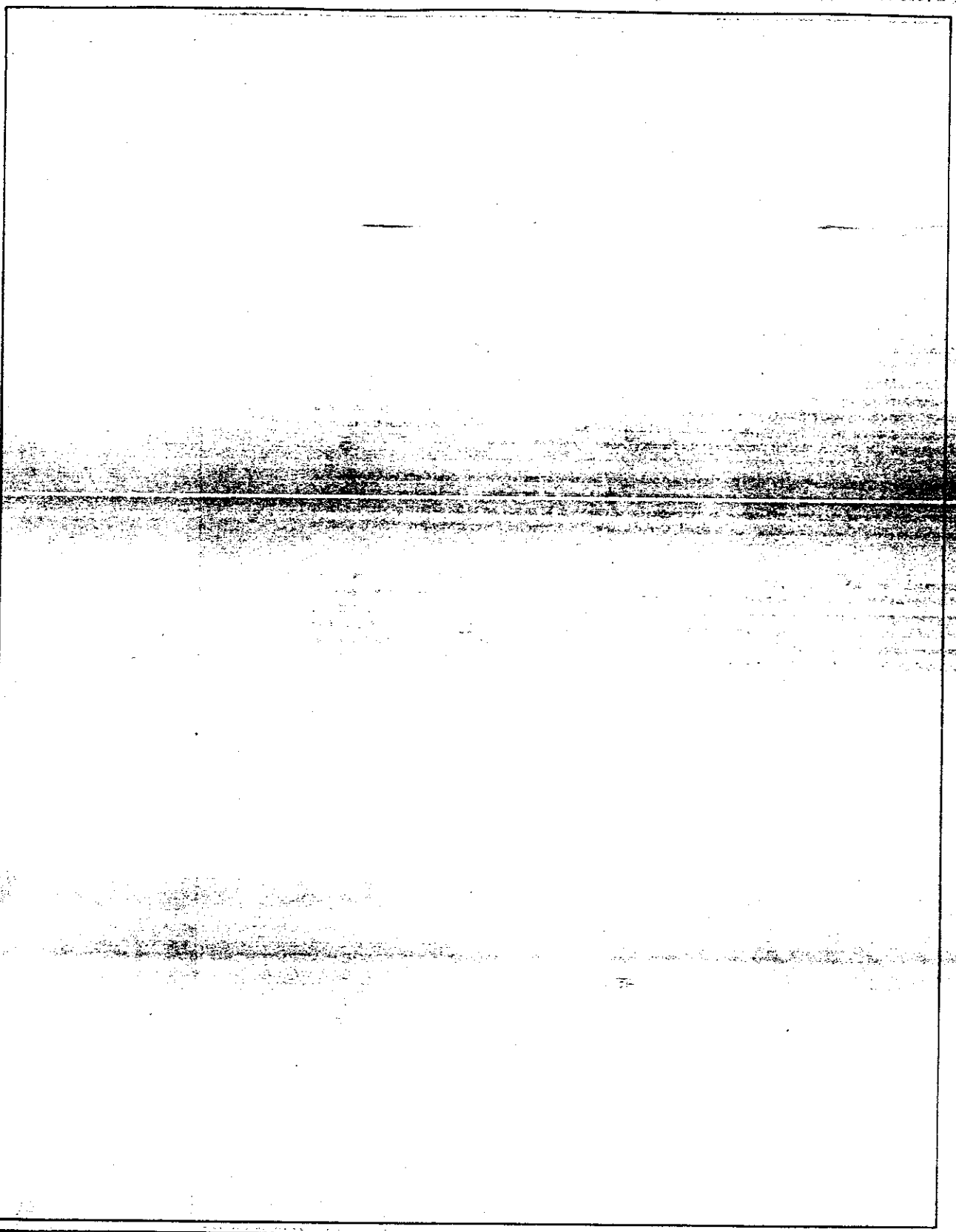

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Glen Spain, Pacific Coast Federation of Fishermen's Associations
Sue Ellen Wooldridge, U.S. Department of Interior

The committee's work also benefited from the written and oral testimony submitted by the public, and we appreciate their participation.

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Acknowledgment of Review Participants

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the NRC's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report:

Michael T. Bratt, University of Washington
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Douglas E. Markle, Oregon State University
John M. Melack, University of California, Santa Barbara
Lisa Speer, National Resources Defense Council
Edwin A. Theriot, U.S. Army Corps of Engineers
David A. Vogel, Natural Resource Scientists, Inc.
Eugene B. Welch, University of Washington

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final draft of the report before its release. The review of this report was overseen by John C. Ballar, III, University of Chicago, and Paul G. Risser, Oregon State University. Appointed by the National Research Council, they were responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.

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Preface

The federal Endangered Species Act of 1973 has been invoked extensively for the protection of aquatic species in the western United States. Aquatic fauna of the West show extensive endemism because of genetic isolation associated with aridity and with the drainage of many rivers directly to the Pacific. Human intervention in the water cycle of the West is especially pervasive because of the general scarcity of water and the extensive redistribution of water in support of economic growth. Also, the West is growing and developing very rapidly. Thus, an unusual combination of biogeographic, hydrologic, and socioeconomic circumstances conspire to raise the likelihood that the legal protection of aquatic species will come into conflict with development and use of water in the West.

Fishes of the Klamath River Basin are the focus of perhaps the most prominent current conflict between traditional uses of water in the West and requirements established by law for the protection of threatened and endangered species. This case is especially interesting in that the federal government is playing two potentially conflicting roles. Through the U.S. Bureau of Reclamation, the Department of the Interior is attempting to balance the needs of irrigators for water that is diverted from the Federal Klamath Basin Project. Not only is the delivery of water a contractual obligation of the government, it also is traditional in the sense that water delivery has occurred through the project for almost a century. At the same time, the U.S. Fish and Wildlife Service of the Department of the Interior and the National Marine Fisheries Service of the Department of Commerce are attempting to protect three threatened or endangered fishes of the Klamath Basin drainage (the Lost River sucker, the shortnose sucker, and the Klamath Basin coho salmon). Interested parties, some of whom have livelihoods or cultural traditions at stake, include farmers, commercial fishing interests, Native Americans, environmental interests, hunters, and hydropower production interests. Conflicts became openly angry during 2001 when irrigators were deprived during a severe drought of traditionally available water through the government's issuance of jeopardy opinions on the endangered and threatened fishes. Economic losses were substantial and the changes in water management were a source of great frustration to irrigators.

The Endangered Species Act (ESA) sets a framework for determination of future water use and management in the Klamath River Basin. The ESA is tightly focused on the requirements for survival of the threatened and endangered fishes, the survival of which is not negotiable under the ESA. Therefore, if the fishes require more water, ESA directs that they shall have it, which would imply that water managers and users must augment their water supplies, reduce their demands, or reach other accommodations consistent with the requirements of the species.

While the ESA gives priority to the needs of threatened and endangered species, it also requires that any allocation of resources to these species be justified on a scientific or technical basis. The burden for scientific and technical justification falls mainly on the federal agencies, and especially the U.S. Fish and Wildlife Service and National Marine Fisheries Service, which are the source of biological opinions on the species. Assessment of the requirements of any species in a manner that is scientifically or technically rigorous is difficult and often cannot be accomplished quickly. The agencies have assembled considerable data and have interpreted the data as

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showing need for higher flows in the Klamath main stem and higher lake levels in the upper part of the basin.

External review increases confidence in scientific and technical judgments, and is especially important when such judgments underlie important policy decisions. Accordingly, the Department of the Interior and Department of Commerce have arranged through its agencies for the National Research Council to form the Committee on Endangered and Threatened Fishes in the Klamath River Basin, whose charge is to conduct an external review of the scientific basis for the biological opinions that resulted in changes of water management for year 2001. The committee is to conduct its work in two phases. The first phase, which is reported here, gives an interim assessment of the evidence behind the biological opinions. A second phase, which will occur over approximately the next year, will take a broader approach to evaluation of evidence for long-term requirements of the threatened and endangered fishes.

In formulating its interim assessment, the committee has been greatly assisted by individuals who have provided it with information orally and in written form. The committee is especially indebted to the invited speakers and members of the public who attended the first meeting of the committee and also to NRC staff members Heather McDonald, Jennifer Saunders, David Policansky, and Suzanne van Drunick, and to Leslie Northcott of the University of Colorado.

All NRC committee reports are subject to external peer review as well as internal quality control processes. The committee and the NRC are grateful to the reviewers who contributed their time and expertise to the review process.

The NRC committee is pleased to provide scientific and technical assessments that it hopes will be helpful to federal agencies as they attempt the difficult process of guiding water management toward practices that are consistent with the welfare of threatened and endangered species while also accommodating to the fullest practical extent other uses of water in the Klamath River Basin.

William M. Lewis, Jr., Chair
Committee on Endangered and Threatened
Fishes in the Klamath River Basin

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Summary

The Klamath River Basin, which drains directly to the Pacific from parts of southern Oregon and northern California, contains endemic freshwater fishes and genetically distinctive stocks of anadromous fishes. Endemic freshwater fishes include the shortnose sucker (*Chasmistes brevirostris*) and the Lost River sucker (*Deltistes luxatus*). These long-lived and relatively large species, which live primarily in lakes but enter flowing waters or springs for spawning, were sufficiently abundant during the nineteenth and early twentieth century to support commercial fisheries. During the last half of the twentieth century these species declined so much in abundance that they were listed in 1988 as endangered under the federal Endangered Species Act (ESA). In addition, the genetically distinctive Southern Oregon/Northern California Coasts (SONCC) coho salmon (*Oncorhynchus kisutch*), an evolutionary significant unit (ESU) of the coho salmon, depend on the Klamath River main stem for migration and on tributary waters for spawning and growth before entering the Pacific for maturation. The Klamath Basin coho has declined substantially over the last several decades, and was listed as threatened under the ESA in 1997.

Factors contributing to the decline in abundance of the endangered suckers and threatened coho in the Klamath River Basin are diverse and in some cases incompletely documented. Factors thought to have contributed to the decline of the endangered suckers include degradation of spawning habitat, deterioration in the quality of water in Upper Klamath Lake, overexploitation by commercial and non-commercial fishing (now regulated), introduction of competitive or predaceous exotic species, blockage of migration routes, and entrainment of fish of all ages in water management structures. Factors contributing to the decline of coho salmon are thought to include earlier overexploitation by fishing as well as continuing degradation of tributary habitat and reduced access to spawning areas. The threatened coho salmon also may be affected by changes in hydrologic regime, substantial warming of the main stem and tributaries, and continuing introduction of large numbers of hatchery-reared coho, which are derived only partly from native stock.

The U.S. Bureau of Reclamation's (USBR) Klamath Basin Project (Klamath Project) is a system of main-stem and tributary dams and diversion structures that store and deliver water for agricultural water users in the Upper Klamath Basin under contract with the USBR. Subsequent to the listing of suckers in 1988 and coho in 1997, the USBR was required to assess the potential impairment of these fishes in the Klamath River Basin by operations of the Klamath Project. In the assessments, which were completed in 2001, the USBR concluded that operations of the project would be harmful to the welfare of the listed species without specific constraints on water levels in the lakes to protect the endangered suckers and flows in the Klamath River main stem to protect the threatened coho salmon.

After release of the USBR assessment on the endangered suckers (February 2001), and following procedures required by the ESA, the U.S. Fish and Wildlife Service (USFWS) in April 2001 issued a biological opinion based on an extensive analysis of the relevant literature and field data. The biological opinion states that the endangered

suckers would be in jeopardy under USBR's proposed Klamath Project operations. The USFWS proposed a reasonable and prudent alternative (RPA) for operation of the Klamath Project. The RPA requires screening of water-management structures to prevent entrainment of suckers, adequate dam passage facilities, habitat restoration, adaptive management of water quality, interagency coordination in the development plans for operating the Klamath Project during dry years, further studies of the sucker populations, and a schedule of lake levels higher than those recommended by the USBR in its assessment.

The National Marine Fisheries Service (NMFS), which assumes responsibility for the coho because it is anadromous, issued a biological opinion in April 2001 indicating that the operation of the Klamath Project as proposed by the USBR assessment of January 2001 would leave the coho population in jeopardy. The NMFS formulated an RPA incorporating reduced rates of change in flow (ramping rates) below main-stem dams to prevent stranding of coho, interagency coordination intended to optimize use of water for multiple purposes, and minimum flows in the Klamath River main stem higher than those proposed by USBR.

During 2001, a severe drought occurred in the Klamath River Basin. The U.S. Department of the Interior (DOI) determined that the newly issued biological opinions and their RPAs must prevail; that water that would have gone to irrigators would instead be used entirely to attempts to maintain minimum lake levels and minimum flows as prescribed in the two RPAs. The severe economic consequences of this change in water management led DOI to request that the National Research Council (NRC) independently review the scientific and technical validity of the government's biological opinions and their RPAs. The NRC Committee on Endangered and Threatened Fishes in the Klamath River Basin was formed in response to this request. The committee was charged with filing an interim report after approximately 2 months of study and a final report after about 18 months of study (see statement of task, Appendix). The interim report, which is summarized here, focuses on the biological assessments of the USBR (2001) and the USFWS and NMFS biological opinions of 2001 regarding the effects of Klamath Project operations on the three listed fish species. The committee has provided in the report a preliminary assessment of the scientific information used by the agencies and other relevant scientific information, and has considered the degree to which the biological opinions are supported by this information. During November and early December 2001, the committee studied written documentation, heard briefings from experts, and received oral and written testimony from the public, and used this information as the basis for its interim report.

The Committee's Principal Findings

The NRC committee concludes that all components of the biological opinion issued by the USFWS on the endangered suckers have substantial scientific support except for the recommendations concerning minimum water levels for Upper Klamath Lake. A substantial data-collection and analytical effort by multiple agencies, tribes, and other parties has not shown a clear connection between water level in Upper Klamath Lake and conditions that are adverse to the welfare of the suckers. Incidents of adult

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mortality (fish kills), for example, have not been associated with years of low water level. Also, extremes of chemical conditions considered threatening to the welfare of the fish have not coincided with years of low water level, and the highest recorded recruitment of new individuals into the adult populations occurred through reproduction in a year of low water level. Thus, the committee concludes that there is presently no sound scientific basis for recommending an operating regime for the Klamath Project that seeks to ensure lake levels higher on average than those occurring between 1990 and 2000. At the same time, the committee concludes that there is no scientific basis for operating the lake at mean minimum levels below the recent historical ones (1990-2000), as would be allowed under the USBR proposal. Operations leading to lower lake levels would require acceptance of undocumented risk to the suckers.

For the Klamath Basin coho, the NMFS RPA involves coordination of operations as well as reduction of ramping rates for flows below the main-stem dams and increased flows in the Klamath River main stem. Coordination and reduced ramping rates are well justified. The committee, however, did not find clear scientific or technical support for increased minimum flows in the Klamath River main stem. Although the proposed higher flows are intended to increase the amount of habitat in the main stem, the increase in habitat space that can occur through adjustments in water management in dry years is small to non-existent and possibly insignificant. Furthermore, tributary conditions appear to be the critical factor for this population; these conditions are not affected by operations of the Klamath Project and therefore are not addressed in the RPA. Finally, and most importantly, water added as necessary to sustain higher flows in the main stem during dry years would need to come from reservoirs, and this water could equal or exceed the lethal temperatures for coho salmon during the warmest months. The main stem already is excessively warm. Juvenile fish living there probably tolerate its temperature only because of the presence of groundwater seepage or small tributary flows that provide pockets of cool water. Addition of substantial amounts of warm water could be detrimental to coho salmon by reducing the size of these thermal refuges. At the same time, reduction in main-stem flows, as might occur if the USBR proposal were implemented, cannot be justified. Reduction of flows in the main stem would lead to habitat conditions that are not documented, and thus present an unknown risk to the population.

Conclusion

On the basis of its interim study, the committee concludes that there is no substantial scientific foundation at this time for changing the operation of the Klamath Project to maintain higher water levels in Upper Klamath Lake for the endangered sucker populations or higher minimum flows in the Klamath River main stem for the threatened coho population. The committee concludes that the USBR proposals also are unjustified, however, because they would leave open the possibility that water levels in Upper Klamath Lake and minimum flows in the Klamath River main stem could be lower than those occurring over the past 10 years for specific kinds of climatic conditions. Thus, the committee finds no substantial scientific evidence supporting changes in the operating

practices that have produced the observed levels in Upper Klamath Lake and the observed main-stem flows over the past 10 years.

The committee's conclusions are subject to modification in the future if scientific evidence becomes available to show that modification of flows or water levels would promote the welfare of the threatened and endangered species under consideration by the committee. The committee will make a more comprehensive and detailed consideration of the environmental requirements of the endangered suckers and threatened coho in the Klamath River Basin over the next year, during which time it will develop final conclusions.

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1. Introduction

The Klamath River Basin is isolated from other fresh waters by its direct drainage to the Pacific (Figure 1). This isolation and a diversity of freshwater habitats including perennial tributary and main-stem flows, extensive marshlands, and large shallow lakes, have favored genetic isolation of freshwater and anadromous fishes in the basin. Thus, the Klamath River Basin contains endemic freshwater fishes as well as genetically distinctive stocks of anadromous fishes that are shared with nearby basins on the Oregon and California coasts.

Endemic freshwater fishes of the Klamath River Basin include the shortnose sucker (*Chasmistes brevirostris*) and the Lost River sucker (*Deltistes luxatus*). These two species, which are long-lived, reach relatively large sizes, and have high fecundity (Moyle 1976), occupy primarily lakes as adults but use tributary streams as well as springs for spawning. The two sucker species were abundant in Upper Klamath Lake and elsewhere in the drainage prior to 1900, [illegible] extensively by Native Americans as well as settlers, and were the basis for commercial fisheries (USFWS 2001). During the 20th century, and particularly after the 1950s, the populations substantially declined in abundance. Reduction in abundance of the suckers has been generally attributed to changes in water quality, excessive harvesting, introduction of exotic fishes, alteration of flows, entrainment of fish into water management structures, and physical degradation of spawning areas (USFWS 2001). Both the shortnose sucker and the Lost River sucker were classified as federally endangered under the Endangered Species Act (ESA) in 1988 (USFWS 1988).

The main stem and tributaries of the Klamath River support endemic populations of a genetically distinctive population of coho salmon (*Oncorhynchus kisutch*). This group of coho is part of the Southern Oregon/Northern California Coasts (SONCC) evolutionarily significant unit (ESU), which also occupies several other drainages near the Klamath River Basin. These fish mature in marine waters off the California and Oregon coasts, move up the Klamath main stem and into tributaries for spawning, descend back to the main stem for the smolt phase, and then exit to the Pacific. The present distribution of the species within the Klamath Basin extends to the Iron Gate Dam, although it probably extended farther upstream prior to the construction of main-stem dams (NMFS 2001).

Stocks of native coho salmon have declined greatly in the Klamath River Basin over the past several decades. Potential causes of the decline include overexploitation (now largely curtailed), habitat degradation, manipulation of flows in the main stem, excessive warming of waters, degradation or blockage of tributaries, and introduction of large numbers of competitive hatchery-reared coho salmon only partially derived from the native stock (NMFS 2001). The SONCC coho ESU was classified as federally threatened under the ESA in 1997.

In response to the listing of the two sucker species and the SONCC coho, the Bureau of Reclamation (USBR), which operates the Klamath River water distribution project (Klamath Project), prepared biological assessments of the effects of Klamath Project operations on the suckers and on the coho (USBR 2001a, b). Because the listing processes for these fish referenced water level in Upper Klamath Lake and other lakes in the Upper Klamath Basin and amounts of flow in the main stem of the Klamath River

below Iron Gate Dam as potential points of concern for the welfare of the species, the USBR assessments were intended to make a case for specific flows and water levels in portions of the basin strongly affected by operations of the Klamath Project

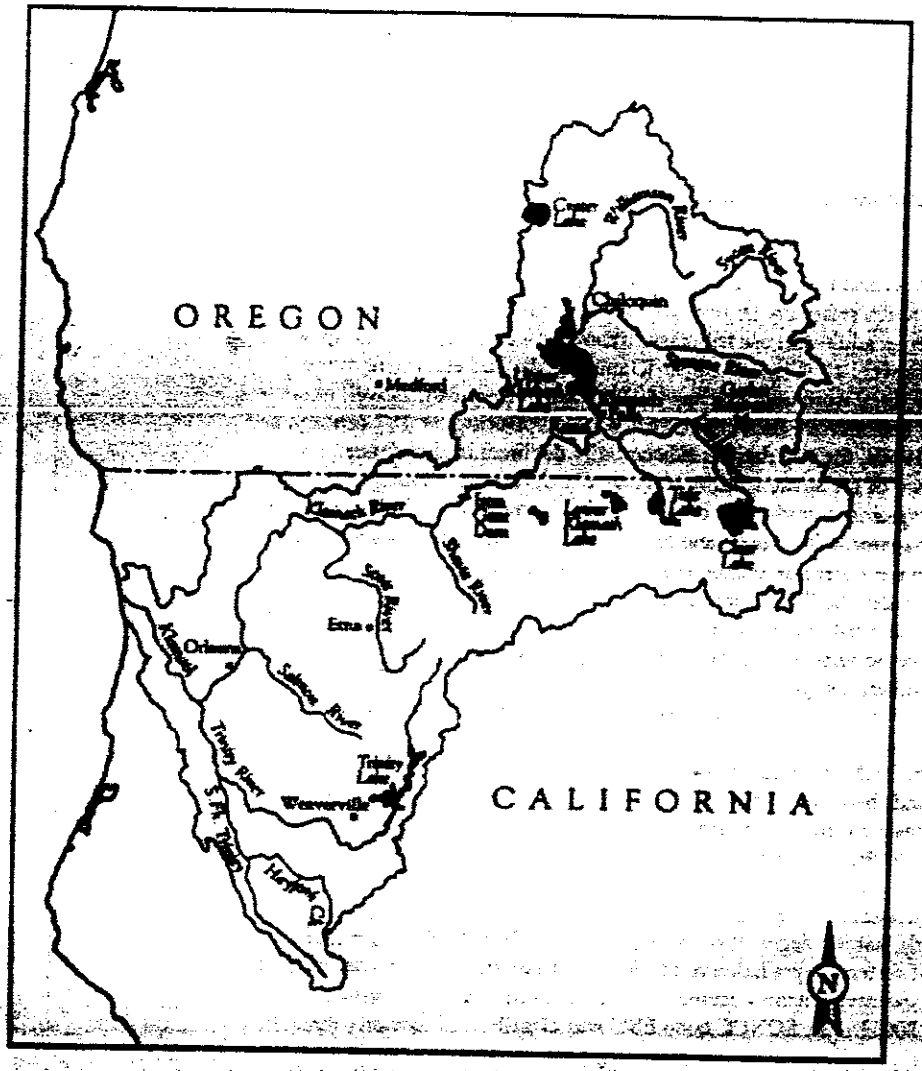

Figure 1. Map of the Upper Klamath River Basin showing surface waters and landmarks mentioned in this report (modified from USFWS sources).

In response to the USBR assessment of the endangered suckers, the U.S. Fish and Wildlife Service (USFWS) issued a biological opinion (USFWS 2001). A separate

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biological opinion was issued on the coho population by the National Marine Fisheries Service (NMFS 2001), which has the prime responsibility for ESA actions on these fish because they are anadromous. The two biological opinions differ sharply from the two corresponding USBR assessments in that they call for maintenance of higher lake levels and higher main-stem flows than the assessments.

Year 2001 brought a severe drought to the Klamath River Basin. The Department of the Interior (DOI) determined that the biological opinions on the endangered and threatened species must take priority over other uses of water, and that the amounts of water specified as reasonable and prudent alternatives (RPAs) in the biological opinions should be maintained to the degree physically possible prior to the provision of water for consumptive use as specified by contracts between irrigators and the USBR through its Klamath Project. Consequently, most of the water that otherwise would have been delivered to irrigators through the Klamath Project was not delivered. Substantial agricultural losses occurred, along with damage to the economic base of the Klamath River Basin (actual losses are still being estimated, but the work of Adams and Cho (1998) shows that direct losses to farmers alone would probably exceed $20 million).

Given the strong economic consequences for implementation of the biological opinions through their effect on the Klamath Project, the DOI determined that the scientific basis for the two opinions should be reviewed. The National Research Council (NRC) was asked, through the National Academy of Sciences, to form a committee to study the two opinions. Sponsors of the review include the USBR and the USFWS of the Department of the Interior and the NMFS of the Department of Commerce. A portion of the work of the NRC committee and the committee's interim conclusions are summarized in this report.

The two biological opinions and the two biological assessments contain valuable literature reviews. The committee cites these documents in lieu of the primary literature for much of the background subject matter of this report, but cites individual studies that are of particular importance to the committee's conclusions wherever appropriate.

Tasks of the NRC Committee

The work of the NRC Committee on Endangered and Threatened Fishes in the Klamath River Basin is divided into two phases (see statement of task, Appendix A). The first phase, reported here, involves a preliminary assessment of the scientific validity of the two biological opinions and their RPAs, particularly as they relate to the near-term operation of the Klamath Project. In a second phase, the committee will conduct a more broad-ranging study of evidence related to the welfare of the endangered and threatened species. Whereas the interim report focuses specifically on the biological opinions, the final report may extend beyond the biological opinions to deal more extensively with water pollution or other such subjects that are not directly under control of the Klamath Project. This effort will culminate in a second report that will give the committee's consensus view of the long-term requirements of the species.

Although the interim report specifically deals with the two biological opinions, the committee also gives its conclusions about the two biological assessments upon which the biological opinions are based. If the biological opinions were rejected fully or in part, the presumed alternative for operation of the Klamath Project would be as

prescribed in the USBR assessments. Thus, the committee must not only evaluate the validity of the biological opinions, but also extend the same sort of evaluation to the assessments.

The tasks of the committee encompass only the scientific and technical issues that are relevant to the three endangered and threatened fish species mentioned above. The committee is not charged with investigating or reporting on economic dislocation or with forecasting the economic consequences of continued implementation of flows specified in the biological opinions. Given the background materials that were provided to the committee, however, all committee members are acutely aware of the great importance of any change in historical management of flows to water users in the Klamath Basin. Also, the committee is aware of the great and long-standing interest of Native American tribes of the Klamath River Basin in the maintenance and expansion of fish stocks, including Tribal Trust species not covered in this report, and of the interests of numerous other parties in water resources, wetlands, and the welfare of fishes and other aquatic life. While the committee will not analyze economic or socioeconomic questions, the strong and multiple interests of individuals and communities in the Klamath Basin in the conclusions reached by the committee are well recognized by the committee members. [illegible] only from an economic and social viewpoint, but also from the perspective of [illegible] biological resources, the work of the NRC committee is highly focused by its [illegible] task and by the inherent requirements of the Endangered Species Act, which prohibits federal actions that jeopardize continued existence of listed species through interference with their survival or recovery (50 CFR 402.02). The Klamath River Basin is home to hundreds of species of fish and wildlife and to distinctive native ecosystems, including wildlife refuges of national significance. Many of these natural resources have been greatly restricted or altered through human action. In fact, changes in the flow regime in the Klamath River may affect other fishes that have been proposed for listing as threatened species but are not yet listed (e.g., ESUs of steelhead and chinook salmon). The committee, however, is charged with studying specifically the requirements of the three fish species mentioned above, and not of other species in the Klamath River Basin.

2. Evaluation of the Biological Opinion on Shortnose and Lost River Suckers

Populations of the shortnose and Lost River suckers currently are present within Upper Klamath Lake on the north side of the Klamath River drainage and within Clear Lake (which operates as a reservoir) and Gerber Reservoir on the Lost River, to the southeast (Figure 1). Small groups of individuals, some or all of which may be nonreproducing, are found elsewhere in the Klamath River drainage, including Tule Lake sump (USFWS 2001). Conditions in the lakes are relevant to the USFWS biological opinion largely through proposals for minimum lake levels that are intended to reduce mortality and improve spawning success, recruitment (addition of new individuals to the population), growth, and condition of the suckers.

The population sizes of endangered suckers in Upper Klamath Lake and [illegible] are uncertain, but the abundances of these populations, which once were large enough to support commercial fisheries, are much lower than they were when agricultural development and water management began. Unfortunately, quantitative estimates of population sizes are not available. During the 1980s, qualitative evidence indicated that declines might have taken the sucker populations in Upper Klamath Lake to just a few thousand old (> 10 years) individuals (USFWS 1988). More recent estimates made possible incidentally by episodes of mass mortality suggest, however, that the populations are considerably larger than they appeared to be in the 1980s, and that some recruitment to the adult age classes has occurred in most or all years of the last decade (see below). Population sizes may range from a few tens of thousands to the low hundreds of thousands of individuals (USFWS 2001), but still are much lower than they were originally. Aside from decline in abundance over the long term, other indications of problems within the sucker populations include absence of spawning at a number of sites historically used for spawning, apparent increase in mass mortality of adults ("fish kills"), and weak recruitment in most years (USFWS 2001).

The water quality of Upper Klamath Lake has changed substantially over the last several decades. The lake appears to have been eutrophic (rich in nutrients and supporting high abundances of suspended algae) prior to any anthropogenic influence (Kann 1998). Mobilization of phosphorus from agriculture and other non-point sources (Walker 2001), however, appears to have pushed the lake into an exaggerated state of eutrophication that involves algal blooms reaching or approaching the theoretical maximum abundances. In addition, algal populations now are strongly dominated by the single bluegreen algal species *Aphanizomenon flos-aquae* (Cyanobacteria) rather than the diatom taxa that apparently dominated blooms prior to nutrient enrichment (Kann 1998, Eilers et al. 2001).

Evidence indicates that changes in the water quality of Upper Klamath Lake have increased mass mortality among adult suckers. Under certain conditions, the bottom portion of the water column in the lake develops oxygen depletion and accumulates high

concentrations of ammonia. Mixture of these bottom waters with the surface waters under the influence of changes in weather is the likely cause of mass mortality (Vogel et al. 2001, Horne 2001). While mass mortality has been recorded over the entire observed history of the lake, its frequency appears to have increased (Perkins et al. 2000). Major incidents were recorded for years 1995, 1996, and 1997; low dissolved oxygen appears to have been the direct cause of mortality in these years (Perkins et al. 2000).

Impairment of water quality also may stress fry through the creation of high pH in surface waters as a result of high rates of photosynthesis, although exposures to the highest pH probably are too brief to cause mortality (Saiki et al. 1999). In addition, the present trophic state of the lake potentially poses a threat of mortality in winter, when anoxia can occur under ice if oxygen demand is high. Although not yet observed, winter mortality could occur in the future (Welch and Burke 2001).

Factors of concern other than water quality include the presence of exotic species capable of inducing types of predation and competition that are foreign in an evolutionary sense to these endemic species. Hybridization occurs but the degree of threat associated with it is unknown; the native suckers probably showed some interbreeding prior to human intervention (Scoppettone et al. 2000). In addition, access of the suckers to historically [illegible] has in many cases been blocked or the spawning [illegible] to such an extent that they cannot [illegible] (USFWS 2001). Overfishing or habitat degradation may have eliminated portions of the population that were using specific spawning areas and, although fishing no longer occurs, these subpopulations cannot be regenerated without manipulation of existing stocks in combination with habitat restoration.

Suckers of all sizes are entrained by water management structures (USFWS 2001). While screening of these structures has long been recognized as an important means of reducing mortality of the endangered suckers, it has not yet been accomplished. Also, interaction of multiple stresses may increase vulnerability of the endangered suckers to disease, degrade their body condition, and cause them to show a high incidence of anatomical abnormalities (Plunkett and Snyder-Conn 2000).

The USFWS biological opinion states that the Klamath Project is detrimental to the endangered suckers through its direct contributions to mortality and adverse environmental conditions. On this basis, USFWS presents a reasonable and prudent alternative (RPA) consisting, in summary, of requirements for minimum lake levels, coordination and adaptive management, screening to prevent entrainment of fish, creation of improved passage facilities, steps toward improvement of habitat and water quality, and additional studies. The RPA is intended to avoid jeopardizing listed species either directly or through adverse modification of critical habitat (50 CFR 402.02).

With the exception of the recommendation on lake-level maintenance, there is good scientific or technical support for all of the requirements listed in the RPA. Coordination and adaptation of management are advisable, especially because the information base is evolving rapidly and because annual optimization of strategies for using water is an obvious need. Given the documented loss of suckers to entrainment and the blockage of their access to spawning waters at known locations (USFWS 2001), requirements of the RPA calling for mitigation of these problems also seems highly defensible. Potential for improvement of habitat and water quality must be viewed as incremental rather than comprehensive, but even incremental improvements offer the

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prospect of increasing the viability of the sucker populations, and thus seem justified. Recommendations on water level are more difficult to evaluate, however.

Figure 2 shows the water levels given by USFWS in its RPA (2001) as well as two other lake level regimes (USBR recommended and historical). The USFWS requirements are given as absolute minima, i.e., they do not vary from one type of water year to another. In contrast, assessment proposals of the USBR are framed in terms of various categories of water year; categories shown in Figure 2 are characterized as critically dry (lowest 4%) and dry (approximately 12% of years just wetter than the critically dry ones).

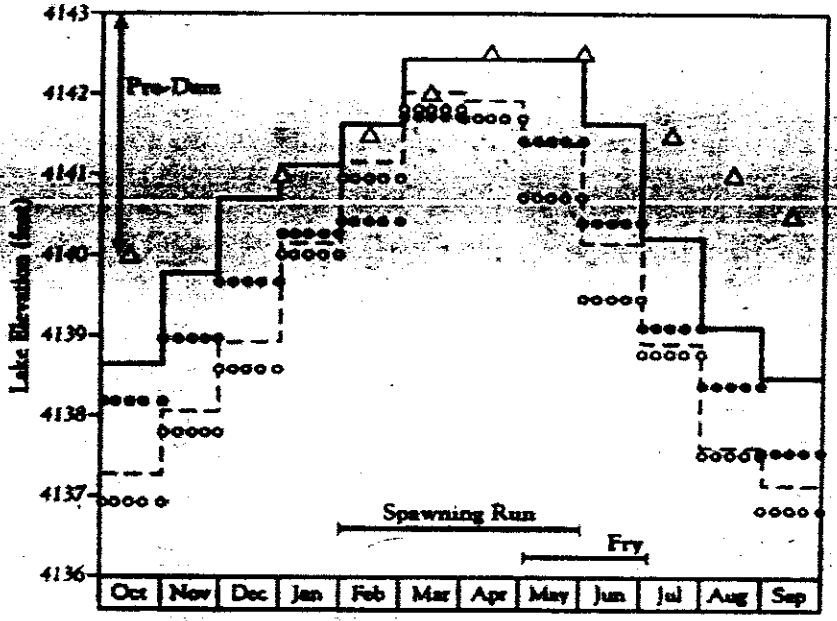

Figure 2. Overview of monthly levels for Upper Klamath Lake proposed by USBR through its biological assessment of 2001, USFWS through its biological opinion of 2001, and observed conditions for the years 1960 – 1998. Hydrologic categories used by USBR in its proposals (dry years, critical dry years) are explained in the text. Mean depths, excluding wetlands, corresponding to water levels are approximately as follows (feet): 4137 = 3.5; 4138 = 4.0; 4139 = 4.8; 4140 = 5.7; 4141 = 6.6; 4142 = 7.6 (Welch and Burke 2001, Figure 2-5).

The span of lake level records that the USBR chose to use in its analysis (1960-1998) reflects the full interval of operations for the completed Klamath Project. Even earlier records are available, extending back to the creation of Link River Dam in 1919 (Figure 3), but the interval between 1919 and 1960 would not be typical from the viewpoint of current project operations. Records prior to 1919, extending back to 1905, also are available (Figure 3); they show higher maximum and minimum lake levels than have been typical of Upper Klamath Lake since closure of the dam. In addition, operation of the Klamath Project has created a higher amplitude of intraannual variation in lake level and a change in seasonality of intraannual change in lake level as compared with the original condition of the lake (USFWS 2001, III. 2., page 38).

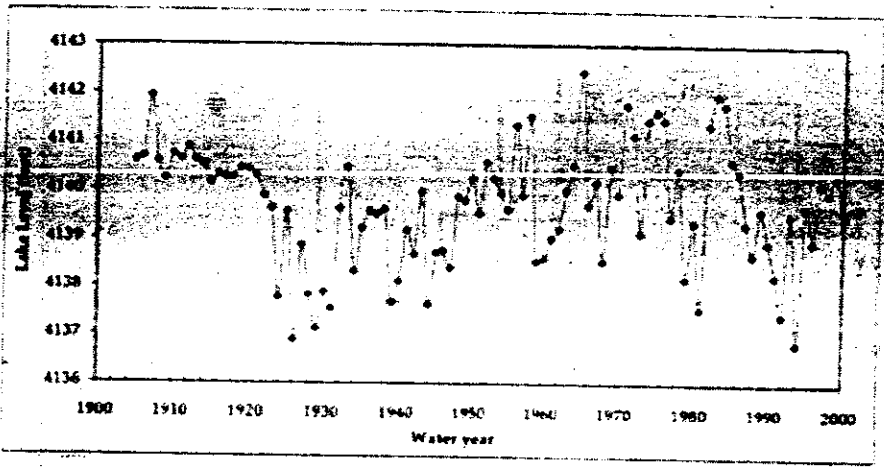

Figure 3. Historical record of level at the end of September for Upper Klamath Lake (from USBR sources).

While the operating interval between 1960 and 1998 is very useful for judging the degree of variability that can be expected in lake levels over a long period of years with the Klamath Project in place, the possibility for use of lake-level data in environmental analysis is limited to a much shorter interval. Interaction between lake level and environmental variables or indicators of the welfare of the endangered fish is dependent on concurrent information for lake level, environmental conditions, and fish. While information of a sporadic or anecdotal nature is available over as much as 100 years, routinely-collected data on environmental characteristics and fish are available only since 1990 or later. Thus, while the long-term lake level record seems to invite statistical analysis of the welfare of fish in relation to lake level, the information at hand is actually limited to a period of ten years or less. This limitation explains the focus of this report and of the USFWS biological opinion on data extending over approximately the last ten years. All three lake-level regimes (USFWS RPA, USBR recommended, historical)

reflect seasonality that is partly inherent in the runoff reaching Upper Klamath Lake and partly a byproduct of water withdrawals. The degree of seasonality in the USFWS RPA is considerably lower, however, than the seasonality of the other two regimes depicted in Figure 2, and minimum levels are highest overall for the USFWS RPA. The USBR proposed minima are below the means for the historic operating regime in each of the two dry-year categories because the USBR used the lowest recorded monthly lake levels for each category as its proposed minima. From the viewpoint of lake levels, water years are almost independent of each other because the lake has little capacity for interannual storage.

The USBR proposal would allow more drawdown of lake level than has been characteristic in the past. Although the lake levels proposed by USBR have been observed over the last 40 years, the use of these 40-year minima as year-to-year minima indicates that drawdown to the 40-year minima would be possible in any year of future operations if USBR's proposals were accepted. If USBR chose to operate the project by using greater average drawdown than has been observed over the past 40 years, the result would be significantly lower mean lake levels in each of the hydrologic categories.

Control of lake levels as a means of advancing the welfare of the endangered suckers raises more difficult scientific issues than the other requirements listed by the USFWS in the RPA. The recommendation for water-level control is based on concerns related to habitat (shoreline spawning areas, emergent vegetation), and water quality (low oxygen in summer, need for deep water refugia in summer and fall, possibility of adverse conditions under ice cover).

Impairment of water quality, primarily through eutrophication of Upper Klamath Lake, is a cause of mortality and stress for sucker populations. As indicated above, the present scientific evidence for this association is credible. An essential premise of the lake-level recommendations, however, is that the adverse water quality conditions known to stress or kill the endangered suckers are associated with the lowest water levels within the recent historical range of levels (since 1990, when consistent documentation first began). Presumption of this connection, which is essential to the arguments for specific lake levels that are proposed in the RPA, is inconsistent with present information on Upper Klamath Lake.

Control of phosphorus in Upper Klamath Lake offers the potential of suppressing population densities of algae, thus improving water quality in the lake (Welch and Burke 2001). No relationship between lake levels and population densities of algae (as shown by chlorophyll) is evident, however, in the nine-year water-quality monitoring record that has been fully analyzed (Figure 4). Thus, the idea of relieving eutrophication through phosphorus dilution caused by higher lake levels is not consistent with the irregular relationship between chlorophyll and lake level. Also, lake level fails to show any quantifiable association with extremes of dissolved oxygen or pH (see data presented by Welch and Burke 2001). For example, the most extreme pH conditions recorded for the lake over the last ten years came in 1995 and 1996, which were years of intermediate water level, and not with years 1992 and 1994, when water levels were lowest (these two years had the lowest recorded water levels since 1950). Furthermore, a substantial mass mortality occurred in 1971, the year of highest recorded water levels since 1950 (USFWS 2001) and, within the last ten years, mortality of adults was highest in 1995, 1996, and 1997, none of which was a year of low water level. The absence of notable adult

mortality in any year of low water during the 1990s might in fact suggest an association the reverse of the one postulated in the biological opinion, although the evidence is statistically inconclusive. The USFWS itself has found no association of mass mortality with lake levels (USFWS 2001, III.2.70). Intensified eutrophication now affects the characteristics of the lake every year, and thus may constitute a threat to the suckers regardless of interannual variation in water level

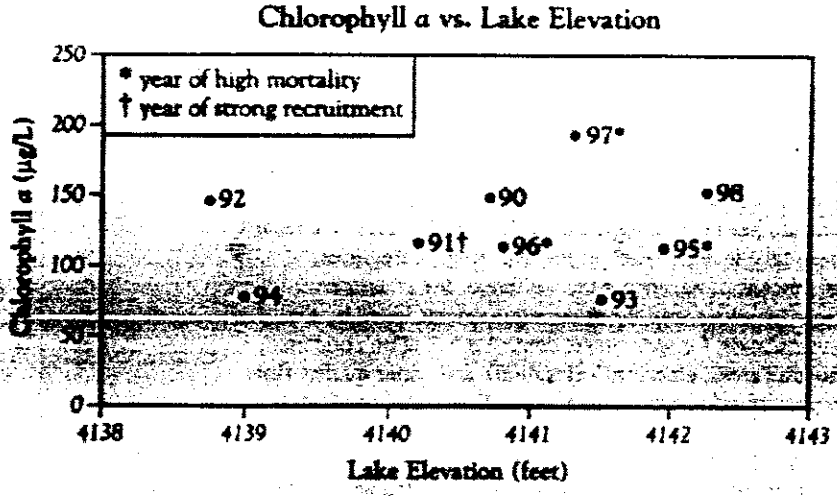

Figure 4. Relationship of chlorophyll *a* and median August lake level in Upper Klamath Lake between 1991 and 1998. Chlorophyll data are averages as reported by Welch and Burke 2001. Recruitment and mortality information is as reported by USFWS 2001.

Higher water levels potentially could be supported on grounds of improved survival of fry or juveniles rather than suppression of adult mortality. Higher water levels could reduce the likelihood that spawning areas around the lake would be dewatered and could be favorable to fry or juveniles. Abundance of juvenile suckers has been monitored since 1991 on the basis of seining (Simon et al. 2000a). This information, which must be used cautiously because it is not quantitative, indicates low abundances of juveniles in the drought years 1992 and 1994 but not in drought year 1991. Abundances also were low in non-drought years 1997 and 1998. Simon et al. (2000a) have reported generally declining abundance during the non-drought interval 1995-1998. They have also shown (Simon et al. 2000a, b) that the abundance of age 1+ suckers consistently has been very low, suggesting a bottleneck at this life stage, but interpretation of the data is complicated by very low efficiency for catching fish older than one year. Overall, the study of young fish shows no clear pattern associated with lake level.

The most reliable current information on recruitment is through analysis of age-class structure of adult suckers (USFWS 2001, III. 2., page 43). This data record is not

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consistent with the underlying assumptions of proposals for maintenance of higher water levels. The strongest recruitment (as inferred from relative abundances of adult year classes) observed over the last ten years was for 1991 (Figure 5), which falls within the lowest 15% of lake levels since 1950. Furthermore, as shown by the continuing strength of the 1991 year class in 1995 and beyond, the year class showed good survival through the dry years of 1992 and 1994. While the use of emergent vegetation by fry is cited as a reason for maintaining high water levels, the combination of high recruitment in 1991 and low recruitment in other years (as inferred from year class data) casts doubt on the importance of this factor, at least within the operating range of the 1990s. Furthermore, fry of the Upper Klamath Lake populations appear to use submerged as well as emergent macrophytes (Cooperman and Markle 2000), and thus may not be highly sensitive to the reduction in access to emergent vegetation that occurs in dry years (Dunsmoor et al. 2000). Overall, the presumed causal connections between lake levels and recruitment of the sucker populations in Upper Klamath Lake do not have strong scientific support at present.

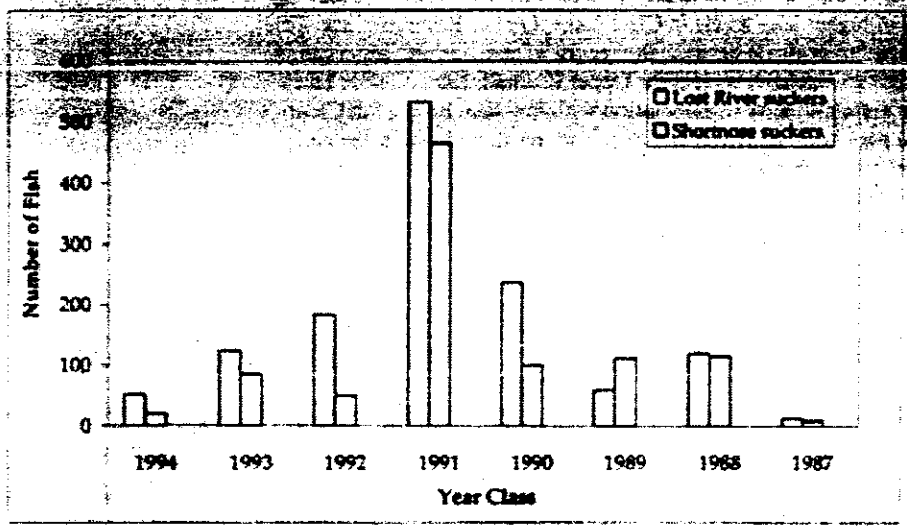

Figure 5. Relative strength of year classes for endangered suckers as reconstructed from survey of mass mortality in 1995, 1996, and 1997 (combined). Source: USGS and USFWS records.

Mortality possibly could be caused by multiple factors that interact with lake level. For example, mortality of suckers is influenced by changes in water column stability; an extended period of stability leading to decline of oxygen near the bottom can be followed by sudden mixing of the entire water column associated with a change in weather (high wind velocity). Thus, interpretation of information on lake level is complicated by the influence of weather. There is no evidence as yet, however, that the significance of undesirable mixing events is higher when lake levels are low than when

they are high. As a result, mixing as a cause of water quality conditions leading to mortality cannot be interpreted at this time in terms of lake level.

While there is no clear evidence, despite a monitoring record of substantial length, for connection between lake levels and the welfare of the two sucker species in Upper Klamath Lake, lake levels cannot be reduced below those observed in the last ten years without risk of the occurrence of adverse events that are not described in the detailed monitoring record (1990-present; analyses complete through 1998). A negative association between welfare of the species and lake level could emerge if lake levels are reduced below those of recent historical experience. The absence of any presently evident empirical connection between the observed lake levels and the welfare of the endangered suckers cannot be taken as justification for continuous or frequent operation of the lake at the lowest possible levels, given that the effects of operating the lake at lower levels are undocumented. Thus, while the observational record contradicts important underlying assumptions of the RPA, it does not provide an endorsement for the lake levels proposed in the USBR biological assessment, which if implemented could take interannual mean lake levels well below those of recent historical observation.

Potential benefits of higher lake levels in Clear Lake, Gerber Reservoir, and Tule Lake refuge are more difficult to evaluate because the record of analysis and observation of [illegible] is not so extensive as it is for Upper Klamath Lake. These listed taxa have not suffered notable mass mortality in association with low lake levels, but Clear Lake populations showed poor body condition following severe drawdowns in the early 1990s. The USFWS gives reasonable support for lake levels in Clear Lake no lower than the recent drought-related minimum (1992-1993: 4519 feet). The RPA reasonably adds a margin of two feet (4521) to allow for water loss in the absence of withdrawals under drought conditions.

3. Evaluation of the Biological Opinion on Klamath Basin Coho Salmon

Coho salmon enter the main stem of the Klamath River for spawning typically in their third year, primarily between October and December. Over most of this interval, main-stem flows below Iron Gate Dam often are high (ca. 2500-3000 cfs: NMFS 2001). Thus, standard methods for observing and counting spawning fish are not easily applied, and the size of the spawning population is unknown. Approximations put the entire ESU at about 10,000 spawning coho salmon of non-hatchery origin per year (Weitkamp et al. 1995), of which only a small portion is associated with the Klamath Basin, where several important tributary runs have been reduced to a handful of individuals (NMFS 2001).

Spawning coho in the Klamath Basin are restricted to use of tributaries that they can reach from the main stem up to Iron Gate Dam. Original spawning runs probably were largest in large tributaries, but presently are restricted mainly to numerous small tributaries entering the main stem directly (Yurok Tribe 2000). Large tributaries have been severely degraded above excessively high temperatures and are dominated in critical places. Although a minor amount of spawning and growth may occur in the main stem, the main stem serves adults primarily as a migration route.

Fry appear in late fall or winter, when water levels are highest. Most fry probably remain in the tributaries but some may move to or be swept into the main stem. Juvenile coho become smolts and emigrate to the ocean between March and mid-June; peak migration occurs in mid-May (NMFS 2001). In general, juvenile coho can be expected to occupy places where summer temperatures are low (12-14°C appears to be optimal for growth). They are also favored by deep pools with complex cover, especially large woody debris, which is essential for survival over winter (Sandercock 1991). Such conditions exist primarily in tributary streams of the Klamath Basin.

The reduction in stocks of native coho salmon in the Klamath River Basin has been caused by multiple interactive factors. Drastic reduction in spawning and juvenile habitat has occurred through impoundment and physical alteration of tributaries. Also, large numbers of smolts are released annually from the Iron Gate hatchery. These fish, which are derived from a combination of Klamath Basin and Columbia River coho, likely compete with or have other negative effects on wild native coho at all stages of their life history during which they are in contact, including the smoltification-emigration period, the ocean growth period, and spawning (Fleming and Gross 1993, Nielsen 1994, NRC 1996).

Physical habitat in the main stem is a potential concern for the welfare of the coho in several life stages. The spawning run must have adequate flows for passage, which would be impaired by excessively shallow water (e.g., through amplification of predation losses). Access to tributaries is a related consideration for the spawning run, given that little if any spawning occurs in the main stem. Also, fry that enter the main stem must find cool, well-shaded pools, or return to a suitable tributary. Smolts moving downstream must find suitable temperature, flow, and habitat conditions compatible with their physiological transformation during migration (Wedemeyer et al. 1980)

While habitat is an undeniable requirement for all life stages, the assessment of

habitat suitability is difficult and subject to considerable uncertainty. Numerical methods are now being applied to the estimation of habitat area in relation to flow (INSE 1999). These methods are commonly used in evaluating habitat, but in final form they require extensive field measurements that are not yet available. Initial modeling suggests that, while greater amounts of habitat for salmonids accompany higher flows, the percentage increase of habitat space corresponding to increases in flow that are possible during dry years is relatively small (a few percent: INSE 1999, NMFS 2001).

Water temperature is a major concern for the welfare of the Klamath Basin coho salmon. Summer temperatures appear to be especially critical. In the nearby Matolle River, which contains coho that are part of the SONCC ESU, the juvenile coho reside almost entirely in tributaries but do not persist where summer daily maximum temperatures exceed 18°C for more than a week (Welsh et al. 2001). Summer temperatures in the Klamath River main stem are suboptimal or even lethal to juveniles (NMFS 2001). High temperatures are the result of reduced flow in the main stem and in tributaries as a result of diversions, warming of water in lakes prior to its flow to the main stem, and loss of shading. Climate variability, although probably responsible for some interannual thermal variation, is unlikely to be an important factor by comparison with changes in flow and loss of riparian vegetation. Juvenile coho probably are able to occupy the main stem habitat only through behaviorally-mediated thermal regulation by [illegible] selection of areas of groundwater entry ("cold pools") or small tributary flows that are cooler water than most of the main stem.

Modeling has shown that higher releases of water to the main stem can reduce water temperature slightly (Deas and Orlob 1999), provided that manipulation of flow itself does not raise the base temperature (see below). It is unlikely, however, that the small degree of cooling that could be accomplished in this way would affect survival of coho salmon because temperatures would continue to be suboptimal. Further modeling is in progress.

The biological opinion issued by the National Marine Fisheries Service for the Klamath Basin coho salmon states that the Klamath Project harms coho in the Klamath main stem (NMFS 2001). The NMFS presents an RPA with three components: (1) higher monthly minimum flows for the main stem of the Klamath River for April through November as a means of maximizing habitat space in the main stem and suppressing maximum water temperatures, (2) suppression of ramping rates below Iron Gate Dam, and (3) coordination involving other agencies.

Figure 6 shows the minimum flows that are given by NMFS as part of its RPA, and shows minimum flows proposed by USBR as part of its biological assessment as well as historical low flows in dry and critical dry years (note that in selected months flows can be higher in critical dry years than in dry years because of water management practices). The RPA-proposed low flows are well above historical operating conditions, which in turn are above the minima proposed by USBR.

The proposed low-flow limits on the Klamath River may not be of significant benefit to the coho population. While the provision of additional flow seems intuitively to be a prudent measure for expanding habitat, the total habitat expansion that is possible given the limited amount of water that is available in dry years is not demonstrably of much importance to maintenance of the population. In wet years, any benefits from

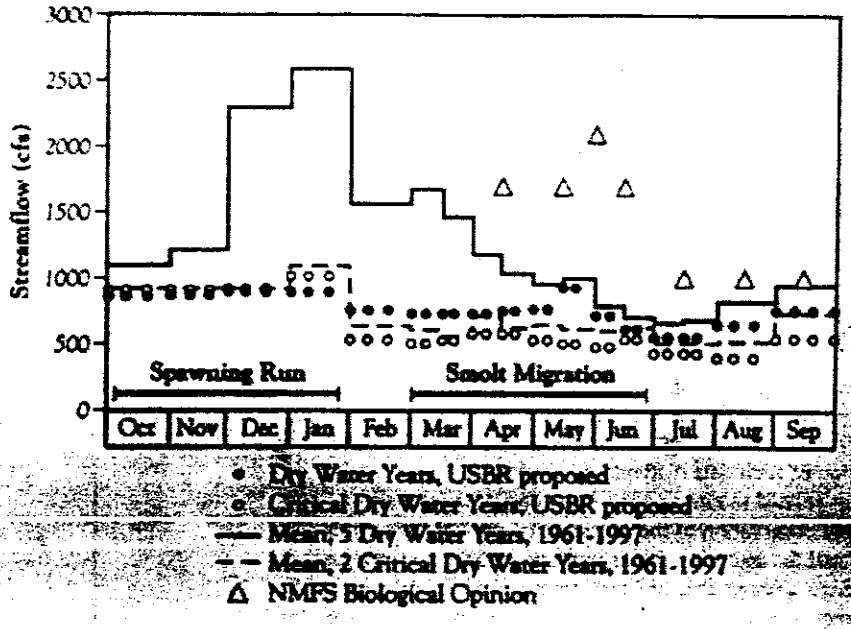

Figure 6. Three flow regimes for the Klamath River below Iron Gate Dam: USBR proposed (USBR 2001b: minima for dry and critical years), historical mean minima for dry and critical dry years, and RPA minimum flows from NMFS (2001). Hydrologic categories used by USBR in its proposals (dry years, critical dry years) are explained in the text.

increased flow will be realized without special limitations. Year classes that have high relative strength should have emerged from the wet years of the recent past flow regime if flow is limiting. This does not appear to have been the case in the past decade, however. Thus, factors other than dry-year low flows appear to be limiting to survival and maintenance of coho.

Higher flows may work to the disadvantage of the coho population from July through September if the source of augmentation for flow is warmer than the water to which it is added. Flows in the main stem include not only water passing the Iron Gate Dam, but also accruals from ungaged sources consisting of groundwater and small tributaries. This accrual water is likely to be much cooler than the water coming from upstream sources, which has been warmed by retention in lakes. Thus, the addition of larger amounts of water from the sequence of reservoirs above Iron Gate Dam may be disadvantageous to the fish. This issue apparently has not yet been studied in any rigorous manner, yet it is critical to the evaluation of higher flows in the warmest months.

Increased flows also could have a detrimental effect on the availability of thermal refugia. Thermal refugia created by groundwater seepage and small tributary flows may be most accessible and most extensive at low flows. Increase in flows may reduce the size of these refugia by causing more effective mixing of the small amounts of locally

derived cool water with much larger amounts of warm water from points upstream.

Progressive depletion of flows in the Klamath River main stem would at some point be detrimental to coho salmon through stranding or predation losses. Thus, incremental depletions beyond those that are reflected in the recent historical record could be accomplished only with increased risk to coho salmon. At the same time, the available information provides little support for benefits presumed to occur through the increase of flows beyond those of the last decade. While single-year or multiple-year averages of low-flow extremes beyond those presently reflected in the record cannot be supported, there also is presently little evidence of a scientific nature that increased low flows will improve the welfare of the coho salmon.

Modeling of temperature and habitat may be useful, but convincing evidence of a relationship between the welfare of the coho and environmental conditions must be drawn to some extent from direct observation. For example, year class strength, abundance of various life history stages, or other biological indicators of success, when related to specific flow conditions, would greatly improve the utility of modeling and other information. The small size and scattered nature of the present native coho population will make collection of such data difficult, however.

The RPA requirements related to ramping rates and coordination seem appropriate. Given direct field observation of the stranding of coho at the current ramping rates (NMFS 2001) and the mortality that is implicit in these observations, reduction in ramping rates seems a reasonable and prudent measure for protection of coho. Coordination, a final requirement of the RPA, is an obvious necessity given the need to optimize use of water for multiple purposes.

4. Conclusions

The NRC Committee on Endangered and Threatened Fish Species in the Upper Klamath River Basin has studied the USBR biological assessment on the shortnose and Lost River suckers, the USFWS biological opinion with its reasonable and prudent alternative (RPA) on these same species, and supporting documentation and has heard oral presentations and open public comment on the issues related to these endangered fishes in the Klamath River Basin. The committee finds strong scientific support for the requirements of the RPA except the requirement for specified minimum lake levels in Upper Klamath Lake. Extensive field data on the fish and environmental conditions in Upper Klamath Lake do not provide scientific support for the underlying premise of the RPA that higher lake levels will help maintain or lead to the recovery of these two species. At the same time, operation of Upper Klamath Lake at mean minimum levels below the recent historical ones (1990-2000), as could occur through implementation of the USBR assessment, would pose unknown risks in that these conditions have not been observed over the last 10 years, the interval over which good environmental documentation is available. The present scientific record is consistent with use of operational principles in effect between 1990 and 2000.

The NRC committee has studied the USBR biological assessment on the Southern Oregon/Northern California Coasts evolutionary significant unit of the coho salmon in the Klamath River Basin and the accompanying biological opinion prepared by the National Marine Fisheries Service, along with its RPA requirements, as well as supporting documentation, oral presentations of scientists contributing to research on this issue, and open public testimony. The RPA contains requirements for minimum flows in the Klamath River below Iron Gate Dam, limitations on ramping rate below Iron Gate Dam, and interagency coordination. The committee finds reasonable scientific support for the suppression of ramping rates as given in the RPA and for coordination. The committee does not find scientific support for the proposed minimum flows as a means of enhancing the maintenance and recovery of the coho population. The proposal of the USBR, however, as given in its biological assessment, could lead to more extreme suppression of flows than has been seen in the past, and cannot be justified either. On the whole, there is no convincing scientific justification at present for deviating from flows derived from operational practices in place between 1990 and 2000.

The conclusions of the NRC committee as presented above apply to interim management of the Klamath Project. The committee will make a separate analysis of the scientific evidence, including any new evidence, supporting various actions that might lead to improvement in stocks of endangered suckers and coho salmon in the Klamath River Basin over the long-term future.

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6. Appendix

STATEMENT OF TASK

The committee will review the government's biological opinions regarding the effects of Klamath Project operations on species in the Klamath River Basin listed under the Endangered Species Act, including coho salmon and shortnose and Lost River suckers. The committee will assess whether the biological opinions are consistent with the available scientific information. It will consider hydrologic and other environmental parameters (including water quality and habitat availability) affecting those species at critical times in their life cycles, the probable consequences to them of not realizing those environmental parameters, and the inter-relationship of these environmental conditions necessary to recover and sustain the listed species.

To complete its charge, the committee will:

1. Review and evaluate the science underlying the Biological Assessments (Reclamation 2001) and Biological Opinions (USFWS 2001; NMFS 2001).

2. Review and evaluate environmental parameters critical to the survival and recovery of listed species.

3. Identify scientific information relevant to evaluating the effects of project operations that has become available since USFWS and NMFS prepared the biological opinions.

4. Identify gaps in the knowledge and scientific information that are needed to develop comprehensive strategies for recovering listed species and provide an estimate of the time and funding it would require.

A brief interim report will be provided by January 31, 2002. The interim report will focus on the February 2001 biological assessments of the Bureau of Reclamation and the April 2001 biological opinions of the U.S. Fish and Wildlife Service and National Marine Fisheries Service regarding the effects of operations of the Bureau of Reclamation's Klamath Project on listed species. The committee will provide a preliminary assessment of [illegible] used by the Bureau of Reclamation, the Fish and Wildlife Service, National Marine Fisheries Service, as cited in those documents, and will [illegible] the level of effects in the biological opinions for fish and [illegible] National Marine Fisheries Service in consultation with [illegible] and identify any relevant scientific information [illegible] that has become available since the Fish and Wildlife Service and National Marine Fisheries Service prepared the biological opinions. The committee will also consider any other relevant scientific information of which it is aware.

The final report, due March 30, 2003, will thoroughly address the scientific aspects related to the continued survival of coho salmon and shortnose and Lost River

suckers in the Klamath River Basin. The committee will identify gaps in the knowledge and scientific information that are needed and provide approximate estimates of the time and funding needed to fill those gaps, if such estimates are possible. The committee will also provide an assessment of scientific considerations relevant to strategies for promoting the recovery of listed species in the Klamath Basin.

[redacted]

Receives 70-100% of power from WAPA

Increase in Purchase Power
cost up to ~ 21%

State	Municipality
MN	Adrian
MN	Benson
MN	Breckenridge
MN	Fergus Falls State Hospital
MN	Kandiyohi
MN	Lakesfield
MN	Luverne
MN	Nielsville
MN	Olivia
MN	Ortonville
MN	Shelly
MN	SW Minnesota State University
MN	Tyler
MN	Wadena
MN	Warren
MN	Westbrook
MN	Willmer Regional Treatment Center

Receives 70-100% of power from WAPA

Increase in Purchase Power
cost up to ~ 21%

State	Municipality
MT	3-Mile Pump
MT	Frazer & Valley - BIA
MT	Hammond Pump
MT	Kinsey Irrigation District
MT	Montana State Water Conservancy Board-Helena
MT	Montana State Water Conservancy Board-Sidney
MT	Prairie County Water & Sewer District #2

Receives 70-100% of power from WAPA

'ncrease in Purchase Power
cost up to ~ 21%

State	Municipality
ND	Belcourt & Florida Totton-BIA
ND	Burleigh Water Users
ND	Cavalier
ND	Dickey Rural Water Project
ND	Grafton State School
ND	Hillsboror
ND	Lakota
ND	Mclean-Sheridan Rural Water
ND	Missouri West
ND	ND State Water Commission - SW Pipeline Project
ND	North Dakota Mill & Elevator
ND	North Dakota State Hospital - Jamestown
ND	North Dakota State School for the Deaf
ND	North Dakota State School of Science
ND	North Dakota State University - Boulneau
ND	Northwood
ND	Park River
ND	Riverdale
ND	Sharon
ND	University of North Dakota - Grand Forks
ND	Valley City

Receives 70-100% of power from WAPA

ncrease in Purchase Power
cost up to ~ 21%

State	Municipality
NE	Arnold
NE	Beatrice State Development Ctr.
NE	Hastings
NE	Hastings Regional Center
NE	Nebraska State Penitentiary
NE	Norfolk Regional Center
NE	Peru State College
NE	University of Nebraska - Lincoln
NE	University of Nebraska - Omaha
NE	Wayne State College
NE	Winside

Receives 70-100% of power from WAPA

ncrease in Purchase Power
cost up to ~ 21%

State	Municipality
SD	Aberdeen
SD	Badger
SD	Big Stone City
SD	Bryant
SD	Burke
SD	Ellsworth Air Force Base
SD	Estelline
SD	Faith
SD	Groton
SD	Hecia
SD	Langford
SD	McLaughlin
SD	Miller
SD	Northern State University - Aberdeen
SD	Parker
SD	Pickstown
SD	Plankinton
SD	Rosebud Electric Coop
SD	SD Cement Plant
SD	SD School of Mines & Technology
SD	SD State Penitentiary
SD	SD State Training School
SD	SD State University - Brookings
SD	South Dakota Development Center
SD	University of South Dakota - Vermillion
SD	Vermillion
SD	Wassington Springs
SD	Winner
SD	SD Human Services Center - Yankton
SD	Springfield Correctional Facility

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
IA	Alta
IA	Coon Rapids
IA	Denison
IA	Glidden
IA	Hinton
IA	Lenox
IA	Manning
IA	Milford
IA	Orange City
IA	Sanborn
IA	Sibley
IA	Sioux Center
IA	Spencer
IA	Stanton
IA	Wall Lake
IA	Woodbine

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
MN	Ada
MN	Alexandria
MN	Barnesville
MN	Detroit Lakes
MN	East Grand Forks
MN	Fairfax
MN	Fosston
MN	Halstad
MN	Hawley
MN	Henning
MN	Jackson
MN	Lake Park
MN	Litchfield
MN	Lower Sioux
MN	Madison
MN	Moorhead
MN	Newfolden
MN	Nobles
MN	Redwood Electric Coop
MN	Redwood Falls
MN	Sauk Center
MN	Sprinfield
MN	St. James
MN	Stephen
MN	Thief River Falls
MN	Upper Sioux
MN	White Earth Indian Reservation
MN	Windom
MN	Elbow Lake

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
MT	Blackfeet Nation
MT	Central Montana Electric Power Coop.
MT	Chippewa Cree-Rocky Boy
MT	Crow
MT	Fort Belknap Indian Tribes
MT	Fort Peck Indian Tribes
MT	Northern Cheyenne

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
ND	Devils Lake Sioux
ND	Grafton
ND	KEM Electric Coop
ND	Standing Rock Sioux
ND	Three Affiliated Tribes
ND	Turtle Mountain Chippewa

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
NE	Blue Hill
NE	Callaway
NE	Grand Island
NE	Omaha Tribe of Nebraska
NE	Ponca Tribe of Nebraska
NE	Sanlee Sioux Tribe of Nebraska
NE	Spalding
NE	Wilber
NE	Winnebago Tribe of Nebraska
NE	Wisner

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
SD	Arlington
SD	Aurora
SD	Beresford
SD	Brookings
SD	Cheyenne River Sioux
SD	Colman
SD	Crow Creek
SD	East River Power Coop.
SD	Flandreau
SD	Flandreau Santee Sioux
SD	Fort Pierre
SD	Howard
SD	Lower Brule Sioux
SD	Madison
SD	Oglals Sioux - Pine Ridge
SD	Pierre
SD	Rosebud Sioux
SD	Sioux Falls
SD	Sisseton-Whapeton Sioux
SD	Tyndell
SD	Watertown
SD	Yankton Sioux

Receives 70-100% of power from WAPA

Increase in Purchase Power
cost up to ~ 21%

State	Municipality
IA	Akron
IA	Alton
IA	Anita
IA	Breda
IA	Corning
IA	Fontanelle
IA	Greetinger
IA	Harlan
IA	Hartley
IA	Hawardan
IA	Kimbellton
IA	Lake Park
IA	Lake View
IA	Laurens
IA	Manilla
IA	Mapleton
IA	Onawa
IA	Paullina
IA	Primghar
IA	Remsen
IA	Rock Rapids
IA	Shelby
IA	Villsca

PUBLIC COMMENT
U.S. ARMY CORPS OF ENGINEERS
MISSOURI RIVER MASTER MANUAL RDEIS HEARING
MICHAEL D. WELLS, CHIEF OF WATER RESOURCES
STATE OF MISSOURI
COUNCIL BLUFFS, IOWA – FEBRUARY 19, 2002

Good Evening. My name is Mike Wells. I serve as Chief of Water Resources for the State of Missouri. I thank the Corps of Engineers for this opportunity to comment.

Tonight I want to express a concern that the analysis of impacts to electricity production and pricing was not properly carried out and that the portrayal in the RDEIS is misleading to the public and their elected officials. Utilities in Missouri are concerned that several of the proposed alternatives would result in low summer flows which could cause NPDES violations of thermal standards and reduced power productions at the time when power is most needed and most valuable. We note that the Western Area Power Administration finds that these same alternatives, the so-called GP alternatives, do not take full advantage of the power production capacity of the Missouri River mainstem dams which then results in less power production and a decrease in WAPA revenues.* WAPA has informed us that the revenue shortfalls would be made up through rate increases to WAPA customers.* I offer for the record information provided by WAPA that names the communities in Montana, North Dakota, South Dakota, Minnesota, Nebraska and Iowa that would have their rates increased.

* INSERT

The communities in Iowa are: Akron, Alta, Alton, Anita, Breda, Coon Rapids, Corning, Denison, Fontanelle, Glidden, Greetinger, Harlan, Hartley, Hawardan, Hinton, Kimbellton, Lake Park, Lake View, Laurens, Lenox, Manilla, Manning, Mapleton, Milford, Onawa, Orange City, Paullina, Primghar, Remsen, Rock Rapids, Sanborn, Shelby, Sibley, Sioux Center, Spencer, Stanton, Villsca, Wall Lake, Woodbine.

The communities in Nebraska are: Arnold, Beatrice State Development Center, Blue Hill, Callaway, Grand Island, Hastings, Hastings Regional Center, Nebraska State Penitentiary, Norfolk Regional Center, Omaha Tribe of Nebraska, Peru State College, Ponca Tribe of Nebraska, Sanlee Sioux Tribe of Nebraska, Spalding, University of Nebraska-Lincoln, University of Nebraska-Omaha, Wayne State College, Wilber, Winnebago Tribe of Nebraska, Winside, Wisner.

INSERT

* THE STATE OF MISSOURI BELIEVES THAT THE CORPS HAS MISLEAD THE PUBLIC BY SHOWING THAT THE G.P. ALTERNATIVES PROVIDE THE GREATEST LEVEL OF HYDRO POWER BENEFITS TO THE NATION WHEN THE LOSS OF $10 TO $30 MILLION ANNUALLY IN REVENUES TO THE WESTERN AREA POWER ADMINISTRATION WAS NOT INCLUDED IN THE ANALYSIS. TO NOT CONSIDER THESE LOSSES IN REVENUES TO WAPA IN THE NATIONAL ECONOMIC DEVELOPMENT ACCOUNT DOES NOT COMPLY WITH PRINCIPLES AND GUIDELINES FOR PLANNING WATER RESOURCE PROJECTS

I would also like to enter into the record the "Scientific Evaluation of Biological Opinions on Endangered and Threatened Fishes in the Klamath River Basins" that was recently completed by a committee of the National Academy of Sciences. This report specifically examined the details of the Biological Opinions on three fish species in that river and found that two proposed actions were unjustified scientifically. The committee noted a lack of correlation between the proposed actions and expected results.

The following quote from the committee's principal findings appears to apply to the Missouri River as wells. "The committee, however, did not find clear scientific or technical support for increased minimum flows in the Klamath River main stem. Although the proposed higher flows are intended to increase the amount of habitat in the main stem, the increase in habitat space that can occur through adjustments in water management in dry years is small (a few percent) and possibly insignificant."

On the Missouri River, the Corps has determined that the low summer flows recommended by the Service would create only about 100 acres of tern and plover habitat along the entire length of the river. The Corps did not analyze tern and plover habitat along the reservoirs; habitat there would be lost to inundation in plans that incorporate the Modified Conservation Plan.

Clearly, the Corps of Engineers must examine in detail the changes in river management under consideration and their actual benefits. In performing this important task, the Corps must adjust for the negative effects caused by the higher lake levels that occur with all alternatives including loss of miles of free flowing river habitat, loss of tern and plover habitat around the reservoirs and degradation of remaining tern and plover habitat around the reservoirs.

Thanks you again for the opportunity to comment.

nebraska farm bureau federation
5225 S. 16th St., P.O. Box 80299, Lincoln, NE 68501 Phone: (402) 421-4400, FAX# (402) 421-4432

Statement of Rob J. Robertson

Vice President/Governmental Relations, Nebraska Farm Bureau Federation

February 19, 2002

My name is Rob Robertson and I am the Vice President of Governmental Relations for the Nebraska Farm Bureau Federation, the state's largest general farm organization.

First, I would like to thank the Corps for agreeing to another hearing near Nebraska prior to the closing of the comment date. Nebraska Farm Bureau represents many farmers and landowners on the Nebraska side of the Missouri River and we do appreciate one more opportunity to comment on the Revised Draft Environmental Impact Statement suggesting various options to manage flows on the river.

It probably comes to no one's surprise that we are strongly opposed to the flow changes now being considered – particularly the proposals that contain a "spring rise" and the low summer time flows. . The impact these proposals would have on farmers along the river will be devastating due to additional flooding and inland drainage problems. In addition, the low summer flow will prevent season-long commercial navigation on the Missouri – which is important for movement of grain to export and for prices farmers receive at their local elevators.

To emphasize the impact proposals such as the "spring rise" may have on a farmer's livelihood, I would like to quote from an unsolicited email I just got this morning from a farmer near Rulo, Nebraska. He starts out by saying... *"We farm along the Missouri and Nemaha rivers in SE Nebr. High river levels make it impossible to sleep for days with the stress and worries of losing our crops and not being able to take care of our families financial needs. Mother Nature causes that often enough without someone from outside our farms and communities that have nothing to lose trying to change something they know nothing about. The dams and levees were put there for one purpose and that was Flood Protection!*

ANY person that thinks a "spring rise" on my farm is such a good idea should stop and think about me wanting a "spring rise" that would flood their house and flood their job, flood their work place, stop their income for one whole year and watch the tears of fear and sadness running down the faces of their sons and their daughters and their wives, as they are now running down my face, as I am writing this letter. There is no one, in their right mind, that would want to take a chance that they could cause people to suffer this kind of pain from a "spring rise" that might?, might?, might?, help increase the numbers of a bird or fish." (End of Quote)

Since 1960, the Army Corps of Engineers has managed the Missouri River and its six dams and reservoirs to meet goals outlined by Congress: flood control (the primary purpose of the system), navigation, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife. Balancing these interests is not an easy task, but we believe the current water control plan in operation now is the best alternative.

What is wrong with supporting the original congressional intent for the Missouri River, which is to balance the multiple and competing, interests along the river? Now, because of endangered species concerns, the U.S. Fish and Wildlife and others want to change the balance -- in effect, giving species needs greater priority than other interests. We believe such changes upset the balance the Corps is seeking to achieve, and very likely reduce the benefits of flood control, navigation and hydropower we have come to enjoy.

Recently, the Missouri River Basin Association has endorsed a 10-year demonstration plan that proposes a trial period of higher spring flows and lower summer time flows. While we realize the emphasis MRBA has put on flexibility, monitoring and evaluation procedures during the demonstration period, 10 years is a long time anyway you look at it. Without a fully-funded program in place to compensate hardships and losses to landowners or a fully-funded mitigation program in place to deal with decreased navigation services, we would be hard pressed to believe that this proposal is any major breakthrough in dealing with flow changes on the Missouri River.

Farmers tend to develop solutions in a plain and simple way and maybe we are making the management of the Missouri River too complicated. Congress has a law in place that states flood control and other purposes should be balanced in the management of the Missouri River system. Listings under the Endangered Species Act have placed more focus on one of the eight purposes of mainstream reservoir system.

It would seem logical to us that some effort should be made to establish a baseline to accurately assess where we are now in terms of the condition and situation of the protected species of concern. For example, the International Piping Plover Census found that plover numbers have increased 470 percent along the Missouri River in the past five years and now just over a thousand plovers are found there. Susan Haig, director of the census and a U.S. Geological Survey scientist, said recent favorable habitat conditions along the river may have spurred the increase. In other words, the birds found and used the riverine habitat.

If it is determined that more habitat is needed along the Missouri River for certain species, modifications should be taken first to improve existing habitat by pursuing more enhancements of oxbow lakes, wetlands and other natural habitats along the river and in the reservoirs. We strongly believe that there would be landowner support for fish and wildlife habitat enhancement along the river as long as those approaches are voluntary and incentive-based.

If it is determined that more needs to be done to improve the habitat by altering the river flows, gradual changes could be examined within the framework of the current water control plan. At the same time, social/economic analysis evaluations should be conducted to coincide with any flow changes made solely due to a species habitat issue.

Nevertheless, future management decisions for the river should not ignore the primary purpose of the mainstream dam system of flood control and other important benefits it provides such as hydropower, and navigation. Moreover, those decisions should not threaten the people and communities along the river and they should not forget and place undue harm on individual farmers along the river who are a part of the foundation of our nation's food and fiber system.

SIERRA CLUB
FOUNDED 1892

Nebraska Chapter

P.O. Box 4664, Omaha, NE 68104

Comments on the Missouri River Master Water Control Manual Revised Draft Environmental Impact Statement

Public Hearing – Council Bluffs, IA – February 19, 2002

My name is Clyde Anderson of Omaha, Nebraska. I am Chair of the Nebraska Chapter - Sierra Club.

Sierra Club supports the GP 2021 Flexible Flow Alternative master plan because it is the closest to meeting our goals as defined in our Policy for Missouri River Management. A copy of this policy is attached and is available to the public on the Nebraska Sierra Club web site (http://nebraska.sierraclub.org/).

The Sierra Club sponsors outings on the Missouri River. I have been on many segments of the river including the entire 197-mile stretch from Booneville, Missouri to the confluence with the Mississippi River. Statements have been published that the Flexible Flow plan would harm recreational boating on the river. Perhaps this is true for a few big yachts, but low flows are not a problem for the majority of recreationists who use shallow-draft boats. Small boat users like us welcome the lower flows that would occur during part of the summer under the Flexible Flow Alternative. Lower flows not only make recreation safer but also expose sand and gravel bars, which are normally submerged during the navigation season, for picnicking, camping, or just observing wildlife. Most of us with shallow-draft boats use public boat ramps, and these ramps are generally useable at all river levels. This past Saturday (Feb. 16) I was at the twin ramps at N.P. Dodge Park, and based on the vehicles with trailers in the parking lot, at least eight boats had been launched. Many recreationists with small boats use the river all year when weather and ice conditions permit. Although most on the River this past weekend were probably fishermen, my wife and I were watching eagles.

I worked for 35 years in transportation, 31 of those years for Missouri Pacific and Union Pacific railroads in engineering, operations, and transportation planning. River navigation is not always a competitor to the railroads, but is often a partner in providing freight transportation. However, commercial navigation on the Missouri River provides neither meaningful competition nor partnership because most barge operators avoid this waterway with its seasonal operation, narrow channel, and swift current. Commercial tonnage on the Missouri peaked in 1977 at 3.3 million tons. Since then the volume shipped has declined and averaged only 1.6 million tons per year during the past 10 years. (See Table 1 and Exhibit 1.)

Lets compare these Missouri River tonnages with the volume of traffic moving on Union Pacific's route paralleling the Missouri River between Jefferson City and St. Louis. Traffic on that route segment grew from 11.5 million tons in 1977 to 43.0 million tons in 1999, nearly a four-fold increase. (See Exhibits 2 and 3.) Why didn't the Missouri River share in this traffic growth? The primary answer

is coal – most of the new tonnage moving on this rail line is coal originating in Wyoming and Colorado. About half that coal traffic is moving to rail-barge terminals on the Mississippi and Ohio rivers where the coal is transferred to barges for low-cost movement to final destination. This is an example of the railroad-navigation partnership I mentioned earlier. Why isn't the coal hauled to rail-barge terminals on the Missouri River? The biggest deterrent is that the Missouri River is shut down for at least four months a year. Huge storage facilities would have to be built to stockpile coal during the winter. Substantial investments in barges and tugboats would be idle during the winter unless they could be utilized elsewhere on the river system. Transferring coal and other commodities from rail to water at terminals on the Lower Mississippi and Ohio rivers is the low-cost option because these rivers are open all year.

Many farmers and agricultural associations object to the Flexible Flow Alternative because the eight-week cessation of navigation during mid-summer would have an adverse impact on shipments of food and farm products. We believe the impact would be minimal. Only 730,000 tons of food and farm products moved on the Missouri River in 1999[1]. This amounts to less than one percent of the quantity of these products produced in Iowa, Nebraska, Kansas, and Missouri. According to a 1999 study by economists Michael Babcock at Kansas State University and Dale Anderson at the University of Nebraska Lincoln[2], commercial navigation on the Missouri River provides minimal, if any, benefits to shippers of farm products. They forecast no growth in this traffic on the river for several reasons:

1. The depressed volume of U.S. grain exports except to Mexico, and most grain exported to Mexico moves via rail or truck.
2. The increasing use of farm products locally for making ethanol, sweeteners, oils, etc. The Cargill-Dow plant at Blair, NE is even making plastic out of corn!
3. The huge growth in factory farming means much more grain is consumed locally to feed livestock, hogs, and poultry. These short-haul grain hauls move mostly by truck. The meat being produced is shipped nationally and internationally, again, mostly by truck.

Barges aren't the only ones hurt by these market changes. Railroads are hauling less grain, too.

For the past 70 years the Missouri River has been managed in a manner to promote commercial navigation at the expense of many other users, especially wildlife and recreation. The Sierra Club believes the Variable Flow Alternative is an excellent compromise management plan.

Clyde L. Anderson

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1 Waterborne Commerce of the United States, U.S. Army Corps of Engineers

2 "Does Barging on the Missouri River Provide Significant Benefits?" by Michael W. Babcock and Dale G. Anderson. Environmental Defense Fund, 1999.

Table 1
MISSOURI RIVER TONNAGE HISTORY
1973 - 1999

	Missouri River		Union Pacific Railroad Jeff City-St. Louis Route	
Year	Commercial Tons*	Total Tons	Gross Tons	Net Tons#
1973	1.8	6.4	19.6	9.4
1974	2.6	7.7	20.1	9.6
1975	2.3	6.2	19.1	9.2
1976	3.1	6.6	23.4	11.2
1977	3.3	6.7	23.9	11.5
1978	3.2	7.9	24.9	12.0
1979	3.1	7.7	25.1	12.0
1980	2.9	5.9	24.2	11.6
1981	2.5	5.3	23.2	11.2
1982	2.5	4.9	18.3	8.8
1983	2.9	6.3	21.9	10.5
1984	2.9	6.4	22.3	10.7
1985	2.6	6.5	24.1	11.6
1986	2.3	7.0	24.7	11.9
1987	2.4	6.7	19.6	9.4
1988	2.2	6.7	28.7	13.8
1989	1.9	5.4	27.1	13.0
1990	1.3	5.8	33.1	15.9
1991	1.6	5.7	35.2	16.9
1992	1.4	5.8	35.3	16.9
1993	1.6	5.6	37.5	18.0
1994	1.8	8.5	44.5	21.4
1995	1.4	6.9	46.0	22.1
1996	1.6	8.2	53.4	25.7
1997	1.7	8.2	63.7	30.6
1998	1.8	8.4	82.9	39.8
1999	1.7	9.3	89.7	43.0

Notes: * - Commercial tons excludes short-haul movements of sand, gravel, and waterway materials.

- Net tons (lading weight) is estimated by multiplying gross-tons by 0.48, UP's system avg. net-ton/gross-ton ratio.

Data Sources: Waterborne Commerce of the United States

Union Pacific Gross Ton-Mile Maps

Exhibit 1

Missouri River Navigation Tonnage

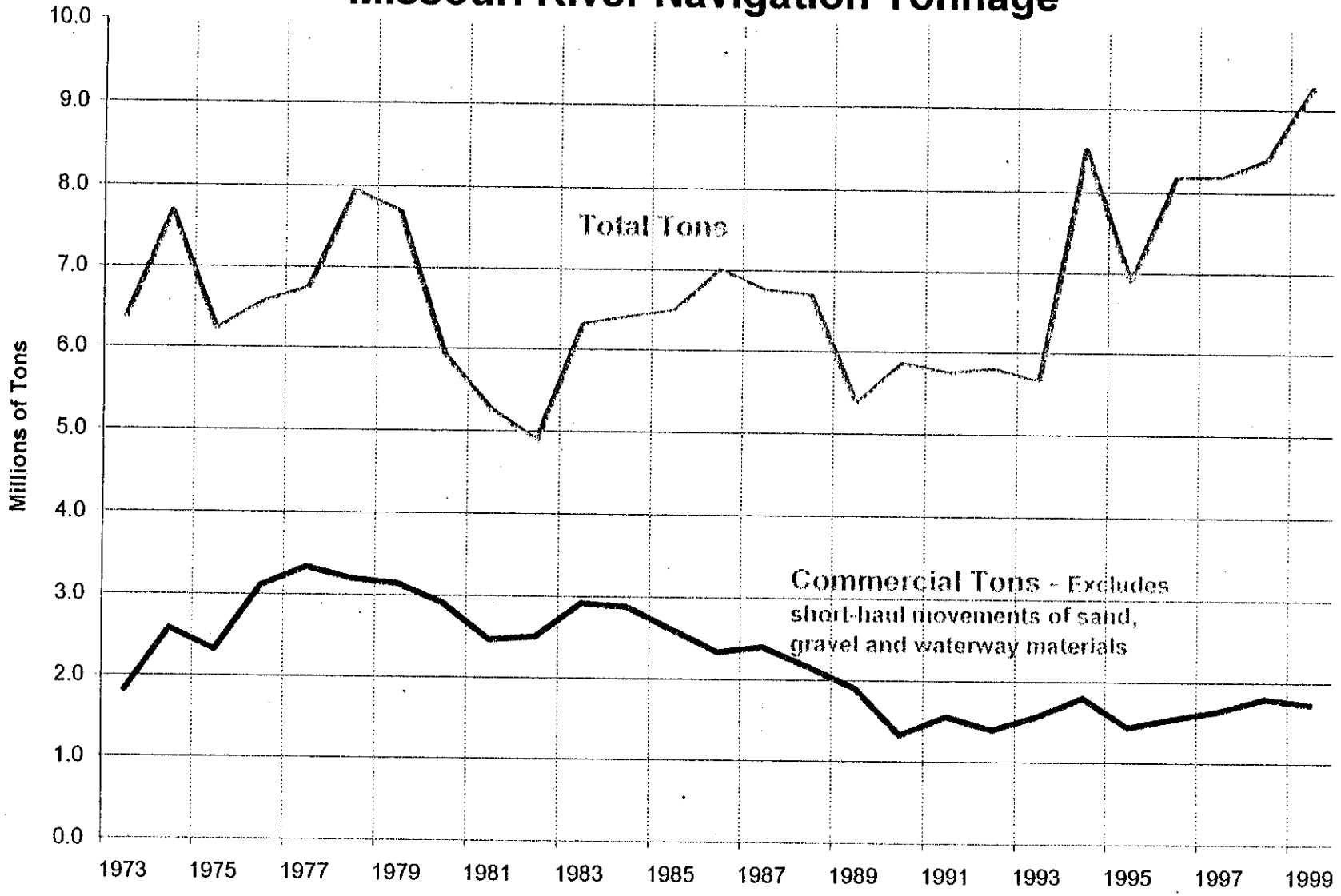
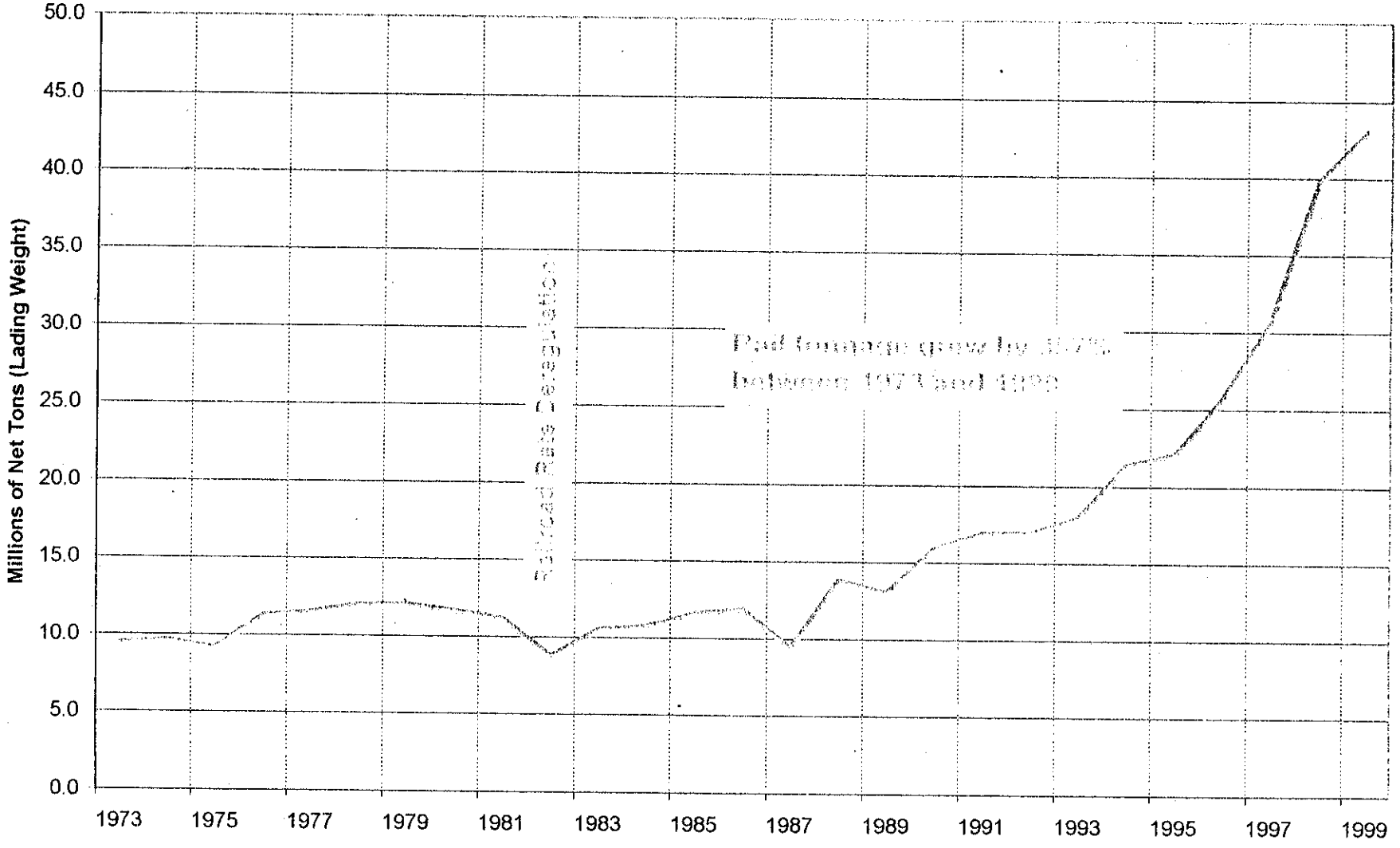


Exhibit 2

Railroad Net Tonnage

Union Pacific's Jefferson City - St. Louis Route Segment

Parallels the Missouri River



File: Barge-Rail Tonnage History

Nebraska Chapter - Sierra Club

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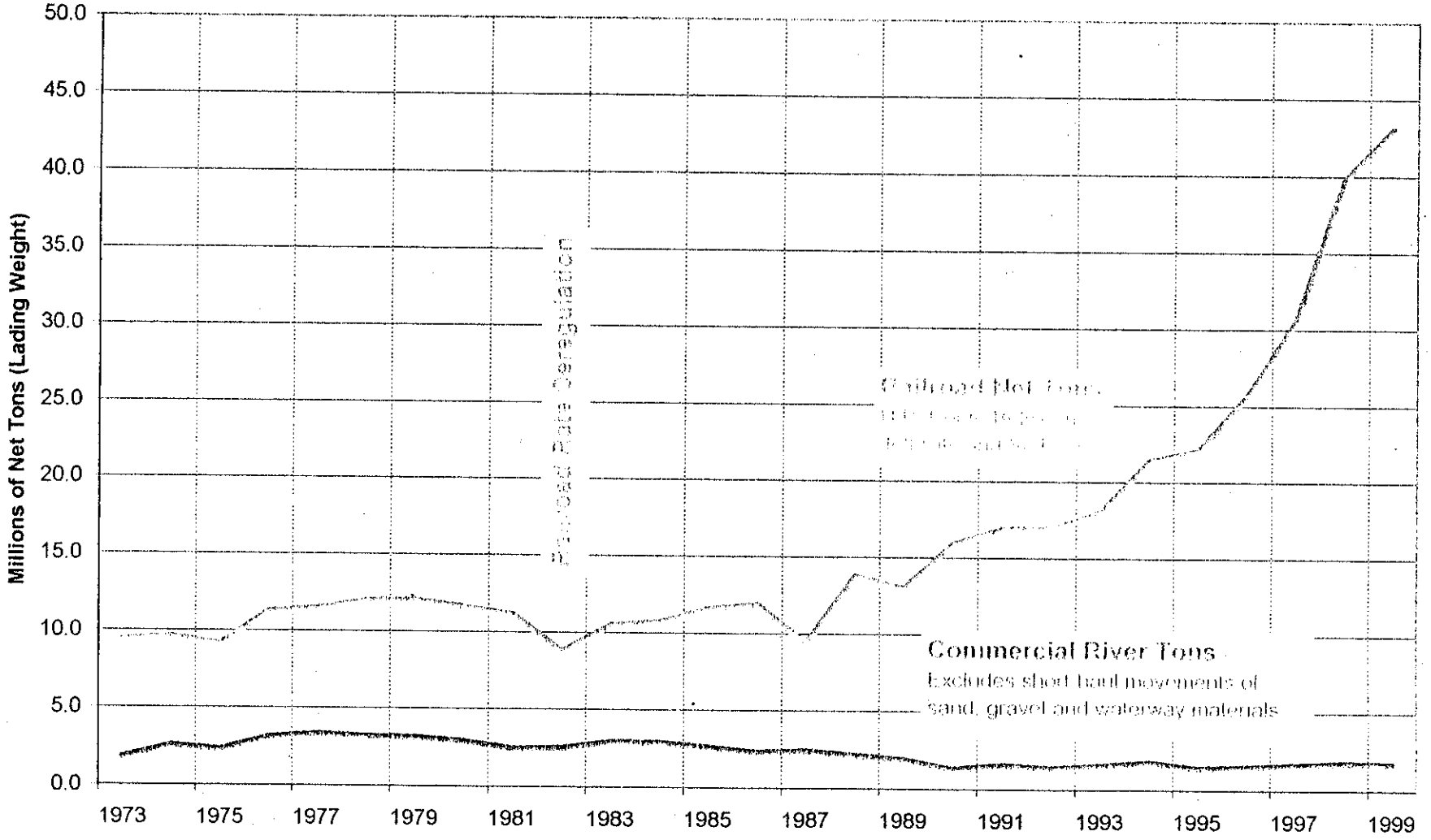
Exhibit 3

River and Railroad Commercial Tonnage

Missouri River Commercial Traffic and Union Pacific's Jefferson City - St. Louis Route



SIERRA CLUB
FOUNDED 1892

Nebraska Chapter

P.O. Box 4664, Omaha, NE 68104

SIERRA CLUB POLICY FOR MISSOURI RIVER MANAGEMENT

Adopted by the Nebraska Chapter on September 15, 2001
Adopted by the Northern Plaines Region Conservation Committee on October 14, 2001

1. Support native habitat restoration
   - Discussion: This should be an over-riding goal of Missouri River Management, and all other management goals and recommendations should be subservient to this main management goal.

2. No new dams in the Missouri River basin.
   - Discussion: Current dams have caused major disruptions in the ecology of the basin. No new dams should be considered in any of the major or minor tributaries of the River.

3. No new levees that protect beyond "agricultural" level (5 year flood)
   - Discussion: "Industrial" (100+ year protection) levees have separated the river from its floodplains - see #8 below.

4. Support basin-wide mitigation funding
   - Discussion: 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 should support appropriations to the Corps targeted for such mitigation.

5. Support Conservation Easement funding
   - Discussion: Short of outright purchases of floodplains and riverine wetlands (through such efforts as the USFWS' Big Muddy Wildlife Refuge), easements could be purchased through WRP, EWRP, and other long-term or permanent set-aside programs.

6. Support monitoring for water quality, habitat quality, species decline, species recovery
   - Discussion: 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 - particularly those that are listed as "endangered", but also to prevent habitat loss and consequent indigenous species decline. It is much easier to prevent species from becoming threatened or endangered than it is to recover species on the brink of extinction. This monitoring should be conducted by the USGS, USFWS, and states' fish and game management agencies.

7. Support Adaptive Management
   - Discussion: This goes hand-in-hand with monitoring. If it is determined that some aspect of the management plan is not having the expected results, the Corps and other state and federal agencies should make adaptive changes to the management plan to address the problems. The adaptive management monitoring and subsequent recommendations for changes should be conducted by the US Geological Survey.

8. Reconnect floodplains and river - levee setbacks (one example)
   - Discussion: The Missouri River should not be limited to a channel designated by the US ACOE, but rather should be allowed to expand into its floodplain during high-water events. "Industrial" levees should be set back sufficient distances (1500' has been proposed) from the Ordinary High Water Mark to allow an escape valve for flood water, to replenish the floodplain and to allow restoration of the riparian corridor.

9. Support managing the Missouri River for other than navigational purposes. (See #1 above)
   - Discussion 1: Cost-benefit analysis does not warrant management of river for navigation; barge traffic peaked in the '70s and has been in decline ever since, yet the Corps continues to manage the lower basin (below Gavins) for a non-existent barge industry (12% to 20% of original expectations). The results have been ecological destruction and loss of species throughout the basin and negative impacts upon upper-basin resources. Elimination of management for navigation would allow 1) restoration of a more natural lower river channel below Sioux City, 2) partial restoration of seasonal in-stream flows, and 3) elimination of a heavily subsidized and uneconomic system.
   - Discussion 2: We can find no evidence that navigational flows on the Mississippi River are in any way dependent upon Missouri River flows. Questions were directed to all state and federal agencies and none asserted that navigation on the Mississippi was related to the Missouri.

10. Support "unbalancing" the reservoirs
    - Discussion: 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 (see #7 above) should be utilized to ensure that the results are positive.

11. Oppose bank stabilization and destruction of riparian zone - basin-wide
    - Discussion: See #s 2, 4, and 8 above.

12. Support setbacks for housing/residential developments - see statement on P&Z county protection, floodplain preservation, riparian zone protection, and setbacks for aesthetics. Minimum protection for 100-year flood level.
    - Discussion: 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 Sierra Club supports and will 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.

13. Support more dependence on natural systems - less on engineering
    - Discussion: We prefer natural rivers and natural systems over manipulated ones. Unintended consequences of engineering "solutions" often create more problems than are solved.

14. Need a Sierra Club entity to focus on Missouri River Basin (using Lewis and Clark Bicentennial funding, for example)

15. We support the "Split-Season" flow regime for spring high flows 1 of every 3 years, low summer flows each year. However, the "fall rise" is not historically nor ecologically justified.
    - Discussion 1: We support flow modification to manage MO River for wetland communities, populations of all indigenous wildlife species, endangered species recovery, habitat restoration and recreation by higher spring rise, low summer flows. Fall flows should be determined by adaptive management reviews by the USGS with integral independent review and analysis.
    - Discussion 2:Fall rise is not justified by the historic hydrographic records and we consider it to be artificial and unnecessary; apparently it is advocated by the state and federal agencies to ensure sufficient flow for navigational interest. It is our position (see #9 above) that the River should not be managed for navigation.
    - Discussion 3:Low flow in summer should be sufficient to protect other interests (recreation, species, habitat restoration)
    - Discussion 4: Caveat: Flow modification should have little impact beyond 60 miles below Gavins - at least not from Sioux City on down. Natural flows from the rivers below Gavins Point provide attenuation of the impacts of flow releases from upstream.
    - Discussion 5: We view the "split season" flow regime as one quite small component of a return to a more natural river hydrograph. Too much emphasis has been placed on this component by upstream and downstream political interests.

16. Retirement of Gavins Point dam as a flood control or water retention structure.
    - Discussion 1: 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.
    - Discussion 2: We support finding ways to redistribute the sediments and water-flows necessary to rebuild the natural communities of the entire lower Missouri River to the Gulf of Mexico.
    - Discussion 3: Short of physical removal of Gavins Point, it should become a "run of the river" structure (water in, water out).

17. Opposition to out-of-basin diversions
    - Discussion: 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.

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

19. Concerns about hydroelectric generation.
    - Discussion: We took no position on this issue pending the acquisition of additional information.

20. Impacts of managing for recreation.
    - Discussion: While supporting ecologically-sustainable recreation in the Mo R 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.

21. Concerns about Sturgeon fishing/harvest (inability of anglers to identify Pallid from Shovelnose).
    - Discussion: No position taken. Awaiting further information - position to be established later

22. Dredging - disruption of deposited sediment
    - Discussion: While there exists dire need for redistribution of sediments (see #16 above), 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.

23. We oppose the introduction of non-native species and support efforts to reduce current populations that have been previously introduced.
    - Discussion: 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. (National Sierra Club policy adopted 12-10-94).

February 19, 2002

Oral Testimony:

Council Bluffs, Iowa Public Hearing
Revised Draft Environmental Impact Statement
Missouri River Master Water Control Manual
United States Army Corps of Engineers
Northwest Division

Hydropower Cost Impacts

Good evening. My name is Randy Asbury and I'm Executive Director of the Coalition to Protect the Missouri River. The remarks I will be providing tonight in regard to hydropower energy impacts have been provided by John Pozzo of Ameren.

In the Revised Drat Environmental Impact Statement the Corp evaluated the impact of the various flow alternatives on hydropower energy production. Tonight I would like to call to the attention of the good citizens of Iowa and Nebraska the potential impacts of reduced summer flows on their cost of electric service if certain flow alternatives are selected by the Corps.

The Western Area Power Administration (WAPA) markets and delivers reliable, low cost hydroelectric power within a 15 state region of the central and western U. S. The Power Administration derives a portion of its energy production from the six dams and hydropower facilities located on the upper Missouri River. Electricity generated by these facilities is marketed to rural cooperatives, municipalities, public utility districts, irrigation districts, Native American Tribes, and Federal and State agencies. If insufficient amounts of electricity are generated within the Power Administration, energy would be purchased from other sources to meet customer demand.

The amount of electricity generated by any hydropower facility is dependent upon the amount of water passing through the turbine-generators at the dam. Less water flowing through a dam creates less electricity production. Less electricity production creates the

need to secure power from other sources. Since hydroelectric plants are the most economical means of producing electricity, the acquisition of power from other sources such as coal, oil, gas, or nuclear power plants will come at a cost premium.

The four GP plans proposed by the Corps all have significantly lower summer flows than the CWCP. This low summer river flow comes at a time when demand for electricity is typically at its highest. Because of the high demand for energy during the summer, and the limited availability of excess power, the price of purchased power is also at its highest.

The upper Great Plains Region of the Power Administration calculated revenue impacts of the CWCP and the GP options to assess the potential impact to their customers. The analysis revealed that electric rates would increase on any proposed GP plan due to reduced generation from lower summer flows and the need to purchase more expensive power from outside sources.

For the GP1521 plan, the Power Administration estimates a 21% increase in purchase power cost for customers that receive 70% to 100% of their power from the Administration, and a 12% increase in purchase power cost for customers that receive 40% to 70% of their power from the Administration.

Although I will not take the time to identify the customers in Iowa and Nebraska that will be affected by these rate increases during my verbal comments, I have provided a complete customer list as part of my written comments.

Most everyone acknowledges that the Missouri River needs change. The contentiousness of the issue, however, revolves around whether the FWS recommendations will actually benefit anything or if it's even needed for certain species. FWS demands a more "natural" hydrograph (i.e. spring rise) for the piping plover and least tern. Research completed by the Missouri River Technical Committee term this assumption "unfounded." They report, "...the timing of the spring rise and the brooding and mating

season very nearly coincide...The proposed USFWS spring rise once every three years during June, like the natural spring rise, will flood the sand bar habitat of the least tern and piping plover at the time they are mating and nesting...Accordingly, the natural hydrograph is not the best hydrograph for the least tern and piping plover. This contradicts the USFWS' basic assumption on which they have devised the flow modification scheme."

The Environmental News Service on January 25 stated that USGS estimates in their 2001 International Piping Plover Census show the plover population has increased "470 percent in five years and 140 percent in the decade" along the Missouri River. This increase has occurred under the current water control plan. The December 2000 Biological Opinion states it plover recommendations were based on "a substantial decline in population numbers." The current water control plan has benefited the plover; therefore, we request that formal consultation be reinitiated on the Biological Opinion as it relates to this new information about plover populations.

My last comment regards the role of, or lack thereof, of MRBA in representing the states' interests. We contend that MRBA doesn't represent or characterize state positions in an appropriate manner and uses their voice and position to skew recommendations. Therefore, we question the need for Missouri or Iowa to participate in this biased organization.

NOTE: Electric rates would increase on any proposed GP Plan (formerly referred to as MR plans). The information below represents those municipalities that would be affected by the increase in purchase power costs resulting from reducing the low summer flow to 21 feet outlined in GP1521 & GP2021.

Receives 70-100% of power from Western Area Power Administration (WAPA)

Increase in Purchase Power
cost up to ~ 21%

State	Municipality
IA	Akron
IA	Alton
IA	Anita
IA	Breda
IA	Corning
IA	Fontanelle
IA	Greetinger
IA	Harlan
IA	Hartley
IA	Hawardan
IA	Kimbellton
IA	Lake Park
IA	Lake View
IA	Laurens
IA	Manilla
IA	Mapleton
IA	Onawa
IA	Paullina
IA	Primghar
IA	Remsen
IA	Rock Rapids
IA	Shelby
IA	Villsca

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
IA	Alta
IA	Coon Rapids
IA	Denison
IA	Glidden
IA	Hinton
IA	Lenox
IA	Manning
IA	Milford
IA	Orange City
IA	Sanborn
IA	Sibley
IA	Sioux Center
IA	Spencer
IA	Stanton
IA	Wall Lake
IA	Woodbine

NOTE: Electric rates would increase on any proposed GP Plan (formerly referred to as MR plans). The information below represents those municipalities that would be affected by the increase in purchase power costs resulting from reducing the low summer flow to 21 feet outlined in GP1521 & GP2021.

Receives 70-100% of power from Western Area Power Administration (WAPA)

Increase in Purchase Power
cost up to ~ 21%

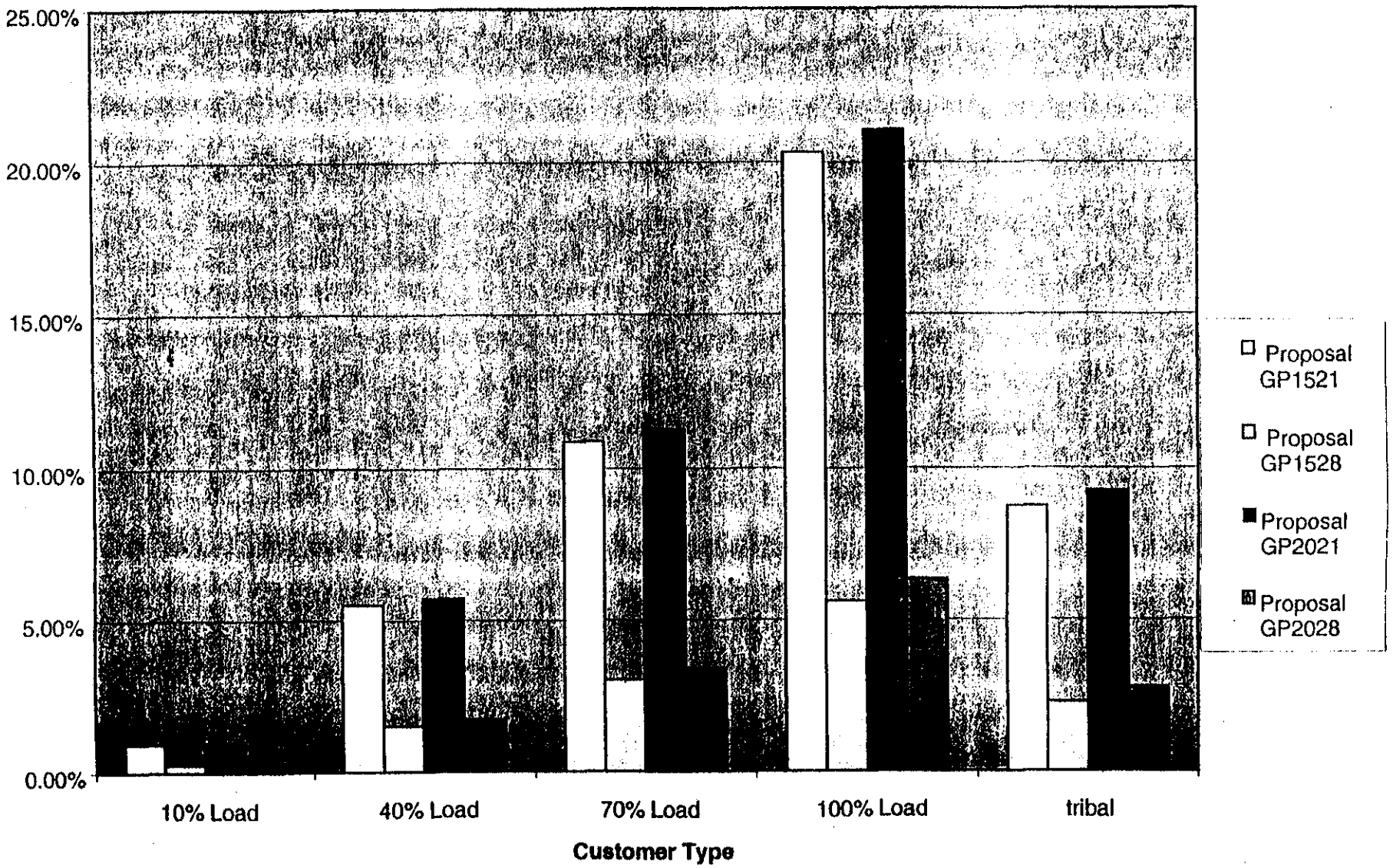
State	Municipality
NE	Arnold
NE	Beatrice State Development Ctr.
NE	Hastings
NE	Hastings Regional Center
NE	Nebraska State Penitentiary
NE	Norfolk Regional Center
NE	Peru State College
NE	University of Nebraska - Lincoln
NE	University of Nebraska - Omaha
NE	Wayne State College
NE	Winside

Receives 40-70% of power from WAPA

Increase in Purchase Power
Cost up to ~12%

State	Municipality
NE	Blue Hill
NE	Callaway
NE	Grand Island
NE	Omaha Tribe of Nebraska
NE	Ponca Tribe of Nebraska
NE	Sanlee Sioux Tribe of Nebraska
NE	Spalding
NE	Wilber
NE	Winnebago Tribe of Nebraska
NE	Wisner

Increase in Purchase Power Cost



BRINGING RIVERS TO LIFE

American Rivers
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Comments of Chad Smith of Lincoln, Nebraska
On the Missouri River Master Manual Revised Draft Environmental Impact Statement
Council Bluffs, Iowa
February 19, 2002

My name is Chad Smith. I live in Lincoln, Nebraska. I am Director of the Nebraska Field Office for the national river conservation organization American Rivers.

On January 9th, the National Academy of Sciences released its report on the Missouri River, *The Missouri River Ecosystem: Exploring the Prospects for Recovery*. The conclusions of the report were definitive: that the Missouri River ecosystem is degrading, that enough data exists to take action, and that we should get busy.

That report puts to rest the claim that "science" does not support restoring more natural flows to the river. To be clear, here is a telling quote from the Academy report:

"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."

So, the science can no longer be ignored. The proper discussion is no longer "if" flow changes should be made, but instead "how" we go about it.

The U.S. Fish and Wildlife Service provided recommendations for a starting point in its Final Biological Opinion. You, the Corps, used those recommendations to develop several dam operation alternatives that would restore, in a modest way, some portion of the Missouri's natural flow. None of them are the "silver bullet" solution. But, they point us in the right direction.

The conservation community continues to support what we call the "Flexible Flow" alternative, which you identify as GP2021. It is the only alternative now on the table that fully captures the science-based recommendations of the Fish and Wildlife Service. It would give you the flexibility to restore more natural flows on the Missouri, an action that scientists with the Fish and Wildlife Service, the Missouri River Natural Resources Committee, and the National Academy of Sciences, just to name a few, all recognize as the priority action that must be taken to help the Missouri River stop its slide toward collapse.

Last week, six states that are part of the Missouri River Basin Association weighed in on this issue. Reflecting on both the Biological Opinion and the National Academy of Sciences report, the basin states of Kansas, Nebraska, Wyoming, South Dakota, North Dakota, and Montana all

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formally recommended that the Corps begin implementing a plan of experimental test flows out of Gavins Point Dam. That is a major breakthrough, and hopefully it signals to decision-makers outside the basin that the status quo will no longer suffice.

These six states provide you with a possible starting point, from which you could work your way toward the "Flexible Flow" alternative and begin the process of restoring the health of this most historic river system. Modest flow changes alone will not restore the Missouri River, but flow changes must be a part of any restoration plan for the river. Ignoring this fact, and delaying action, is simply not an option.

You have spent millions of taxpayers dollars over the past 12 years to analyze how these potential flow changes would benefit fish and wildlife, but also how they would impact people living along the river. The concerns of farmers, power consumers, city dwellers, and others are just as important as those of native fish and wildlife species, and all of those concerns must be addressed.

Flow changes on the Missouri will not be without impact. Instead, we need to focus on how extensive will these impacts be, how we best monitor and account for these impacts, and how we minimize or eliminate the cost various river users bear as we make changes on the river.

There is a long list of numbers from the Corps that shows how modest flow changes can be implemented without causing undue impact on current uses of the river – we'll get 99% of the current flood control benefits, 2% greater annual hydropower benefits, no major flooding of farmland, navigation on the Missouri in the spring and fall, improved navigation on the Mississippi River, and the list goes on.

But, we cannot ignore the fact that there will be impacts, though we cannot let such impacts stop us from moving forward. All river interests have to work together to come up with a plan to deal with those impacts utilizing the tools of mitigation and compensation. It won't be easy, and in some ways it might be unprecedented, but it can be done, and it must be done. Nobody should have to bear the burden alone of bringing this great river system back to health.

However, we should also not fail to recognize the benefits of a restored Missouri River. Healthy populations of native fish and wildlife are important, but consider the tremendous benefits of increased opportunities for recreation and tourism. A healthy Missouri River will be a much better attraction for those that want to fish from its banks, picnic on its sandbars, hike along its course, and boat on its water.

There is no question that there is recreation on the Missouri River on the Nebraska/Iowa border. But it is nowhere near what it could be, and many are prevented from using and enjoying the river at all. We are all missing out on tremendous economic benefits that a healthy Missouri River could bring.

For example, the Missouri River also runs through the city of Bismarck, North Dakota. There, the river is wide, there is shallow water, there are sandbars and islands, and river levels move up and down. I urge everyone here to visit Bismarck on any summer day, and you will find

probably 10 times as many people on the river as there are at the same time in Council Bluffs and Omaha – big power boats, jet skis, canoeists, anglers, kids swimming on sandbars, and dozens of other river activities. Several marinas operate continually throughout the summer and are adapted to fluctuating river levels. There is even a large excursion paddle-wheeler that operates on the river in Bismarck, taking large groups of people for slow cruises on the river.

So, it is obvious that a restored and healthy Missouri River holds enormous economic potential. We just need leaders and agencies like the Corps to let us tap into that potential, and to let us make a broader vision for the Missouri a reality. With a little elbow grease, we can make the Missouri River truly a better asset for Council Bluffs, Omaha, and every community along its length.

This approach makes good environmental sense, but also good economic sense. Here's another quote from the National Academy of Sciences report that stands out:

"On the Missouri River, there is a distinct prospect that...ecosystem restoration may be justifiable solely on the grounds that it represents an economic improvement on current mainstem dam operations."

We do enjoy many benefits of the Missouri River system as it is now managed, like flood control and hydropower. But, we also bear the burden of a river system that is in a sad state of decline. The Missouri is everyone's river. Those that farm the floodplain and operate barges on the river own it equally with those that fish its shallows and hunt its backwaters. It is time that due consideration is given to everyone.

We can have our flood control, our hydropower, and our floodplain farming. But, at the same time, we can also have better fishing, better hunting, and a healthy river.

As you finalize your plans for reforming how you manage the Missouri, we urge you to consider the leadership role you have before you. You have the opportunity to help us come together to restore and revitalize a river system that cuts through the heart of this basin and this nation. Please seize that role.

Thank you.

Audubon NEBRASKA

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To: Army Corps of Engineers
From: Dave Sands, Executive Director, Audubon Nebraska
RE: Testimony in favor of a new Missouri River management plan
Date: February 19, 2002

A few days ago, I testified at a hearing on efforts to comply with the Endangered Species Act (ESA) on the central Platte River. While it is a much different river with different issues, there are some striking similarities. Both rivers are extremely important for wildlife

~~There is a need for higher spring flows to establish sandbars for piping plovers.~~ There is resistance to change, as both rivers ~~have been primarily managed for a single use over most of their post-settlement history~~. Making a first step toward a more balanced approach has also been a long and expensive process. On the Platte, it took 13 years to relicense Kingsley Dam, and efforts on the Missouri have broken this dubious distinction by taking nearly 15 years, and we are still counting. Now with the recent position taken by the Missouri River Basin Association (MRBA), there can be one more very important similarity: A goal to create a management plan that begins to restore the ecosystem for wildlife while minimizing any adverse consequences for people.

With the latest report from the National Academy of Sciences, there should be little question about the need for a change. It is perhaps the strongest indication to date that the Corps must change management to comply with the ESA. The release of this report offers the Corps a perfect opportunity to ~~finally admit~~ that the best science available indicates that a change is needed.

In doing so, the Corps would be in good company, as the MRBA has essentially stated the same position, breaking with its past history of supporting the status quo. The significance of this change should not be minimized, as it opens the door to a measure of consensus that would start the river down the road to recovery. At the same time, it would do so in careful, measured steps to ensure that we are benefiting wildlife ~~without harming~~ people.

In some ways, the proposal from the MRBA represents the future of ESA compliance. It is built upon adaptive management, which recognizes that current science is only a snapshot in time, and as our knowledge of the river improves, so can our management. The proposal also calls for stakeholder involvement, which should be at the top of any conservation agenda. Finally, it offers realistic goals that are to be achieved during a prescribed period of time.

While the MRBA proposal does not offer everything everybody wanted on either side, it does offer a historic opportunity for everybody to start working together. Please seize this opportunity so that the Missouri and Platte rivers can have one more thing in common: A stakeholder-driven recovery program focused on good science and crafted to reduce economic conflicts.

TESTIMONY FOR MISSOURI RIVER MASTER MANUAL
U.S. ARMY CORPS OF ENGINEERS

FEBRUARY 19, 2002

Thanks for the opportunity to say a few words for the record. I am M.J. (Jim) Whiting, 80-year resident of the Missouri River Valley, who remembers the flood of 1952 very well.

Also the designated representative of the Monona County, Iowa, Board of Supervisors. Monona County's western border is the Missouri River. The Board of Supervisors is trustees for 54 legally constituted drainage districts. Also in our county there are 30 districts that have their own elected governance boards in addition to the other 54 districts. Of the 446,000 acres in Monona County 278,000 are in drainage districts. Increased spring releases from Gavins Point would further compound their problems by backing up drainage.

Isn't the prime purpose of the Pick-Sloane Plan flood control, which has certainly enhanced development?

One fact overlooked is the U.S. population; 5 million in the time of Lewis & Clark versus 280 million presently. 560 people today for each one person in 1800. Do we want to upset the infrastructure that makes this possible? Seems a lot of outsiders like Ms. Ragsdale, Des Moines Register Editorial writer, think they are experts because they have driven through the valley!

Considering the mission of Pick-Sloane and Lewis & Clark (development of the Louisiana Purchase) a spring rise and a low summer flow are a scenario for disaster for a presently highly workable system. By putting water in basements, adding to construction costs and reducing electric power production in peak demand periods, possible increase in shipping costs if we lose water compelled rates, putting out of business a highly developed recreation industry (boats and marinas) and further degradation of the channel by increased spring flows.

Iowa has had a problem when only our DNR with their tunnel vision was dictating this scenario. The people directly involved have changed that by getting a broader input. I sense the same is going on in other areas when I read the submission of the Papio/Missouri River Natural Resource District.

All of these things plus the report of the National Academy of Science lead me to be very skeptical of what I see in the summary of Missouri River Revised Draft Environmental Impact Statement...Master Water Control Manual. Also have heard nothing about the effect of changing things to MAYBE save three species when in a normal year about 100 species disappear.

Do we really want the dinosaur and the three-toed horse, mountain lions and bears back? Saving the three listed species could cause more problems than one could imagine. In my lifetime have seen deer increase from near extinction to becoming a problem. Same with Canadian geese. And we now have wild turkeys that cause havoc in some areas. Nature adapts.

As I said, I am speaking for Monona County Board of Supervisors, and they want in the record that saving the listed species could well extinct one of much greater importance.....the local property tax payer.

Thanks. Unless there are some questions I can answer, I yield the balance of my time.

THE SPRING RISE

The USFWS claims to have enough scientific data to not only justify, but make necessary a change in the Missouri river hydrograph. This change is supposed to aid the recovery effort of the Pallid Sturgeon, Least Tern, and Piping Plover. Common sense should tell anyone with a basic knowledge of the situation, this is not true.

The Pallid Sturgeon: USFWS says the spring rise "may" cue the spawning of the pallid, but there is convincing evidence available that shows the Pallid is already being cued, and that cue is a water temperature of 65 degrees. There is also evidence that the Pallid does not spawn in the mainstem of the Missouri, but goes up into the tributaries. This takes place in the month of May. Tarleton H. Bean, author of Fishes of Iowa, Report of the State Fish Commission, 1892-93 states: "Nothing is recorded of it's habits, except it runs up into the small streams in May for the purpose of spawning". Any attempt at changing the hydrograph in May will affect water temperature, and defeat the natural reproduction cycle.

The Piping Plover& Least Tern: Although Piping Plover never successfully used the Missouri River for nesting prior to the building of the dams because of the day to day fluctuations of the river, they have readily adapted to the consistant flows afforded by the current operation of Gavins Point. The spring rise will be a disaster for them, because of their need to nest just inches above the waterline, coupled with their arrival in late April and early May, which means they will have laid their eggs just before the Spring rise. The Least Tern will face the same plight.

Let's return to the Pallid Sturgeon. Presume for a moment that in spite of the spring rise, they were successful in getting their eggs laid and hatched. These larvae will eventually move into the shallow waters of the Mainstem. It is common knowledge that very little shallow water exists between Gavins Point and the Mouth of the Platte due to degradation. Lets assume Sturgeon do manage to find some shallow water. Just about the time they adjust to their new environment, the summer drawdown occurs and in many cases either leaves them high and dry or unable to find any more shallow water. Either situation will lead to their demise.

This overview should convince any reasonable person that the Spring

rise and Summer draw down has problems, but there is more. The USFWS says it is necessary to recreate the natural hydrograph, but is it "natural"? Let me present an analogy to show the answer to that question is a resounding "NO". We all know what Mom's Beef Stew is and what constitutes the ingredients. We need beef, vegetables, seasoning, and water. Does anybody really believe a bowl of cold water could be placed in front of "MOM" and she would agree it is beef stew? This is exactly what USFWS is asking. They have a Spring Rise with, no CARBON, no SEDIMENT, and no HUMUS, and they are trying to say it is a "natural hydrograph". MOM wasn't fooled on plain cold water being beef stew, and that other "MOM", Mother Nature won't be fooled with a hydrograph of sterile cold water. Does it take a degree in aquarian Biology, or a PHD in Ichthyology to reach this conclusion? You know the answer is no. It only takes "Common Sense".

There is more, 1700 miles more, above Sioux City. The introduction of non-native gamefish above Gavins Point has wreaked havoc with the vast majority of native species. According to the NAS Report 51 native species on the Missouri River are losing numbers, the majority above Gavins. There is convincing evidence, that non-native Game Fish are eating them. The USFWS in answer to a petition to list Sicklefin and Sturgeon Chub on the Missouri River as endangered replied: " predation has likely increased over historic levels due to the stockings of piscivorous fish into the reservoirs and remaining riverine sections. Future introductions of nonnative fish, and other organisms may threaten sturgeon chub and sicklefin chub through predation." See Federal Register/Vol. 60, No.11 Wednesday, January 11, 1995/proposed rules. One of the results of this finding is the petition for endangered species listing of the Sicklefin Chub and Sturgeon Chub were subsequently withdrawn, and plans to get the Blue Sucker, and Sauger listed were canceled even though warrented. Every true biologist, or Ichthyologist knows game fish are eating native fish. Barges aren't above Gavins, and barges don't eat native fish, only game fish do and this is the biggest threat to native species in any ecosystem. Yet American Rivers, has aligned itself with the American Sportfishing Association. Rebecca Wodders, American Rivers Pres. will be presented with the woman of the year award by the American Sportfishing Association in June. Where is the Sierra Club, the Audubon Society, and the Nature Conservancy when the fish need them? Isn't this a conflict of interest, or is this just about money, not birds and fish?

BILL BEACOM SIOUX CITY, IOWA

The Good Life Means Wildlife!

NEBRASKA WILDLIFE FEDERATION

February 18, 2002
Testimony of Duane Hovorka, Nebraska Wildlife Federation,
on the Missouri River Master Manual Rewrite

Good evening.

I am Duane Hovorka, Executive Director of the Nebraska Wildlife Federation. The Nebraska Wildlife Federation carries out our mission in support of wildlife and wild places in Nebraska through environmental education, fish and wildlife conservation, and common sense public policy.

I am also testifying on behalf of the National Wildlife Federation, the Nation's largest member-supported conservation organization, with over 4.2 million members and supporters. The Nebraska Wildlife Federation is the state affiliate of the National Wildlife Federation.

The National Wildlife Federation will be submitting written comments, which will probably be co-signed by the NWF affiliates in the Missouri Basin. The Nebraska Wildlife Federation has previously submitted testimony, and I would note that my testimony today supplements, but does not replace, the comments we submitted earlier.

In light of those more comprehensive written comments, let me make just a few key points tonight.

First, I'd like to thank Roger Patterson and the folks at the Nebraska Department of Natural Resources, and Governor Mike Johanns, for their work to bring together states in the Basin in support of an alternative that would begin to test the impacts of a slight spring rise in the River. The fact that most of the states are recognizing the need to make changes in the flow is a very important step, and I think their efforts deserve our thanks.

Second, I'd like to note that while the current discussion centers on the flow issues in the portion of the Missouri River below Gavins Point Dam, we should not lose sight of the many positive changes that were included in the draft re-write of the Missouri River Master Manual, especially with respect to management of the River upstream from Gavins Point.

Third, I note that while the current debate centers on the flow issue, we should all recognize the need for habitat restoration and protection measures throughout the Basin, and much of that work is outside the jurisdiction of the Missouri River Master Manual. The Big Muddy Refuge and other efforts to create a 'string of pearls' along the Missouri, to begin to restore the side channels, backwaters, and wetland complexes that we have destroyed, is vitally needed as part of the restoration effort.

We cannot rely solely on those habitat restoration and protection efforts, because there is still a need for the spawning cues and other benefits provided by a more natural river flow pattern. Likewise, we cannot rely solely on changes in the river flow under the Master Manual, because the spawning cues will not be effective unless spawning habitat is available. The two have to go hand in hand.

Fourth, I think you need to ask yourself as you re-write the Master Manual: 'what signal are we sending'? That, in my view, is a critical question.

If you refuse to make changes in the flow patterns on the Lower Missouri, you tell people the US Government is standing pat. You tell landowners along the river, the electric utilities and industries that depend upon the river for cooling water, the marina owners along the river, the barge industry, and others that they don't have to change. You send a clear message that they can continue to do what they are doing.

And you tell the people who would invest their dollars in hunting and fishing businesses to take their money someplace else.

And if you do that, ten years from now things will only be worse. The species on the decline will continue to decline. The people who live along the river will have made few changes. The fishing, hunting and wildlife recreation industries will not invest. And you will likely have even more industries, even more powerplants, even more marina's built along the river that are designed to be reliant on the current flow regime.

And ten years from now, the solutions will be even harder, and more expensive.

But it seems clear to us that change is needed. The biology becomes clearer every day. The economic benefits of making changes in the Missouri's flow become clearer every day. The case for changing the river's flow is clear, and widely recognized. And if you fail to understand that need, and you fail to send a clear message to people throughout the Basin that change is coming, then you have failed, not just the river itself, but the people on all sides of these issues.

Our problem with the alternative put forward by the Missouri River Basin Association is based on at least two important counts.

First, it falls short of what is clearly needed to meet the minimum needs of fish and wildlife. The US Fish & Wildlife Service and our own biologists have articulated those minimum needs, and we urge you to adopt a plan that meets the species' needs that have been identified.

And second, it fails because it sends the wrong message. It sends the message that the Corps is going to stand pat, stick with the current plan, and only engage in short-term 'tests' of a different flow regime. And that, in my view, is the wrong message to send. It may be a 'feel good' message that people want to hear, but the people who are impacted need better from you; they need the truth.

And the truth is, that the river's flows have to change, and, ultimately, they are going to change. People need to start planning now for the change.

The fifth point I'd like to make is that we cannot afford delay. We therefore urge you to work quickly to bring this Master Manual rewrite to a close, so that the changes can begin to take place as soon as possible. We may not know everything about the biology or economics of the River, but we know enough. We need to continue to monitor and research the Missouri, but we cannot delay any further the start of making needed changes.

One final point I'd like to make concerns the path being chosen. For 170 years, we have molded the Missouri River for people. We have swung the pendulum just about as far as we can to the side of agriculture, and power production, and the barge industry, and it has come at the expense of the fish and wildlife in the Basin, and the people connected to fish and wildlife.

We are not asking for a return to 1804, a return to Lewis and Clark's river. We are not even asking that you balance the needs of people and wildlife, a phrase I hear over and over again. Were we to do that, to look at what is optimum for humans, and what is optimum for all other species, and then to find some spot in the middle with respect to operating the Missouri River, I have no doubt that the proposal would be far more radical than anything the Corps or others have even contemplated.

What we are asking for, and what indeed the Endangered Species Act calls for, is only the bare minimum. The bare minimum needed to prevent these imperiled species that we have driven to the brink of extinction, from falling to extinction.

Fortunately, in our view, the 'bare minimum' we are talking about -- clear changes in the river flow, such as that proposed in the GP 2021 option, plus restoration and protection of habitat up and down the river -- are also good for people. Yes, there will be individual winners and losers, just as there are under the current Master Manual. But overall, on a net basis, we think both people and wildlife will be better with these changes, than without.

Thank you.

A River Undone:
River Flows In The Once-Mighty Missouri

Duane Hovorka, Executive Director
Nebraska Wildlife Federation

As the Corps of Engineers struggles to rewrite the Missouri River Master Manual, it faces a host of issues and a bevy of interests. What we increasingly recognize is that the price we are paying for the intended benefits of the Pick-Sloan Project: flood control, irrigation, and hydroelectric power, is a steep one indeed.

Aesthetically, we traded a sandy, braided, meandering river, flowing through a lush valley, for a deep ditch.

Biologically, we traded away an incredibly diverse landscape of wetlands, backwaters, riparian forests, deep and shallow channels, wet meadows, and tallgrass prairies, that once supported an incredibly diverse array of aquatic and terrestrial species. We sent into decline a host of species that had long ago adapted to the Missouri's turbid waters, or to the braided sandy river habitat.

Economically, we traded jobs in a thriving commercial fishing industry for jobs in the barge industry.

Culturally, we gave up on a central connection between people and the rivers they lived near -- a connection that dates back to the dawn of humankind -- for cities walled off by high levies.

Perhaps the highest cultural price we paid, and continue to pay, is that borne by the Native American Tribes whose land was taken for the projects: the Standing Rock, Cheyenne River, Yankton, Crow Creek, and Lower Brule, all Lakota (Sioux) Tribes, as well as the Mandan, Arikara, Hidatsa, Chippewas, Shoshones, Arapahos, Crows, Blackfeet, Crees, Assiniboines, Santee Sioux, and other Tribes whose land was taken, families uprooted, Tribal governments disrupted, by the Pick-Sloan Project. After more than a century of destruction waged on these Tribes by the United States Government, the Pick-Sloan Project was one more dagger aimed at the culture and the economy of these Indian Tribes.

Just as the price we are currently paying is high, the cost of restoring some of what we have lost will be high as well. Restoring a wetland is always more costly than protecting it in the first place. Moving levies back to allow the River to recapture a small part of its historic floodplain is always more costly than leaving the floodplain intact to start with. Replacing the forests and rich bottomlands that provided sustenance to a Tribe is a difficult and expensive task. Attempting to bring back a species that we have driven to the brink of extinction is never cheap, and never easy.

Yet the recent debate has centered on tiny, marginal changes in the operations of the system, and on budgets for restoration that pale in comparison with the billions and billions spent, in over a century and a half, to clear the Missouri of snags, narrow and channelize its waters, armor its shores, and build and regulate huge dams.

Opponents of change on the Missouri claim that we must 'balance the needs of humans and wildlife.' Indeed, we must.

For over 150 years, that balance has been set almost totally in favor of humans over fish and wildlife. The flood control efforts are for humans, not wildlife. Navigation is for humans, not wildlife. Little hydroelectric power is used by the region's fish and wildlife. Even the recreation provided for, such as the fishing provided for in the main stem reservoirs, aren't there to benefit the fish that get caught, but the anglers doing the fishing.

Only in the past several years has any consideration been given to the wildlife part of the balance. Adjusting the timing of releases to encourage rare terns and plovers to keep their nests high enough so they don't get drown by later flows is one example. Efforts to develop a series of wildlife refuges along the Missouri is another example of the work needed to begin to undo a small part of the damage we have done. Yet such examples are scarce.

River Flows

Before the construction of the Pick-Sloan dams, high flows in the Missouri typically occurred in April and June. April flows were the result of local snowmelt and rainfall. Higher peak flows in June were the result of runoff

from snowmelt in the Rocky Mountains, combined with local rainfall[1]. Today, those peak flows are captured by the large main-stem dams, and held and released on a schedule far different from the natural hydrograph.

Releases from those dams are governed by the Missouri River Master Manual, implemented in a series of annual operating plans by the US Army Corps of Engineers.

The timing of the releases is driven by the Corps' reading of the intended benefits of the Project, including navigation, flood control, recreation, and hyroelectric power. One of the key drivers is the desire to maintain a 9' deep, 300' wide navigation channel for barges. Depending on the amount of water available in the mainstem reservoirs, water is released to provide a 7.5 to 9' deep navigation channel from Sioux City to St. Louis. The result is a fairly flat hydrograph through much of the year; historic peak flows in the spring are reduced to reduce flooding and store water, and historically low summer and fall flows are increased to maintain the barge channel a provide for municipal and industrial water usage.

For conservation groups like mine, a key question with respect to flows is this: can the decline of the many terrestrial and aquatic species that depend upon the Missouri River, including endangered species like the pallid sturgeon, be turned around solely through the restoration of habitat areas that don't require specific flows, or does restoration and recovery require a change in the flow regime?

Sometimes, the recovery of a species can be linked to the restoration of specific kinds of habitat, such as backwater chutes, wetlands, or other areas that will provide suitable habitat. In those cases, altering the flow of a river might provide a more effective, and less expensive means of restoring the habitat, but flow alterations might be only a tool and not a critical element of the change. In some cases, restoration through mechanical means, while clumsy and often expensive, can provide the needed habitat.

In the case of the Missouri, it appears that changing the flow pattern of the River must be an integral part of the recovery plan. As the US Fish & Wildlife Service noted in 1993, "It is unlikely that successfully reproducing populations of pallid sturgeon can be recovered without restoring the habitat elements (morphology, hydrology, temperature regime, cover, and sediment/organic matter transport) of the Missouri and Mississippi Rivers necessary for the species continued survival."[2]

Although not enough is known about the pallid sturgeon because of its rarity, the Fish & Wildlife Service notes that research has demonstrated "significant negative relationships between artificial flow fluctuations in the spring and poor year class development for several native fish," including river carpsucker, shorthead redhorse, channel catfish, flathead catfish, sauger, common carp, smallmouth buffalo, and bigmouth buffalo.[3]

A modest spring release from Fort Peck and Gavins Point Dams, providing a modest spring rise in the River, would maximize the amount of warm water habitat needed by native river species such as the pallid sturgeon, and provide biological cues to encourage successful spawning by pallids and other river fish. The cycle of a modest spring rise, followed by lower summer flows, will also help provide biological cues needed for improved reproduction from the least tern, piping plover, and other declining species that rely on those natural cues for their biological clock.[4]

The Corps' implementation plan for the Missouri would only partially address these important changes in River flow. The Corps committed to spring rise tests from Fort Peck Dam over the next several years, and agreed to investigate flow modifications at Garrison Dam.[5]

However, with respect to the Gavins Point Dam, the Corps only "proposes to investigate and quantify the biological benefits accrued from various flow scenarios prior to establishing a final range of flow recommendations," and "commits to examine a range of releases in the spring and summer from Gavins Point Dam

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[1] Department of the Interior, *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 12.

[2] US Department of the Interior, US Fish & Wildlife Service, *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 10.

[3] US Department of the Interior, US Fish & Wildlife Service, *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 11.

[4] US Fish & Wildlife Service, *Missouri River Endangered Species: How Do the Service's Recommendations Benefit Them?* Denver, November, 2000.

[5] US Army Corps of Engineers, *Draft Implementation Plan for the Final Biological Opinion on Operation of the Missouri River Main Stem Reservoir System, Operation & Maintenance of the Missouri River Bank Stabilization & Navigation Project, & Operation of the Kansas River Reservoir System*, December, 2000, pg.5.

coupled with various habitat restoration/creation levels in the proposed Implementation Plan."[6] The Corps' plan falls short of what is needed to begin to restore the habitat on the lower Missouri.

Navigation on the Missouri

It should be noted that conservation groups have reasons to support, not oppose, barge traffic. Barges are energy efficient, and barges moving freight emit less air pollution per ton-mile than competing modes of transportation like trucks. Where barging is appropriate, it should be one of the preferred modes of transportation.

It should also be noted that, in the United States, barges are also the most heavily subsidized mode of transportation. Unlike railroads, which build, maintain, and pay taxes on their rights of way, and trucks, which pay fuel taxes and other user fees that offset most (but not all) of their fair share of the cost of building and maintaining roads and highways, the inland waterways of the U.S. were cleared of snags, ditched, dammed, and diked at taxpayer expense. Although barges now pay a fuel tax to offset a portion of the cost of inland waterway projects, a large share of inland waterway construction and maintenance costs are paid by taxpayers. The net effect is that a substantial subsidy is provided to the barge industry -- and agriculture and other industries that ship by barge -- from American taxpayers.

The subsidy is especially pronounced on a River like the Missouri, where a long stretch of River is being maintained and operated for the benefit of a very small amount of freight.

Yet for conservation groups, it has been long swim against the current just getting the Corps of Engineers to consider changes in Missouri River operations that would impact barge traffic. After the Corps published its Draft Environmental Impact Statement in 1994 on revisions to the Master Manual, and after hearing extensive opposition to its designated preferred alternative, the Corps developed and examined 64 different alternatives to managing the River. It attempted to answer questions about the potential for unbalancing system storage in three upper reservoirs, for water conservation, and for releases timed to benefit fish and wildlife, and it purported to examine the effect of changing navigation service and establishing a target flow at St. Louis to aid Mississippi River navigation.

However, of all of the 64 options considered, only one examined a split season for navigation, where navigation was provided for in the spring (when fertilizer is moving north) and the fall (when grain is moving south), but was not provided for in the summer. And the eight "representative" alternatives published and discussed widely by the Corps did not include the split-season navigation option.[7] It was only with the intervention of a US Senator that the Corps agreed to give the split-season navigation option a serious look, and to perform the kind of analysis that was routinely done on other alternatives.

Downgrading the importance of barge traffic in the management of the Missouri River is not a new idea. In 1952, President Harry Truman appointed the Missouri Basin Survey Commission, an 11-member body of regional experts and members of Congress, to examine the many problems of the Pick-Sloan Project. In 1953, they issued their report, calling for a reorganization of the project, for a greater share of the project costs to come from state and local sources, and for relegating navigation to the lowest priority for water use. The Commission questioned the need for a nine-foot navigation channel, and called for a more thorough investigation of the entire Missouri Basin program.[8]

Unfortunately, as we have come to expect on Missouri River matters, politics won out. The incoming Eisenhower Administration ignored the Commission's report. The Corps of Engineers and Bureau of Reclamation blasted the report, and others like it critical of the Pick-Sloan Project, stonewalling opponents. Instead of addressing the problems, the two agencies pressed for extension and expansion of the Project, and in the end, Congress and the Eisenhower Administration obliged.

Today, powerful interests in the barge industry, in agriculture, and in the agrichemical industry provide political support for maintaining full barge service on the Missouri (and other rivers), despite the small amount of freight that moves on the Missouri.

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[6] US Army Corps of Engineers, *Draft Implementation Plan for the Final Biological Opinion on Operation of the Missouri River Main Stem Reservoir System, Operation & Maintenance of the Missouri River Bank Stabilization & Navigation Project, & Operation of the Kansas River Reservoir System*, December, 2000, pg.6.

[7] US Army Corps of Engineers, *Summary of the Preliminary RDEIS, Master Water Control Manual, Missouri River*, August, 1998.

[8] Michael Lawson, *Dammed Indians*, University of Oklahoma Press, 1982 and 1994, pg. 114, citing the original report of the Commission.

Sediment in Flows

As we are learning on the Platte River, simply altering river flows and providing additional riparian habitat may not be enough. Sediment must be an important factor in a recovery plan. The large main-stem dams on the Missouri captured water, but they also captured the sediment and organic matter suspended in the moving waters of the River. The discharge of sediment and nutrients (organic matter) into the Missouri and Mississippi River system was cut by 80%, and the sediment load of the middle Mississippi River was cut by two-thirds from pre-dam days[9].

As will be discussed below, organic matter is one of the essential building blocks for aquatic life in the River. Sediment is the building block of the sandbars and braided channels in the River. Robbing the River of sediment takes away its potential to build new wetland areas, new backwater areas, new habitat.

Robbing the River of suspended sediment and organic materials has other impacts on the aquatic life. Fish species like the pallid sturgeon are well-adapted to the turbid world of the 'muddy Missouri,' using its murkiness to hide from predators and to stay hidden from their prey. When the turbidity declines, the clearer water gives the upper hand to sight-feeders like northern pike, walleye, and smallmouth bass, and as a result the species adapted for life in the pre-development River have declined.[10]

To begin the recover the species that are endangered or in decline, and that are adapted to the turbid waters that characterized the Missouri before the Pick-Sloan Project, will require careful consideration of the role of sediment and organic matter in the River. The only mention of this issue in the Corps of Engineers Draft Implementation Plan is a commitment to initiate sediment studies "as long as appropriations allow for it," and to develop and initiate "smaller scale sediment transport/turbidity studies[11]." This clearly is an issue that will require further research and study, and that should be the subject of attention under the Adaptive Management Element of the program.

The Great American Fishery

The lower Missouri River was once an incredible fishery resource. 156 species of native fish have been identified in the Missouri[12]. In 1804, as the Lewis and Clark expedition made its way west, it caught what was probably a channel catfish, right across the River from Bellevue, Nebraska[13]. That was the first time the species was identified and cataloged, but it would not be the last time the expedition dined on fish. The expedition's journals record the presence of pike, bass, perch, and perhaps even trout in the lower Missouri.

Many of the Native American Tribes that populated the region were well aware of the fishery resources in the Missouri. Although the Lakota (Sioux) tribes that moved to the region in the 1700's were not known to utilize the River's fish as a major food source[14], other Native American Tribes that were earlier inhabitants, like the Ioways, made good use of the fishery resources in the Missouri and its tributaries[15].

Even after settlers came, the Missouri provided a lucrative fishery resource. Old-timers say the stretch of the Missouri between Blair and Plattsmouth, Nebraska, supported 100 commercial fishermen at one time[16]. In recent years, the Nebraska Game & Parks Commission closed the Missouri River to commercial fishing in order to conserve what little was left of this once-vital fishery resource for sport fishing.

Today, of the native aquatic species are in to decline, the product of more than a century of effort that has seriously reduced their available habitat, destroyed and drained their spawning grounds, and eliminated their primary food sources.

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[9] Department of the Interior. *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 12, citing Fremling, C.R., et al, *Mississippi River Fisheries: A Case History*, pg. 309-351, 1989, *in Proceedings of the International Large River Symposium*, D.P. Dodge ed.

[10] Department of the Interior, *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 12-13.

[11] US Army Corps of Engineers. *Draft Implementation Plan for the Final Biological Opinion on Operation of the Missouri River Main Stem Reservoir System, Operation & Maintenance of the Missouri River Bank Stabilization & Navigation Project, & Operation of the Kansas River Reservoir System*, December, 2000, pg. 10.

[12] Botkin. Daniel. *Passage of Discovery*, Berkley Publishing Group, 1999, pg. 33.

[13] Botkin. Daniel. *Passage of Discovery*. Berkley Publishing Group, 1999, pg. 33.

[14] Michael Lawson, *Dammed Indians*, University of Oklahoma Press, 1982 and 1994, pg. 57.

[15] Martha Royce Blaine, The Ioway Indians, University of Oklahoma Press, 1979, pg. 14.

[16] Botkin. Daniel, *Passage of Discovery*, Berkley Publishing Group, 1999, pg. 66.

In fairness, one of the trade-offs we achieved in damming the River was the establishment of reservoir-based fisheries behind the six great dams. The Corps' estimates for annual recreation benefits on the system are impressive, and probably understate the actual economic impact of recreation[17]. Sport fishing is a major source of recreation, and here too, the current operation of the dams -- high releases during the summer to support down-stream navigation -- have an impact on both the fishery and on the recreational opportunities for humans.

Changes in the Master Manual, such as unbalancing the operation of several of the reservoirs, would improve the fish habitat in these reservoirs. Reducing summer navigation flows would allow for smaller fluctuations in lake levels during the prime summer recreation months.

The "taming" of the Missouri has included the draining of connected wetlands, channelization of the River, changes in the flow regime, and elimination of the backwater and sandbar areas. But one seemingly innocuous activity -- the clearing of snags -- has also gone a long ways toward destroying this once-great fishery.

For Lewis and Clark, getting stuck on a snag -- a tree that had fallen into the River and lodged there -- was almost a daily occurrence. As the Missouri Basin was settled by Euro-Americans, one of their first activities was to begin to remove the snags that hampered the use of larger boats up and down the Missouri. An effort ensued -- with substantial federal and local funding -- that lasted more than a century to remove the snags and clear the Missouri. And they largely succeeded; they made the River safe for the barge industry.

Unfortunately, and probably unbeknownst to most at the time, removing those snags also removed a basic building-block of the aquatic life in the Missouri. In a fast-moving River like the Missouri's channel was, even before development, those snags provided the only stable places where small critters -- benthic macroinvertebrates, if you will -- could lodge and gain a foothold. The snags also caught grass, leaves, and other litter that fell into the River, providing a ready food source for those macroinvertebrates[18].

Unlike the great rivers in the East and West, where the rocks and boulders of a river's substrate can provide that stable foothold, the Missouri's substrate is sediment, small gravel and sand. Macroinvertebrates struggling for life have limited choices for lodging, the slow-moving backwater areas, or the snags lodged in the faster-moving parts of the River.

Even today, if you find a stick or a log that is lodged along the Missouri's banks and pull it out of the water, it usually has an assortment of insect larvae and other macroinvertebrates stuck to its surface, clinging for life. Those macroinvertebrates are at the bottom of the food chain in the River, they are the food source that smaller fish feed on. The small fish get eaten by the big fish, and on up the food chain. But, if you don't have the critters at the bottom of the food chain, those tiny critters clinging to life on that snag in the River, then you can bring down the whole food chain. And that is exactly what we have done.

In the early days, the removal of snags from the main channel may have had an impact on the fishery, on the fish that largely stayed and fed in the deeper, faster-moving parts of the River, although there were still plenty of side channels, chutes, wetlands, and other slow-water areas where snags were abundant and where macroinvertebrates could thrive. But as we eliminated those slow-water areas, moved levies closer and closer to the River, turned the River from a wide braided network of channels into a single, deep ditch, we have largely eliminated the areas where macroinvertebrates could find food and lodging[19].

In terms of lodging, the rip rap that now armors the banks of the Missouri has probably provided some stabilized areas where critters could get a foothold. But those rocks do not provide the necessary food source, and they do not as readily trap leaves and grass moving down the River. By manipulating the River's flow and narrowing the flood plain, by installing the rip rap itself, and by eliminating those backwater and wetland areas, we have also substantially reduced the volume of grass, leaves, and other organic matter available to those little critters at the bottom of the food chain.

In short, by all that we have done we have starved, almost to death, what was once one of our Nation's greatest fisheries in the lower Missouri.

Beginning to restore this once-great fishery will require a diverse array of changes. One of the basic requirements will be to begin to restore the basic building blocks of life in the River, by providing areas where snags can provide food and lodging for the macroinvertebrates that are at the bottom of the food chain. If leaving snags in the main channel is unacceptable to the barge industry -- and it obviously is -- then we need to restore

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[17] Scott Faber, *Corps Study Underestimates Recreation Value, Potential*, Missouri Monitor, Cotober, 1998.

[18] Department of the Interior, *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 13.

[19] See Department of the Interior, *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 13, citing a 65% decline in the abundance of snag insect production in Nebraska's portion of the Missouri River between 1963 and 1980 documented by G.E. Mestl and L.W. Hesse, 1993, US Fish & Wildlife Service.

backwater areas, chutes, side channels, wetlands, and other areas where snags are acceptable, and where they can again provide the basic food source that feeds the aquatic life in the River.

Water Quality

Water pollution is also a problem on the Missouri. Unfortunately, when the issue is addressed in settings like the review of the Missouri River Master Manual, the primary focus is often on the dilution effect of different flows. That is the case here, where the Corps of Engineers assessment of the various flow alternatives notes that "lower River flows provide less dilution for the warmwater discharges from the powerplants, and thus lead to higher river water temperatures," and "increased amounts of water in storage and average river flows generally result in better water quality."[20]

The problem, of course, is the pollution itself, not the changes in dilution caused by changing flow regimes.

The State of Nebraska's official list of impaired waters (the EPA 303(d) list) shows the Missouri River as being impaired for nearly its whole length along the eastern border of Nebraska. A primary stressor is the presence of pathogens, which come from agricultural sources (livestock operations) in rural areas, as well as municipal water treatment systems and stormwater runoff in urban areas[21]. The City of Omaha still operates with an old, combined sewer overflow system that can result in raw sewage being released into the Missouri as a result of heavy rains.

Major tributaries of the Missouri are also polluted, including the Platte River, which is polluted by pathogens from livestock.[22] Earlier reports indicate that the Missouri and its Nebraska tributaries are variously impaired or threatened by pathogens, a lack of biodiversity, pesticides, nutrients, and siltation.[23]

Water pollution can disrupt the aquatic habitat, threaten pollution-sensitive macroinvertebrates that serve as a food source for fish, and stress aquatic life. Pollution in the Missouri River is also finding its way into fish tissue. PCBs, cadmium, mercury, and selenium were detected at elevated levels in three pallid sturgeon collected from the Missouri River in Nebraska and North Dakota[24]. Detectable concentrations of chlordane, DDE, DET, and Dieldrin were also found. In Nebraska, fish tissue advisories have been issued for PCBs and Dieldrin for fish caught in the Missouri River downstream from Omaha, and in tributaries including the Lower Platte and Papillion Creek. Two Omaha-area lakes, Zorinsky and Wehrspann, have been the subject of fish consumption advisories for mercury.[25] Fish consumption advisories are issued when fish tissue samples of game fish like catfish and bass indicate as level of contaminants that warrants a public health concern.

Water quality problems get short shrift from Nebraska and other states in the Missouri River Basin. Clearly, we need additional research on the impacts of pollution on rare and declining species in the Missouri, and on the primary food sources for those species. We must factor into flow decisions the potential impact on water quality with respect to the dilution effect, but the real answer to our water quality problems is to spend the money to improve our water quality monitoring, and to develop and implement watershed cleanup plans that reduce and eliminate pollution at its source. This is an effort the state governments in the Basin must take the lead on. Water quality is extremely important and warrants much more attention, but the flow regime of the Missouri River Master Manual should not be driven by the dilution issue.

Letting the River Run

St. Charles, Missouri, is an example of the problems created when we try to manage the River too intensively. St. Charles is north and across the Missouri River from St. Louis, near the mouth of the Missouri. The buildings on the town's main street had stood since 1787, high enough to remain dry for more than a century and a half before the "benefits" of the Pick-Sloan Project.

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[20] US Army Corps of Engineers, *Summary of the Preliminary RDEIS, Master Water Control Manual Missouri River*, August, 1998, pg. 14.

[21] USDA Natural Resources Conservation Service and Nebraska Department of Environmental Quality, Nebraska Unified Watershed Assessment, Lincoln, Nebraska, October, 1998.

[22] [22] USDA Natural Resources Conservation Service and Nebraska Department of Environmental Quality, *Nebraska Unified Watershed Assessment*, Lincoln, Nebraska, October, 1998.

[23] Nebraska Department of Environmental Quality, *1996 Nebraska Water Quality Report*, April 1996, Lincoln, Nebraska.

[24] Department of the Interior, *Pallid Sturgeon Recovery Plan*, November, 1993, pg. 14.

[25] Nebraska Game & Parks Commission, *Nebraska Fish Consumption Advisories*, October, 1998.

Yet in 1993, the waters of the Missouri River rose higher than ever before, almost reaching and flooding the town's main street that had been dry so long. Only when a levy downstream gave way, relieving the pressure of the River, was the area saved from flooding. 1993 was a very unusual year, true, but the flooding upstream was compounded by the elimination of wetlands throughout the Basin, and by hundreds of miles of dikes and levies that had narrowed and isolated the River from its floodplain, forcing the water downstream towards St. Charles[26]. Although the main street of St. Charles was spared, many communities up and down the Missouri were not so lucky in 1993.

Moving the levies back from the River, giving the Missouri back some of its historic flood plain, would help prevent flood damage in the future by letting the River's waters spread out, rather than forcing the water downstream. Broadening the flood plain could also help accommodate a spring rise flow strategy, by providing a buffer between the River and the adjoining farmland, giving that farmland a space to drain into. Moving the levies back in some locations should also provide additional opportunities to create fish and wildlife habitat.

Conclusion

The Missouri River has been dammed, diked, and straightened, starved of life-giving nutrients, robbed of the snags, side channels, backwaters, and connected wetlands that once made the Missouri River Valley an incredibly productive area for fish and wildlife. It isn't just the River itself that has been radically changed since the days of Lewis and Clark, it is the River's fishery and the wildlife habitat connected to the River that has suffered a severe blow.

Today, in rewriting the Master Manual for the Missouri River, we have an opportunity to take several small steps towards restoring this once-great resource. Shame on us if we fail.

> "In the final accounting, we sacrificed one of the world's most biologically important and aesthetically pleasing rivers -- and a commercial fishery that once supported thousands--to move a handful of barges."
>
> Stephen Ambrose, historian[27].

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[26] Botkin, Daniel, *Passage of Discovery*, Berkley Publishing Group, 1999, pg. 24.

[27] Ambrose, Stephen, in the Introduction to *Passage of Discovery*, Berkley Publishing Group, pg. xvi.

Tuesday; February 19, 2002

Lanny Frakes
13371 SW State Route KK
Rushville, MO 64484-9588

General David Fastabend
USACE Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Missouri River Master Manual Review
Council Bluffs, Iowa

Good Evening General Fastabend:

My name is Lanny Frakes and I live at 13371 SW State Route KK, Rushville, Missouri 64484-9588 which is located in Southwestern Buchanan County near Missouri River mile marker L-428. I am a fourth generation farmer and have lived and farmed in the area my entire life. I am Secretary-Treasurer of the Rushville-Sugar Lake Levee Association, which is a non federal levee that protects approximately 8,000 acres. I am Secretary of the Halls Levee District, which is federal levee unit located SouthWest of St. Joseph, MO and protecting 18,000 acres. I am currently on the board of directors representing Missouri Levee and Drainage District Association and I mention the above to correlate my interest in Missouri River policy.

I thank the Corps Of Engineers and your staff; General Fastabend, for conducting these hearings and allowing public comment on MO River issues. I ask that the public be allowed to continue to participate in offering their comments and the subsequent review of these comments by the Corps.

I am opposed to a Spring Rise as released from Gavens Point as I believe the release of 15,000 cfs to 20,000 cfs from May 1 to June 15 would have the potential to create flooding problems, delayed

and or prevented planting, drowned or stunted crops, and internal drainage problems. I realize the Corps would not make these releases when lower basin River levels were at or near flood stage. My concern is for when the Spring Rise release has begun; under acceptable guidelines, and rainfall events below Gavens Point coincide with releases. Weather forecasting is not an exact science and are not accurate for 10 to 11 days in advance, which is the approximate time for releases to travel from Gavens Point to St. Louis. May 1 through June 15 is historically a time frame when large rainfall events occur.

Flood control is paramount for the lower basin as the combination of levee units being constructed and dams completed in the upper basin have led to vast improvements and expenditures being made along the lower MO River Basin. Cities, towns, industry, agriculture, public infrastructure, and residents are dependent on flood control as we move into the upcoming century. We must not jepordize flood control.

A Spring Rise causing higher MO River levels of 3.5 to 4.0 feet in the spring planting season would be detrimental to our area's farmers. Floodstage at St. Joseph, MO is 17.0 feet and our area begins to experience internal drainage problems at levels above 13.0 feet. These problems are compounded as levels rise and cause delays in planting along with stunted crops that are caused to develop a weak root system that develops on the top of the ground due to high ground table water levels. As the heat of the summer months arrive these crops and root systems are unable to withstand the stress of going from one extreme to the other. A Spring Rise followed by reduced summer flows would cause a poor growing envirionment. Many acres would go unplanted if the spring rise coincided with above normal rainfall in the lower basin.

Internal Drainage problems are compounded as MO River levels rise and local rainfall and run-off from uplands coupled with seep water caused by the high river levels cover land on the protected side of the levee systems. These high MO River levels do not allow for the normal discharge of internal water through drainage structures. Crop planting and growing conditions deteriorate rapidly with each day these problems persist. Stunted crops rarely recover their potential from these conditions even if they actually survive.

I realize the Corps is mandated by law to protect endangered species. A recent census presented by U.S. Geological scientist Susan Haig as documented by Envirionment News Service: Ameriscan: January 25, 2002 in regard to field data for the 2001 International Piping Plover Census denotes that Plover numbers have grown 470 per cent in the last five years and 140 per cent in the past ten years along the MO River. Ms. Haig further denotes that the increase in numbers along the MO River might be due to recent favorable habitat conditions.

The Biological Opinion states there is a substantial decline in plover population numbers but the 2001 International Piping Plover Census shows a large increase in numbers under the current water control plan. I see the need for more review of this matter as these two reports are contradictory to the other.

I believe endangered species can benefit by improving habitat on public lands in the MO River Basin without making flow changes. Human lives and their livlihoods must not be harmed through the enhancement of fish and wildlife habitat.

I thank you for this opportunity to express my views.

Sincerely,

Lanny Frakes

Oral Testimony:
Lynn M. Muench
The American Waterways Operators

Missouri River RDEIS Public Hearing
Council Bluffs, Iowa
February 19, 2002

I am Lynn Muench, Vice President of the Midcontinent office of The American Waterways Operators. AWO represents the towboat and barge operators on America's coastal and inland waterways system, including on the Missouri, Mississippi, and Illinois Rivers. Today, I'm here to articulate our industry's concerns with the alternatives presented in the RDEIS and our vision of the future.

The alternatives presented to the public are all highly influenced by the U.S. Fish & Wildlife Service's (Service) Biological Opinion. AWO members are concerned that:

1. The scientific process used to reach the biological opinion is highly flawed.

2. The Service has broken federal law by not designating critical habitat for the endangered species.

3. The Service has admitted that it does not have any notes or proof of over 30 sources listed as "personal communications" in the biological opinion – even first year biology students understand that this is unacceptable scientific conduct.

AWO is concerned that what the Service hopes to achieve with their recommendations is fuzzy. AWO is also concerned that it is questionable whether the recommendations are based on scientific facts or politically influenced beliefs. AWO concerns include:

1. The split-navigation season, which would destroy waterway transportation on the Missouri River and cripple it on the Mississippi River, will only increase endangered species' habitat by only 164 acres. According to the Missouri Department of Natural Resources (MODNR), these acres could easily be created without flow changes.

2. The MODNR has begun a Pallid Sturgeon breeding program. Intuitively, it appears more likely that Sturgeon

are not breeding in the wild due to their limited populations – they simply can't find each other. A breeding program would allow recovery of the species without negatively impacting navigation, power generation, water quality, historical properties or flood control.

3. There are over 2,000 miles of river, including parts of the Missouri, Mississippi, and Yellowstone Rivers, where a "spring rise" naturally occurs. The Pallid Sturgeon is still not increasing in population at these locations. What could less than 300 more miles of "spring rise" do to improve their viability as a species?

4. The increased reservoir levels of the Modified Conservation Plan (MCP) and all the Gavin's Point (GP) plans will actually decrease habitat for the Piping Plover and Interior Least Tern. Why should we decrease habitat already in place?

5. Why hasn't the Service evaluated the negative impacts on species that are presently viable in the Missouri River, the Mississippi River, and their tributaries? As a large basin-wide evaluation, negative environmental impacts that will likely occur must be considered.

AWO members request that the Corps and the Service renew their search for win-win solutions. As suggested by the NAS, a moratorium should be placed on this process until good scientific theory can be confirmed as good science.

AWO members are very troubled that Missouri River navigation is not properly considered due to the following flaws with the studies assumptions, including:

1. The Corps has underestimated flow levels needed for minimum service. The Corps used flows that were needed

pre-1993 flood. Over 100 dikes have not been repaired since the 1993 flood, increasing the amount of flow needed by several thousand cfs.

2. The economic potential of the Missouri River is greatly underestimated. Since the 1980s, when this debate began and the future of the navigation industry became uncertain, business on the river has moved from 5-year contracts to spot basis and docks and terminals have been disinvested. Why would any sane business invest in a transportation system with its future so unpredictable? The adoption of CWCP could positively impact future investment and traffic.

3. The Corps did not take into account the effect of water depletions in the upper basin; therefore, all data on water available for flows to support navigation is incorrect. This negative impact on Mississippi River navigation has not been evaluated. Using Corps assumptions, initial industry analysis suggests these changes in flows from the Missouri

will increase shipping costs on the Mississippi and Illinois Rivers by $7.5-30 million per year. The Corps has yet to provide even initial impacts on this nationally important river system.

4. The split navigation season will eliminate barge traffic on the Missouri River despite the Corps' optimistic tables. The Corps foresees a 30% reduction in the 8 months from April 1- December 1 on the Missouri River. Let's look at an analogy. A 30% reduction in Wal-Mart's 12-month season would force closure from September 14 to December 31. Does anyone believe this would not destroy the company's economic viability?

5. The Modified Conservation Plan (MCP), one of the six preferred alternatives, is also the underlying plan for the four GP plans. But what is conserved? It appears that water is conserved for use in the upper basin. It is <u>not conserved</u> for navigation, drinking water, electrical generation or

recreation in the lower basin. Where is the balanced approach that the Corps and the MRBA has espoused?

Another major concern is "Adaptive Management". This process will leave the Annual Operating Plan (AOP) open for change every year. The change will be mandated by the Service and the Corps with no public input. This is illegal under NEPA and deprives navigation of reliable flows for navigation. This will also decrease or eliminate Mississippi River reliability.

I'd like to thank the Corps for this opportunity. How we decide to balance the multiple uses of this important national treasure will indicate how much we, as a nation, value economic prosperity, the health of the family farm, and our environment.

In summary, AWO remains strongly opposed to any change in Missouri River reservoir operations that will jeopardize Missouri River or mid-Mississippi River navigation and its economic benefits to the region and nation. AWO endorses the CWCP without adaptive management.

Illinois Corn

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February 12 - HAS THE TIDE TURNED ON HYPOXIA ISSUE?

A meeting to discuss the issue of the Hypoxia Zone in the Gulf of Mexico was conducted in St. Louis last week and according to Garry Niemeyer, the entire tone of the meeting was different than past sessions, and different in a positive way. "The people involved were more calm, more logical, and less emotional than at past meetings," said Niemeyer, Illinois Corn Growers Association President of Glenarm. The US Environmental Protection Agency Hypoxia Conference was widely attended by governmental entities from the Army Corps of Engineers to state Departments of Natural Resources (DNR), environmental groups, industry, and agriculture. Niemeyer said the entire issue seems to have lost some of its urgency. EPA has about 21 projects in the works for next year to monitor Hypoxia with a price tag of $20 million. Sound high, but compared to some past spending requests, this is actually a bargain. During panel discussions which included several state DNRs, Agriculture and Interior departments, EPA, Army Corps, and USDA, Niemeyer offered the following comments for their consideration:

" Would this committee become proactive so as to help farmers efforts of reducing sedimentation and nitrogen from entering the Mississippi River? As conscientious producers, we have been reducing nitrogen application rates as well as using Best Management Practices to reduce sedimentation from entering or leaving our watersheds and that is what we are doing on our land in central Illinois. However, we are much more concerned by another event that may be about to take place that is totally out of our control, especially considering the interrelated relationship of our river systems. That is the Spring Rise proposal being considered by the Army Corps for the Missouri River. At certain months of the year, 60% of the water in the Mississippi River comes from the Missouri River. The Spring Rise concept, that would replace the current Master Manual (the Army Corps guidebook for river management), would send excessive amounts of water down the Missouri during the months of April, May, and June. This would not only flood farms along the states of Iowa and Missouri but just think of the excessive amounts of nitrogen that would be washed into the Mississippi River above and beyond what we are already trying to alleviate. The threat of this change will override all of our efforts to date. I request that each and everyone of you work to stop this Spring Rise Concept. Remember, all rivers that are connected have an interrelationship to each other. Your efforts to stop sedimentation and nitrogen entering the Mississippi River has the potential to be overridden by some of your own interconnected agencies. Will you help to stop this unintended and unnecessary consequence from happening?"

Other observations include: Hypoxia efforts seem to be focused on keeping nitrogen from getting into water in the first place but a lot of monitoring projects are still being conducted. Niemeyer said, he found an economic study presented by Iowa State University particularly interesting. It states that if Nitrogen applications were reduced by 20%, yields would be reduced by 10% and profits would be reduced by 50%.

The efforts seem to be focused on keeping nitrogen from getting into water in the first place and lots of monitoring projects.

Food for thought indeed! As a final note, if you are interested in modernizing the locks on the Upper Mississippi and Illinois River system the Army Corps will be

conducting a series of hearings on their "restructured" navigation study. The only Illinois hearing will be held March 12, in Peoria. Other nearby hearings include: March 13, St. Louis, MO; March 21, Davenport, IA; and March 20, LaCrosse, WI. An information session will be held from 1-3 p.m., with a public meeting and an opportunity to comment from 5-7 p.m. More information will be posted here soon.

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SIERRA CLUB IOWA CHAPTER
FOUNDED 1892

February 19, 2002

Army Corps of Engineers
Missouri River Hearing
Council Bluffs, Iowa

Thank you for providing this opportunity to comment on the management plans for the Missouri River.

I am here on behalf of the Iowa Chapter of the Sierra Club to express support for GP2021, the "Flexible Flow alternative". This is the alternative that will best suit the recommendations of the United States Fish and Wildlife Service, recommendations that are strongly supported by a two year study conducted under the auspices of the National Academy of Sciences.

The current management stratgegy for the Missouri River has been designed with the interests of only one sector of the economy in mind, that of the barge industry. Now you are being asked to look at what this means to other sectors of the economy as well as to the living things that inhabit the water and shores of this great American river.

Mr. Christopher J. Brescia, President of the Midwest Area River Coalition, in his testimony before the congressional Mississippi River Caucus in March said, "It's time for a national debate on the values of the waterway system." We would agree.

Let us take look at the losses, for example, those of the commercial fisheries that once thrived on the Missouri. Let us look at the unrealized potential of hydroelectric power generation, which the National Academy of Sciences study tells us could be boosted by another ten million dollars, if dams could be modified with energy generation in mind instead of being designed for the benefit of the barge industry.

Let us take a close look at the barge industry itself. As Mr. Tim Burrak of the National Corn Growers Association reported to the US House of Representatives last March, "Barge crews, specifically deck hands, are an entry-level position, with a high turn over rate." If you investigate, I believe you will find that railroad workers, on the other hand, are union workers who can sustain an American family on their salaries.

Barge operations are hampered by high winds, fog, rain, current flows, differences in water levels and by ice. Rail transportation is not. Rail transportation can be accessed inland, closer to the farm, and is not limited to river corridors. What if we were to take the national resources we now invest in the barge industry and invest them in our rail system? Could this make railroading more competitive and lower rail transportation costs, not just along river corridors, but all over the nation?

The US Fish and Wildlife Service tells us that allowing this river to operate with a heavier flow in the spring and a lighter flow during the late summer will benefit three species, the pallid sturgeon, the piping plover and the least tern. These three species are of special concern to us because they have been placed on a threatened or endangnered list, but these are not the only living creatures that depend on this river for their existence, and certainly not the only species that have become vulnerable. For example, under present river management practices, habitat for insects, which provide food for fish in the water as well as birds when they emerge into the air, has been reduced by as much as 60%. Without food no species can survive. Without ample food, no species can thrive.

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SIERRA CLUB IOWA CHAPTER
FOUNDED 1892

River edge rowcrop land is an economic and environmental liability. It is a source of revenue drain when losses need to be compensated in flood time, and a source of anxiety to the landowner, who experiences just how unreliable this land can be. What we haven't realized until recently, is the value to the economy, the environment and the community of restoring these areas to wetland. Sierra Club supports easements for wetland restoration that could be purchased through programs such as WRP, EWRP or other long-term or permanent set-aside efforts. These wetlands, if we allow them to exist, will protect our farmland and communities by storing water, which serves to mitigate the effects of both drought and flood.

One of the speakers at the December Pew Oceans Commission hearing in Des Moines presented his vision of a restoration project for the Midwest on the scale of the Everglades restoration. What better place to start than with the Missouri River? What better time to start than now?

Thank you,

Peggy Murdock, Secretary
Iowa Chapter of the Sierra Club

3839 Merle Hay Road, Suite 280, Des Moines, IA 50310 Tel: 515-277-8868 iowa.chapter@sierraclub.org

My name is Doug Gronau, and I am a farmer from west-central Iowa. I have lived between 8 to 50 miles from the river my entire life and I am very concerned about the economic consequences of the proposed changes to the Current Water Control Plan for the Missouri River.

Reduced summer flows along the river would eliminate barge navigation for several months and give shippers one less option to move farm commodities to their final destination. This will increase freight rates and have a direct negative impact on the prices farmers receive for their products. Recently, as an example, just the threat of importation of Brazilian soy-meal by ship to the southeastern region of our country, has reduced rail freight rates to that area from the Central United States. Low flow on the Missouri River could impact shipping on the Mississippi River during the summer months if a drought condition exists in the upper Midwest and cause serious market losses for farmers in all of Iowa and the ~~upper~~ Midwest. region.

Reduced summer flows could hamper power generation in our region, just when the demand for power is highest. Future economic activity is dependent on plentiful and reasonably priced power.

Reduced summer flows will cause severe economic hardships for marinas and boaters by making the river unusable for boating activity during the summer months, in an area already lacking large lakes.

Reduced summer flows could make any drought that may occur worse by lowering the water table when rainfall and soil moisture are most needed by crops.

Reduced summer flows for wildlife can be accomplished by other less costly methods, such as the use of chutes and backwaters.

Excessively high spring flows can be a major problem for agriculture. Not only could very high flows limit navigation, but also it would raise river levels at a time when all farmers are facing seasonal drainage problems in their fields. These drainage problems, combined with a very high spring river level, and sudden, heavy spring rains could cause serious problems, not only for drainage, but could cause actual flooding, particularly in Southwest Iowa and further down stream.

In conclusion, a change in management of the Missouri River to accommodate upper river interests at the expense of the interests of lower river states, will have a devastating effect on our economic well being far in excess of the economic benefits gained by the upper river states. The Corps of Engineers should use a balanced management plan, one that will not cause major economic and recreational disruptions to citizens of the lower Missouri River.

Oral Testimony

Paul C. Rohde, Vice President

Midwest Area River Coalition 2000 (MARC 2000)

Council Bluffs Public Hearing

February 19, 2002

Good evening General Fastabend. My name is Paul Rohde and I appear before you today on behalf of MARC 2000. As you know, we have taken the opportunity to testify at five other public hearings, focusing on various aspects of the RDEIS. Today, our comments relate to the "conservation" premise of the MCP and GP proposals. Since all these plans have the same basis, for simplicity I will focus my remarks on the MCP proposal, its predecessor MRBA proposal and some historical understandings.

On its face, the concept of preserving water during times of drought seems to make common sense. In fact, during the two years that MARC 2000 participated in the MRBA negotiation process, navigation interests did something no other participants elected to do. We indicated a willingness to accept a reduction in service earlier than provided for in the Master Manual, as a show of good faith to this notion of "saving water" for all future users in the basin. Since water is such an important commodity during these times, we asked for some sort of compensation, such as exemption for the fuel tax paid into the Inland Waterway Trust Fund.

We also asked for a plan that met a bottom line necessary to sustain navigation into the future. If service levels were to be reduced almost immediately, then we needed a season long enough to include time at the

end to move grain to market. We made an offer to "share pain", but what we got, General, was the reduction in service, without the time we needed at the end of the season and without any support for compensation.

MCP in its current form is not an acceptable proposal because it does not "share water" during times of drought. The triggers for lower navigation service are activated so soon in the process that any water saved is not provided for downstream users in Iowa, Kansas, Nebraska, Missouri and down the Mississippi River. In times of drought, only reservoir and inter-basin transfers are provided with the use of water, but navigation and downstream recreation and power supply are not. Is this a fair allocation of water between project-authorized uses? We think not, which is why we opposed the MRBA proposal and still oppose the MCP proposal.

A review of the 100-year hydraulic records by the Missouri Department of Natural Resources reveals a consistent rise in average pool levels in the upper reservoirs, including during years of drought. Essentially, negative impacts on riparian habitat, downstream recreation, downstream navigation, downstream power supply and downstream water supply are balanced against increased upstream recreation benefits. How is this "shared pain" within the basin?

MCP is unacceptable not only to Missouri River navigation, but certainly is unacceptable to Mississippi River Navigation. Under the Current Water Controlled Plan (CWCP), there is one year of eliminated navigation service on the Missouri River and eight shortened years. That same period reveals only 7 years when these low flow regimes coincide with low water on the

Mississippi River. This is important because water flow from the Missouri can supply up to 60% of the flow in the Middle Mississippi in low water years.

We contrast that type of support with MCP, where we have 5 years of no navigation support and 35 years of shortened seasons, a 344% increase in adverse conditions. In addition, of the total 40 years of impacted service, 30 of them coincide with low water flows on the Mississippi River. Yet we are presented here today, as we have been at every public meeting, with the notion that MCP is in fact "better" for the Mississippi River than CWCP. This conclusion is absolutely false. The real world implications of eliminated support are lost in the Corps' long-held averaging game, which results in a minimization of losses.

First, the Corps knew full well that single-year events could be catastrophic and lead to significant losses. Indeed, after playing with aspects of this data in former analyses, we also learned that drought events tend to be multi-year, compounding the economic impact. Regrettably, three bad years in a row, followed by three good years, don't average out to six "no impact" years, as the Corps' data would have us believe.

Even within the parameters of the averaging scheme employed by the Corps presentation of the data, the elimination of one year, 1939, from the mix dramatically shifts average annual impacts from positive results for MCP to significant negatives averaging $4.5 million per year in lost benefits on the Mississippi River. And, we know that this data is also suspect and incomplete.

Because the final Mississippi River Impacts analysis being conducted by the TVA will not be available prior to the conclusion of the public comment period, we asked navigation experts to conduct their own analyses.

General, we found that the loss of water support under MCP could generate average annual impacts from $7.5 million per year to as much as $30 million per year. This staggering impact has raised our opposition to the "conservation" underpinnings of MCP and the GP plans to a higher level.

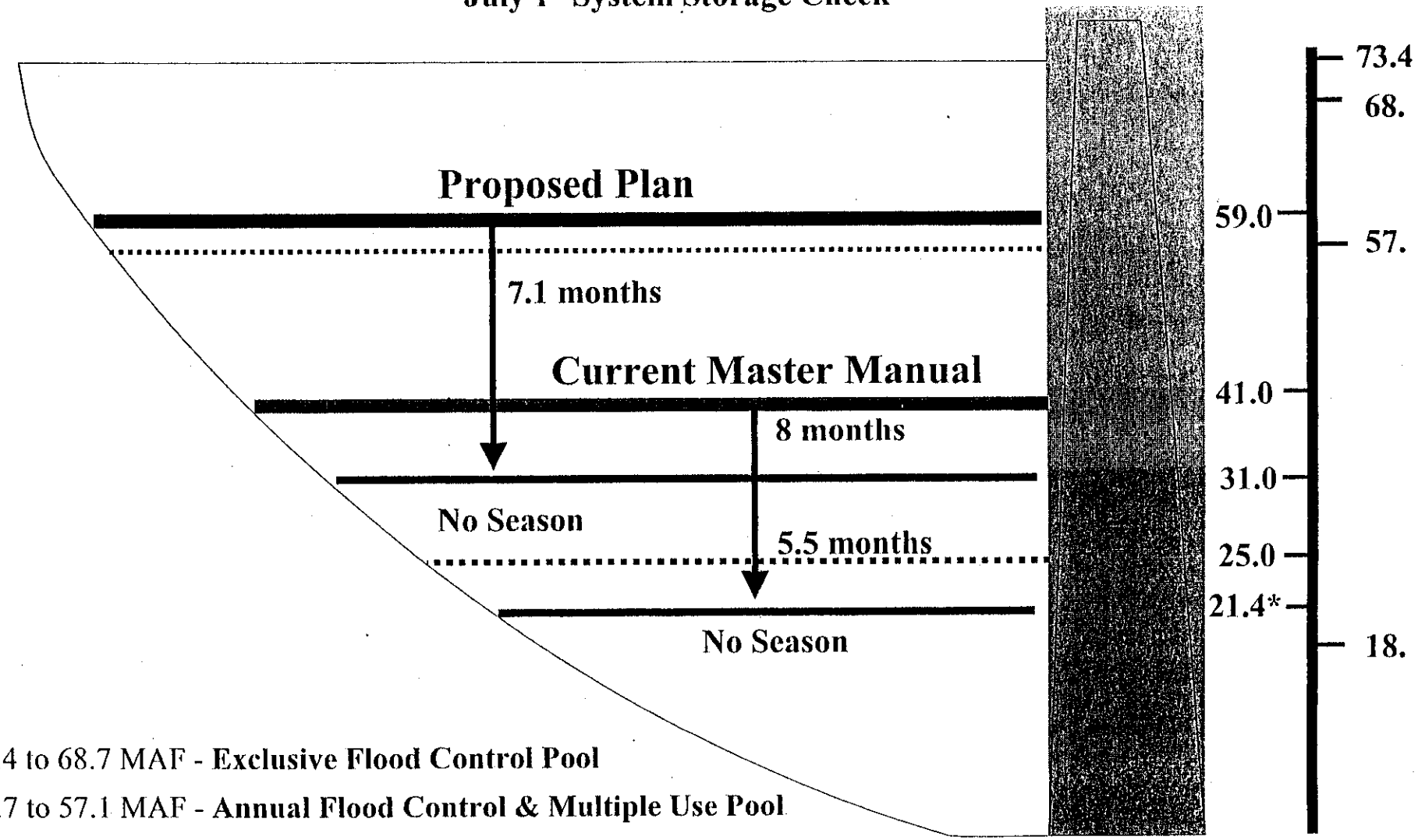
But again, the real travesty is that the public is being asked to evaluate alternatives when the impact analysis is incomplete. There are real world considerations to the effects of future depletions on the Missouri River that, despite having been requested repeatedly, have not been presented to the public or factored into the plans. We have asked for depletion runs on the MCP plan during this entire comment period and have been told by the Missouri DNR that this request has been denied.

This is important because depletion runs made on other previously considered proposals demonstrate an order of magnitude that greater impacts would doom any of these alternatives in the opinions of stakeholders basinwide. Let's look at some of that data affecting navigation. Under CWCP, current depletions adversely affect over 24 months of no navigation or shortened service. A 3.2 MAF depletion would triple that impact. Under the old C31 proposal there would have been over 48 months of impact under current depletions and an impact of over 5 times under a 3.2 MAF depletion run. GP1528 reveals similar negative trends. MCP has over a 70-month

impact under current depletions, but we don't have the impact number under a 3.2 MAF depletion run. If the relationships hold true, we would expect that number be 3 to 4 to 5 times current depletion impacts, which are substantial.

MCP is not an acceptable solution, nor are its conservation assumptions. We need to get back to a more equitable distribution of water that benefits the entire basin during times of drought, not just one part of the basin. Thank you for the opportunity to address this important issue.

Missouri River Main Stem Reservoirs
Season Length Cutoff
July 1st System Storage Check



73.4 to 68.7 MAF - **Exclusive Flood Control Pool**

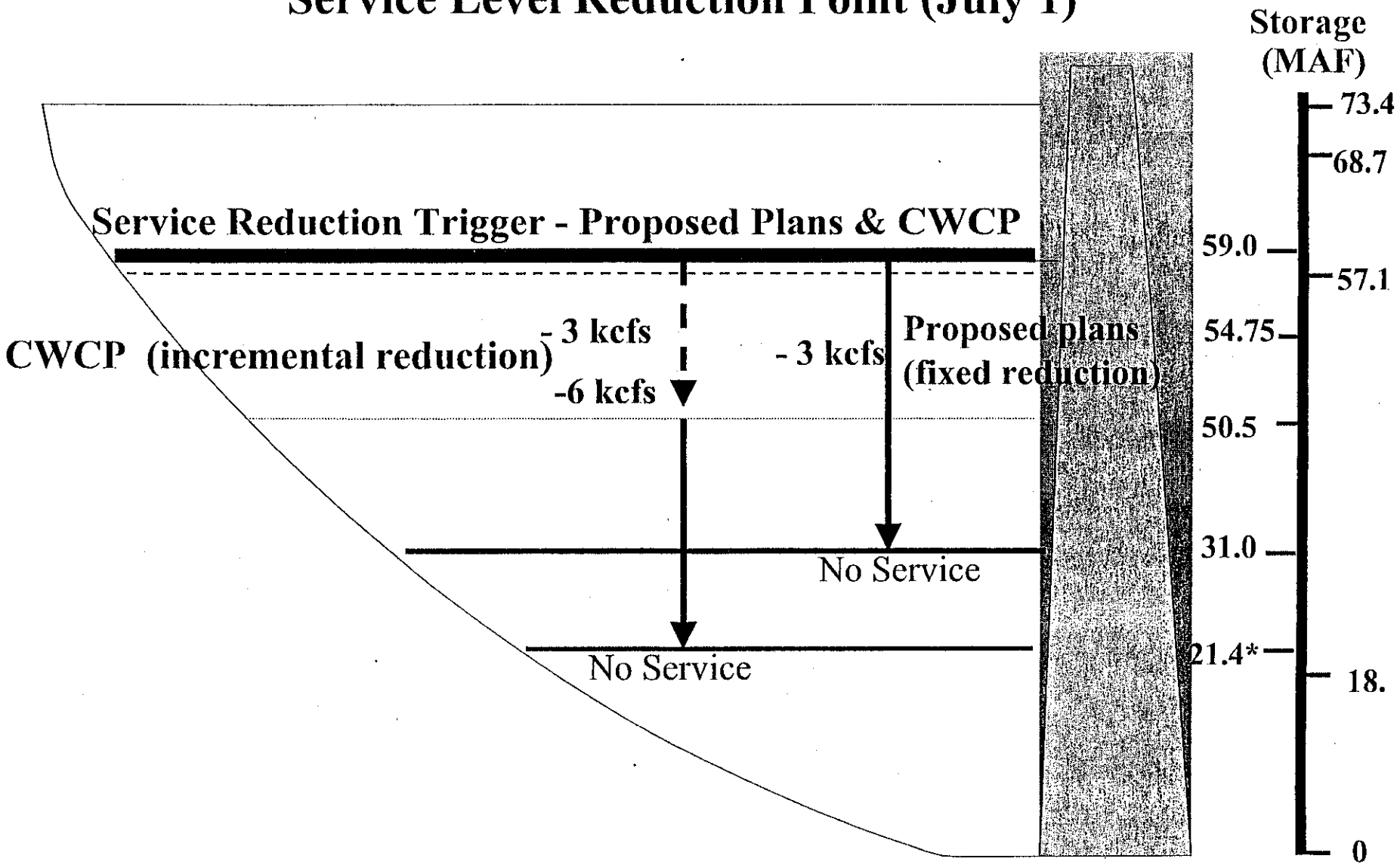
68.7 to 57.1 MAF - **Annual Flood Control & Multiple Use Pool**

57.1 to 18.1 MAF - **Carryover Multiple Use Pool**

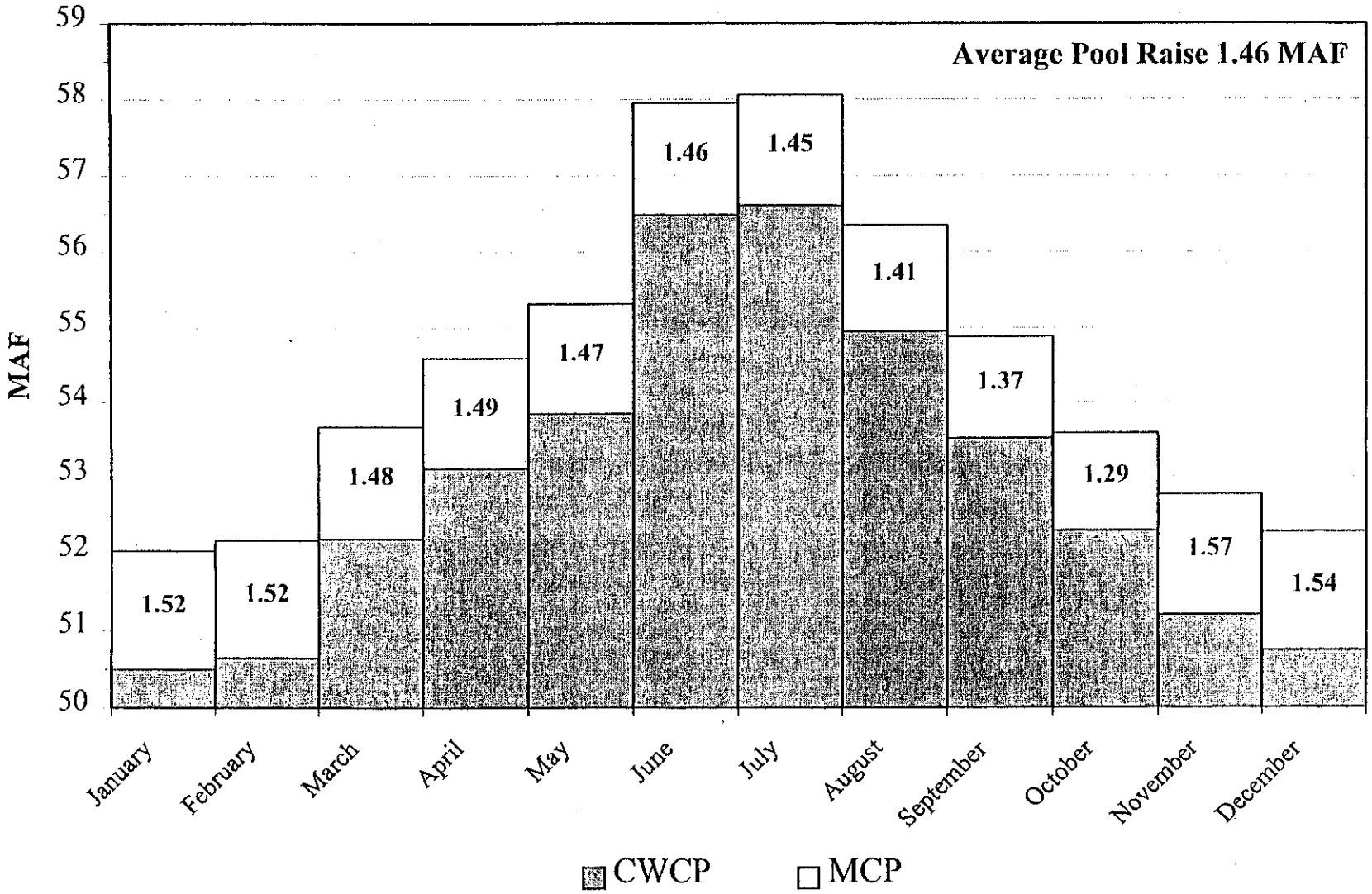
Below 18.1 MAF - **Permanent Pool**

Missouri River Main Stem Reservoirs

Service Level Reduction Point (July 1)



System Pool Raise
Missouri River System Storage 1898-1997
(in Million Acre-Feet)



Effects of Depletions and Alternatives on Navigation Service

Months of No Service (No Navigation + Shortened Service)

	CWCP	**MCP**	**C31**	**GP1528**
Current Depletions	24.39	71.39	48.66	73.80
3.2 MAF additional Depletions	76.43	???	200.75	173.24

Mississippi River Impacts

Plan	No nav	Shortened	Total	MR Years	MR Days
CWCP	1	8	9	7	397
MCP	5	35	40	30	1032
GP1528	6	30	36	27	874

No Nav = Number of years without support on Missouri River

Shortened = Number of years with less than 8 month support on Missouri River

MR Years = Number of years when No Nav and Shortened coincide with Mississippi River low water (Q<94.95 kcfs)

MR Days = Number of days when No Nav and Shortened coincide with Mississippi River low water (Q<94.95 kcfs)

Mississippi River
Lost Navigation Efficiency Impacts
Average Annual Costs - Shallow and Deep Draft

Missouri River Scenario	Cairo	St. Louis	Both Reaches	Difference From Scenario CWCP
CWCP	$ 18,766,000	$ 26,503,000	$ 45,269,000	
MCP	$ 17,970,000	$ 26,041,000	$ 44,011,000	$ (1,258,000)
MR1528	$ 15,589,000	$ 23,563,000	$ 39,152,000	$ (6,117,000)
MR2021	$ 14,965,000	$ 23,013,000	$ 37,978,000	$ (7,291,000)
MR1521	$ 14,938,000	$ 22,945,000	$ 37,883,000	$ (7,386,000)
MR2028	$ 15,616,000	$ 23,607,000	$ 39,223,000	$ (6,046,000)

Mississippi River
Lost Navigation Efficiency Impacts
Average Annual Costs - Shallow and Deep Draft

Without 1939

Missouri River Scenario	Cairo	St. Louis	Both Reaches	Difference From Scenario CWCP
CWCP	$ 9,903,126	$ 17,297,908	$ 27,201,035	
MCP	$ 11,846,458	$ 19,896,908	$ 31,743,366	$ 4,542,332
MR1528	$ 9,478,102	$ 17,649,895	$ 27,127,997	$ (73,038)
MR2021	$ 11,663,674	$ 18,385,625	$ 30,049,299	$ 2,848,265
MR1521	$ 11,636,518	$ 18,316,019	$ 29,952,537	$ 2,751,502
MR2028	$ 9,504,927	$ 17,695,372	$ 27,200,299	$ (735)

3775 EP True Parkway, PMB 124, West Des Moines, Iowa 50265
515/221-1961 (phone and fax) jtorbertidda@mchsi.com

Iowa Drainage District Association

Position Statement

To: US Army Corps of Engineers

Brig. General David Fastabend

From: John T. Torbert, Executive Director

Date: February 19, 2002

Re: Missouri River Water Control Plan

Thank you for the opportunity to appear today and make comments on this very important issue. The Iowa Drainage District Association represents the interests of organized rural drainage districts in the state of Iowa. Although the bulk of our membership is in the "prairie pothole" region of northwest Iowa, we also represent drainage interests on both the Missouri and Mississippi rivers. Our membership represents more than 3,000 drainage districts in 26 Iowa Counties. In most counties, that representation occurs through the county Board of Supervisors who under state law can become the trustees for the districts. Some districts continue to be represented by individual trustees.

The IDDA is here today to support the current water control plan for the Missouri River. Many farmers that farm land along the river have invested many thousands of dollars to drain that land to increase its productivity. We are very concerned about inland drainage and the impact it has along the river and behind the levees. The Iowa Farm Bureau Federation has determined that increased river flows could result in production losses on more than 100,000 acres of land, which in turn will result in economic losses of $13 million.

A spring rise – which is included in all but one option - will not allow to planting of corn on the affected acres. Planting of that land could be pushed back to July, which can also create harvest problems if an early front occurs. We are also aware that there have been substantial concerns expressed about the impact that changes in the river's flow will have on barge traffic. The Missouri River provides about half the flow of the Mississippi River, which is a vital route for our commodities and plays a huge role in our ability to compete in the international market place. Finally, we know that Midamerican Energy has analyzed these plans to see what impact they will have on the ability to generate power. According to the Iowa Dept. of Natural Resources, 40 percent of Iowa's generating capacity comes from the Missouri River. What impact will changing the flow of the river have on our ability to generate power?

It is for these reasons that the IDDA wishes to go on record in opposition to any change in the current flow plan. We believe that this option provides a balanced approach to the environment and to the farmers along the river that earn their livelihood from the land.

Marty Summy
15273 Missouri Ave.
Crescent, IA 51526
Farmer along Missouri River

Thank you to the Corps for extending this comment period. It's nice not having to stop planting or harvesting to attend a meeting.

I've attended meetings and hearings since the first attempt to change the Master Manual in the early 1990's. I was opposed to any changes in operation then and still am today. I haven't seen any information in all these years to change my views. I'm even more certain after reading the Environmental Impact Statement dated August 2001 and published by the U.S. Army Corp. of Engineers. I would like to quote some of the facts found in the publication.

Under proposed New Alternatives:

- Flood control, interior drainage, and ground water losses would amount to **4.6 to 5.6 million dollars** annually.

- Loss of navigation revenue would be **1.6 to 5.9 million dollars** annually.

- Net revenue loss to hydroelectric production of **8.2 to 29.7 million dollars** annually.

- Although no dollar amounts were assigned, the publication states, because of higher water temperatures, "Low flows in the river may force cutbacks in power production." It also states "River flows below full navigation service could increase the potential to exceed existing state standards for recreation and aquatic uses."

GP alternatives would increase recreation benefits by a mere 2 to 4 million dollars annually. But, I quote, "Higher recreation benefits at the upper three lakes largely account for the increase. Benefits decrease as summer flows decrease. Reduced benefits to lower river recreation largely account for the decrease."

Regarding effects on habitat:
Cold water fish habitat would increase 6% to 7% under GP alternatives, mainly behind the dams.
Warm water fish habitat would decrease 15% to 16% under the GP alternatives, mainly below the dams.

The Corps and USFWS agree that the Sturgeon needs 20 to 30 acres per mile of shallow water habitat. Under any of the alternatives, the most severe flow change would only provide ¼ of that. They also agree that there is no data to support definition of a spawning cue that would insure successful spawning.

Also under the GP alternatives, there would be a 2,400-acre increase in wetlands but a 4,000 to 5,000 acre loss of riparian habitat. Also, Tern and Plover habitat would increase by 140 to 160 acres and most would be between the upper dams and the short stretch between GP and Sioux City. I'd like to point out that this isn't like restoring 150 acres in the middle of Iowa, where there would be few adverse effects to those around the restoration. But, flow changes would adversely affect the entire length of the lower Missouri River.

I feel there must be other alternatives to create Tern and Plover habitats. For many years at these meetings there was an elderly gentleman from the state of Missouri who suggested mooring barges loaded with sand be provided as nesting sites. As I remember, the USFWS thought this was laughable. But I ask, did anyone try this simple idea? If the Tern and Plover were in such peril I would think it would have been worth an attempt over these past years.

In closing I urge you not to change the current master manual. I don't want to bear the increased risk and cost of this experiment. Recently the US Forestry Service has experimented with so called controlled burns and nearly destroyed Los Alamos, New Mexico.

What happens when in early May there are a couple of inches of rainwater on my farm fields that won't drain into a river higher than necessary and I need to plant? Or a river 4 feet higher than it would normally be goes out of its banks from a heavy rainfall event upstream and submerges a young corn or soybean crop? Being able to say I told you so won't help keep me in business. Those of us along the river don't want to be the Los Alamos of the Missouri.

Tom Mackland

There is an adage that says if a lie is repeated often enough, it will become the truth.

While the Fish and Wildlife Service, American River extremists and now six states of the Missouri River Basin Association spout their version of the findings of the National Academy of Sciences, they pick out excerpts to support their own agenda, and ignore those that do not.

The report does say the Missouri River ecosystem is in trouble and needs attention, it also says the biggest scientific challenge is in understanding how restoration activities will impact the ecosystem and that no further revisions should be made to the Master Manual until a collaborative, science-based approach can be put into place.

It should also be pointed out that the report does not support any specific proposal put forth by the corps of Engineers or the Fish and Wildlife Service, nor does it propose specific actions to restore the ecosystem of the Missouri River. In fact the report says more study and stakeholder involvement is needed to determine which actions are appropriate.

Like my father and his father before him, I have lived and farmed next to the Missouri River most of my life. I have seen the devastation caused not just by flooding, but by the loss of interior drainage systems, which permits even the smallest rainfall event to keep me out of the fields. If this so called experiment is put into place, will the Fish and Wildlife people or American River representatives open their own checkbooks to help me or my neighbors when we are losing money? I think not, they have no financial interest one way or the other.

What sense does it make to put so many people and communities at risk putting into implementation a plan that at its very definition is an experiment? There is no evidence supporting the claim that a spring rise will help these endangered species, but there is plenty of evidence showing how high flows and reduced or nonexistent drainage can cost basin residents millions of dollars. I would bet that in this room alone there are people who collectively lost many thousands, if not millions of dollars in the last decade due to flooding caused by rainfall events which occurred at times when the Missouri River was carrying above average flows.

So I respectively put this to the Corps of Engineers, gentlemen please do not bow to the pressure of agencies or groups who would have you alter the course of your mission just for the sake of being politically correct. Especially when so many alternatives exist that do not involve putting so many people and businesses at risk.....

David Fuehrer Dakota Dunes Community Improvement District.

We are concerned nobody has contacted Dakota Dunes to check the impact of the Missouri River spring rises on our storm water system that drain's into the Missouri.

David Fuehrer
Public Works Manager
Dakota Dunes Community Improvemt District
P.O. Box 1997
Dakota Dunes, SD 57049

RESOLUTION 2-2002-1

A RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATIONS OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall, and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in numerous communities in South Dakota, Nebraska, and Iowa downstream from Gavin's Point Dam in Yankton, South Dakota; and

WHEREAS, changes in the Missouri River water levels could move nearby contaminants to Sioux City and result in loss of public drinking water supplies and create a danger to public health at Dakota Dunes; and

WHEREAS, valuable residential and commercial property, and farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting in higher transportation costs and straining the ground transportation infrastructure; and

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Supervisors of Dakota Dunes Community Improvement District, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

Date adopted: February 18, 2002.

Alden Bailey, Chairman, Board of Supervisors

ATTEST:

Kim Hoffman, District Secretary

LAFARGE
NORTH AMERICA

My name is Kyle Harrison, and I am representing Lafarge North America this evening, a worldwide leader in construction materials. I'm the manager of the Omaha cement terminal. Lafarge is strongly committed to providing high quality products and safeguarding our environment. River transportation has been a vital link in our supply chain and the most efficient, environmentally friendly form of transportation that we can employ in our Midwest and West Central Regions.

Lafarge North America operates a cement manufacturing facility at Sugar Creek, Missouri. From our plant we have barged cement upstream to Omaha for almost 36 years. The river has been a vital supply line for us. We are currently increasing the production capacity of our Sugar Creek plant from approximately 500,000 tons annually to over 900,000 tons in order to meet the strong consumer demand for Portland Cement in the Kansas City and Omaha areas. We need to get our products to Omaha, and river transportation is the best way to do it. Our manufacturing processes also require a variety of bulk raw materials and fuel: clay, slag, clinker, gypsum, and coal, to name a few. Lafarge currently transports approximately 350,000 tons of raw materials into our plant at Sugar Creek, and would like to increase this amount. These materials are transported by barge in an efficient and environmentally friendly manner. River transit also serves to keep rail and truck transportation rates more competitive, and that is good for everybody.

Lafarge North America has recently invested over $300,000.00 in the barges used to transport cement to Omaha. Lafarge North America would like to invest more capital funds in the barges, unloading and loading facilities located along the Missouri River. The Army Corps of Engineers activities directly impacts these types of capital expenditures. It is extremely difficult to justify, and to commit capital dollars to a supply chain that has a questionable future.

Utilizing the current Master Water Control Manual allows for suitable time in the navigation season to ship enough tons of cement to meet the consumer demand. Barging materials is the most cost-effective way to move products. The number of miles one ton can be carried per gallon of fuel is 514 miles for barges, 59 miles for trucks and 202 miles by rail car. It takes approximately 160 trucks or 40 rail cars to move the tonnage that we get on just two barges. Trucking equal amounts of material consumes 3 to 4 times more fuel then if barged. Railing material consumes twice as much fuel. The cost savings from using the navigable waterways are passed on to the public through lower cost products used to build our cities and towns' infrastructures, allowing for safer roads and bridges at a lower cost for taxpayers. What's better for America? More trucks congesting roads, airborne emissions, and consuming more fuels?