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Endangered Species Act
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Introduction

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to present testimony on the Endangered Species Act and its role in Rural Electricity Service in the Missouri River basin. I am Chad Smith, Director of the Nebraska Field Office for American Rivers. American Rivers, founded in 1973, is the leader of a nationwide river conservation movement. American Rivers is dedicated to protecting and restoring healthy natural rivers, and the variety of life they sustain, for the benefit of people, fish, and wildlife. We are supported by over 40,000 members nationwide and maintain offices in ten locations around the country, including the Nebraska Field Office in the Missouri River basin. From my home state of Nebraska, I direct American Rivers' work on the Missouri River, Platte River, and its burgeoning work on other specific rivers and important water policy issues in the Great Plains and Western United States.

Since 1998, I have led American Rivers' Voyage of Recovery Campaign in the Missouri River basin. This Campaign is a multi-year effort to restore and protect the rivers of Lewis and Clark, including my work on the Missouri and Yellowstone Rivers and the work of my colleagues in our Northwest Regional Office on the Columbia and Snake Rivers. Convening the Missouri River Conservation Caucus and working with many other partners throughout the basin, American Rivers is playing a leading role in issues related to habitat restoration, flow restoration, fish and wildlife recovery, increasing the economic health of the basin through increased river recreation and tourism, and river governance and management reform.

More than that, I come before you as a lifelong Nebraskan, hunter, angler, and conservationist. My roots are in the Platte River in Nebraska. I grew up duck hunting and catfishing on the Platte in central Nebraska, and those experiences have grown into a passion for hunting and fishing that stands to this day. At the same time, I have been a consumer of some of the best and cheapest rural electric power in the country, and today utilize power in my home generated on the Missouri River through the Lincoln Electric System. Thus, I have a personal stake in assuring that the Missouri River provides hunting, fishing, and other recreational opportunities for my family, but also serves as a continued source of electric power for the basin.

After working on Missouri River management issues for over eight years, it is clear to me that we can have our cake and eat it too – we can improve the health of the Missouri River, boost local economies by tying them to a healthy Missouri, and also support “traditional” and Congressionally authorized uses of the river like power production. It is true that threatened and endangered species do exist on the Missouri, that these species are the subject of ongoing and intense debate, and that management changes directed at these and other species may have positive and/or negative impacts on river uses like power production. But, working together with river stakeholders, state and federal agencies, and Congress, we can find solutions to these challenges and ensure a healthy river and strong power production for future generations.

The health of the Missouri River is in dire straits, and the river is simply not the destination of choice of most people in the Missouri River basin. Most have turned their backs on the Missouri, and it is not living up to its economic potential or providing the kind of quality of life benefits we expect from a big river system. Further, management inequities are exacerbating the effects of the very severe drought we are now experiencing in the basin and threaten to harm river uses like power production.

Often, the Endangered Species Act (ESA) is invoked as a tool of last resort to prevent the continued decline in health of a natural system like the Missouri River. The focus is often on one or a few species, and those species receive much of the attention in the public policy debate. But, endangered and threatened species are mere indicators of greater problems in an ecosystem, and reflect the management changes necessary to help not just particular endangered species, but ultimately all of the native species that inhabit the ecosystem and the people that depend on that ecosystem as well.

Over the past 15 years, the U.S. Army Corps of Engineers (Corps) spent millions of federal taxpayer dollars analyzing potential changes in the operation of six large mainstem dams on the Missouri River. This process was part and parcel of the Corps' attempt to update and revise the Missouri River Master Water Control Manual (Master Manual), the guidebook used

to operate the river's federal dams. As a part of that analysis and before completing the Master Manual revision in 2004, the Corps evaluated dam reform options that incorporate more natural flows on the Missouri.

Natural flow restoration has been called for by an independent panel of the National Academy of Sciences, the U.S. Fish and Wildlife Service (Service), and all of the fish and wildlife management agencies from the states in the Missouri River basin. The Corps itself found that restoring more natural flows to the Missouri River will actually result in an annual net economic benefit of at least \$8.8 million for the basin, including a roughly 2% increase in average annual hydropower benefits.

Further, the economic options presented by a Missouri River that once again actually looks and acts like a river are endless. By making the Missouri River a destination for hunters, anglers, boaters, campers, hikers, and families, communities up and down the river can tap into limitless economic possibilities associated with outdoor recreation and tourism. Coupled with ongoing power production, agricultural practices in the floodplain, and other "traditional" uses, the Missouri River can truly become an economic engine for our basin.

The presence of endangered and threatened species on the river has been one of the key drivers in the past few years of discussions about how best to change river management. Now that the Corps has completed the Master Manual revision process, it is time to assess how the new Master Manual addresses the needs of these species, but more importantly whether or not it also addresses the needs of people in the basin through river uses like power production. We now need to focus on how to deal with potential impacts of flow restoration, ensure no single person or group is unfairly given the burden of management changes, and begin implementing a new vision for the Missouri River and the valley through which it flows.

Missouri River ESA Issues and the Master Manual Revision

Like all rivers, the driving force behind the mighty Missouri River was its "natural hydrograph" – the seasonal rise and fall of water. The Big Muddy experienced rising flows in the spring and early summer from melting snow and rain. Higher flows were followed by declining flows during the late summer and throughout the fall.

Today, these seasonal fluctuations are gone, replaced by stable flows largely to support commercial barge traffic. Fish and wildlife, people, and local communities have paid the price. Three native Missouri River species are on the brink of extinction, and more than 50 native species are listed by basin states or the federal government as rare, threatened, or endangered. Recreation on the river is given little priority in management decisions.

In November 2000, the Service released its Final Biological Opinion on Missouri River dam operations. That biological opinion came on the heels of at least two previous similar opinions and again concluded that the interior least tern, piping plover, and pallid sturgeon were likely to go extinct on the Missouri River if the Corps failed to change dam operations.

The Service proposed several elements of a "reasonable and prudent alternative" intended to assist the recovery of those species. Key elements included:

- Increasing flows from Gavins Point Dam and Fort Peck Dam in the spring ("spring rise") when water conditions permit, and reducing Gavins Point Dam flows each summer; this would not amount to a restoration of pre-dam conditions but would provide a semblance of the Missouri's natural rise and fall of water levels.
 - Restoration of river and floodplain habitat.
 - Reservoir unbalancing.
 - Adaptive management of the river system.
 - Intensive biological monitoring.

The Service's recommended changes were designed to prevent the extinction of three endangered and threatened species, but also would benefit all native Missouri River fish and wildlife and thereby the many outdoor enthusiasts wanting to enjoy the river.

In its January 2002 report on the Missouri River titled *The Missouri River Ecosystem: Exploring the Prospects for Recovery*, the National Academies of Science concluded that:

"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."

According to river biologists, the Service's recommended flow changes mimic key elements of the Missouri's historic flow patterns, including higher flows through mid-June and lower flows from mid-July through August. Federal, state,

and university biologists note that this timeframe encompasses the spawning period of most Missouri River native fishes, including pallid sturgeon, smallmouth bass, channel catfish, and paddlefish, and nest initiation by interior least terns and piping plovers.

In 2003, the Service amended its Biological Opinion. Some of the specific recommendations related to flow changes were altered, but the amended opinion retained the central tenet of the necessity and urgency of restoring more natural flows to the river. In 2004, the Corps completed the Master Manual revision process that roughly incorporates the flow recommendations of the Service's 2003 amended Biological Opinion. Both the amended opinion and the new Master Manual were upheld in the summer of 2004 through ongoing federal litigation, so flow changes such as the Service's 2006 spring rise recommendation are now being formulated for implementation through a basin-wide collaborative process.

According to the Corps' own detailed analysis in the Environmental Impact Statement accompanying the new Master Manual, these moderate changes in dam operations can be made to improve the river's health and boost local economies through increased recreation and tourism, while protecting "traditional" uses of the river like hydropower, navigation, floodplain farming, and flood control. There will certainly be challenges in protecting these uses as flow changes are implemented, but through collaboration these challenges can be solved and the river can be rejuvenated for the use and enjoyment of the basin.

Missouri River Power Production

By all accounts, hydropower production accounts for the largest share of the traditional economic benefits generated by the Missouri River each year, with annual benefits totally nearly \$700 annually. Thus, power production is an extremely important use of the river, and potential impacts on that use must be carefully and clearly evaluated as management changes are developed and implemented. Impacts on power resulting from the restoration of more natural flows on the Missouri received detailed analysis by the Corps during the Master Manual revision process, and power continues to be a priority issue in discussions about how best to implement flow restoration options.

According to the Corps, dam operations incorporating the flow changes recommended by the Service in the 2000 Biological Opinion provide a 2% increase in the average annual hydropower benefits over the old Master Manual water management plan. These flow changes were also found to increase the monthly average hydropower peaking capacity and the marketable capacity for the Western Area Power Administration (WAPA) in both the summer and winter seasons. Thus, in general, restoring more natural flows to the Missouri River will result in an overall positive impact on the production of hydropower on the Missouri River system. This conclusion was found to be accurate in a 2002 report on Missouri River hydropower by noted hydropower economist David Marcus (attached).

However, the Corps' Final Environmental Impact Statement (FEIS) suggests that lower summer flows might result in a loss of firm-power revenue on the Missouri River system of up to \$29.9 million. According to David Marcus' evaluation, this estimate is inaccurate because the firm-power revenue loss figures are based on an analysis completed by WAPA that is rooted in energy prices from January 2001, when energy prices were at an all-time record high due to the California energy crisis. Using more typical current prices from June 2002 (when Mr. Marcus completed his evaluation), the prediction of revenue loss falls from roughly \$30 million to around \$3 million. Even for customers who buy 100% of their electricity from WAPA, flow modification would only increase costs from 1.7 cents per kWh to 1.74 cents, or about 2 percent. Customers buying only 10 percent of their electricity from WAPA might experience a 0.1 percent increase.

The price of retail electricity also includes the cost of transmission, distribution, marketing, metering, and billing, none of which would be affected by Missouri River flow changes. This means that retail price increases due to flow changes would be even less than those for WAPA firm power customers. Without factoring in the positive impacts of increased capacity, the average rate increase for the region if flow changes were implemented would be about 1.5 cents per month for a typical residential customer.

The original WAPA analysis ignores the value of increased marketable capacity on the Missouri River system that would come from restoring more natural flows to the river. If this were factored in, it is likely that flow changes could result in positive economic impacts of \$8 million to \$16 million annually. Also, the FEIS fails to discuss the fact that under an alternative incorporating more natural flows, the loss of hydropower during extreme drought and flood events is reduced as compared to both the old and new Master Manual. Not factoring this "insurance value" during extreme events into the analysis likely contributes to an overestimation of the negative impacts of implementing flow changes.

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

Another issue related to power production is the presence of generating plants along the lower river, both nuclear and coal-

fired. In both cases, the generating plants have maximum ambient temperature requirements for river water intake, as well as maximum temperature requirements for discharge of thermally-heated water back into the Missouri River. Power plant representatives continue to voice a concern with low summer flows (both due to drought and due to potential lower summer flows for fish and wildlife purposes) relating to the constraints of currently permitted thermal levels.

This is an example of a potential impact to a traditional use of the Missouri due to water management changes that needs to be quickly and fully addressed. Solutions do seem readily available to deal with these challenges, and the basin is starting to put a priority on dealing with potential power production problems. For example, research done by the Nebraska Game and Parks Commission, the University of Nebraska, and others in the 1970s determined that existing thermal discharges in the summer were not having significant biological impact on the Missouri River. This suggests that even if low flows did result in some thermal impacts, current temperature limits on return water could potentially be modified, or permit variances could be granted, allowing power plants to operate fully without causing significant negative impacts on the ecology of the Missouri River. Basin state agency leaders and Environmental Protection Agency staff are now taking a serious look at this issue and are hoping to determine what, if any, regulatory flexibility would be acceptable to help solve this problem.

Further, other means of dealing with thermally-heated return water, like pumping this water first into created wetlands where temperature problems could be abated or building cooling towers, are now being routinely discussed by power companies, water suppliers, the EPA, the Corps, and other basin stakeholders to develop the best solutions to meeting the basin's power demands but also upholding the requirements of the ESA and ensuring the long-term ecological health of the Missouri River.

One final item relating to power production and Missouri River management is worth noting. The basin is now experiencing one of the worst droughts on record, and system storage is at an all-time record low. The river's six federal reservoirs are holding very little water, and it is expected that storage will be so low next year that the Corps will have to cease navigation entirely on the lower Missouri. Despite these conditions, the Corps is still operating the river's dams in 2005 to support downstream navigation, only shortening the season by about 60 days in the late fall. This policy is further reducing the "head" behind the river's dams, which reduces generating capacity. Despite the overwhelming value of power benefits (about \$700 million a year) compared to that of navigation (estimated by the National Academies of Science to be about \$3million a year), water is still being moved down the system for a very minor navigation industry to the detriment of power production and other river uses. Thus, the new Master Manual has not solved this long-standing inequity. It is my hope that the stress of this serious drought will help bring about an evaluation of this policy and that the collaborative processes now being developed in the basin will result in a management system on the Missouri that better balances all the river's uses.

Conclusion

Power production and endangered species can peacefully co-exist on the Missouri River. Power is a key use of the Missouri River, and it must be addressed as a priority as dam operation changes are implemented on the river. The needs of threatened and endangered species on the Missouri must be met, but those needs can be fulfilled at the same time as power production is sustained on the river for the basin's power consumers. It is important to place a priority on addressing the concerns of power producers on the Missouri related to drought and other potential flow management changes, and for the collaborative processes now underway in the basin to help find workable solutions to power production challenges that result from dam operation changes.

I would like to thank the Subcommittee for the opportunity to provide my oral and written testimony on the interaction between Rural Electricity Service and the Endangered Species Act in the Missouri River basin. If any Members of the Subcommittee have further questions, I would be happy to respond in writing, or can be reached by telephone at (402) 423-7930 or e-mail at csmith@americanrivers.org.

Supplemental Information Sheet

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