

H.R. 3480 and H.R. 3606

LEGISLATIVE HEARING
BEFORE THE
SUBCOMMITTEE ON WATER AND POWER
OF THE
COMMITTEE ON RESOURCES
U.S. HOUSE OF REPRESENTATIVES
ONE HUNDRED SEVENTH CONGRESS
SECOND SESSION

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C O N T E N T S

	Page
Hearing held on March 7, 2002	1
Statement of Members:	
Kind, Hon. Ron, a Representative in Congress from the State of Wisconsin	8
Prepared statement on H.R. 3480	11
Walden, Hon. Greg, a Representative in Congress from the State of Oregon	2
Prepared statement on H.R. 3480 and H.R. 3606	2
Statement of Witnesses:	
Daigle, Doug, Hypoxia Program Director, Mississippi River Basin Alliance	28
Prepared statement on H.R. 3480	30
Hirsch, Dr. Robert M., Associate Director for Water, U.S. Geological Survey, U.S. Department of the Interior	5
Prepared statement on H.R. 3480	6
Keys, John W. III, Commissioner, Bureau of Reclamation, U.S. Department of the Interior	3
Prepared statement on H.R. 3480	4
McLachlan, John A., Ph.D., Weatherhead Distinguished Professor of Environmental Studies, Professor of Pharmacology, Director, Center for Bioenvironmental Research, Tulane and Xavier Universities	36
Prepared statement on H.R. 3480	38
McMillen, Morton D., Principal Engineer, Montgomery Watson Harza	17
Prepared statement on H.R. 3606	19
Schnoor, Jerald L., Ph.D., P.E., DEE, Professor, Civil and Environmental Engineering, Co-Director, Center for Global and Regional Environmental Research, The University of Iowa	24
Prepared statement on H.R. 3480	26
Stoerker, Holly, Executive Director, Upper Mississippi River Basin Association	32
Prepared statement on H.R. 3480	34
Additional materials supplied:	
Foster, The Honorable M.J. "Mike", Governor, State of Louisiana, et al., Letter submitted for the record	13
Hulshof, The Honorable Kenny, and The Honorable Leonard Boswell. Letter submitted for the record on H.R. 3480	10

LEGISLATIVE HEARING ON H.R. 3480, TO PROMOTE DEPARTMENT OF THE INTERIOR EFFORTS TO PROVIDE A SCIENTIFIC BASIS FOR THE MANAGEMENT OF SEDIMENT AND NUTRIENT LOSS IN THE UPPER MISSISSIPPI RIVER BASIN; AND H.R. 3606, TO AUTHORIZE THE BUREAU OF RECLAMATION TO PARTICIPATE IN THE REHABILITATION OF THE WALLOWA LAKE DAM IN OREGON, AND FOR OTHER PURPOSES.

Thursday, March 7, 2002
U.S. House of Representatives
Subcommittee on Water and Power
Committee on Resources
Washington, DC

The Subcommittee met, pursuant to notice, at 10 a.m., in room 1334, Longworth House Office Building, Hon. Greg Walden, presiding.

Mr. WALDEN. Good morning. We commence the hearing on H.R. 3480, to promote the Department of the Interior efforts to provide a scientific basis for the management of sediment and nutrient loss in the Upper Mississippi Basin and H.R. 3606, to authorize the Bureau of Reclamation to participate in the rehabilitation of the Wallowa Lake Dam in Oregon, and for other purposes.

Mr. WALDEN. Under Rule 4B of the Committee rules, any oral opening statements at hearings are limited to the Chairman and the Ranking Minority Member. If other members have statements, they can be included in the hearing record under unanimous consent, if any members disagree with that—good.

[Laughter.]

Mr. WALDEN. The Chairman will recognize the Ranking Minority Member, Mr. Kind, when he comes to give his opening statement, but I understand that several of the witnesses are on pretty tight schedules this morning, so, in concurrence with the minority staff, we have agreed to proceed, and I will do that.

**STATEMENT OF THE HON. GREG WALDEN, A
REPRESENTATIVE IN CONGRESS FROM THE STATE OREGON**

Mr. WALDEN. So what I'd like to do now is give a brief opening statement and submit my full statement for the record.

Today, we hold a legislative hearing on two bills, as I have mentioned. The first is the Upper Mississippi River Basin Protection Act of 2001, which provides for the Department of Interior and U.S. Geological Survey to supplement, coordinate, and manage data collection on sediments and nutrients in the Upper Mississippi River Basin and use the data to perform computer modeling to provide the baseline data and modeling tools needed to make scientifically sound and cost-effective management decisions.

The other legislation deals with the issue in Wallowa County Oregon of the Wallowa Lake Dam, which was built in 1918, I believe, and it is about 35 feet tall. It was reconstructed in the 1920's. In 1996, the Wallowa Lake Dam was listed as a high-hazard structure by the Oregon Water Resources Department of Dam Safety.

A sudden failure and release of water would most certainly result in loss of life and property, as well as severe environmental and economic damage to the communities that lie downstream. In fact, the dam has been holding water at less than the maximum authorized pool level since 1970.

So this is one that, clearly, we are trying to find a way to get some help on, and I know others have been assisting in that way as well.

In addition, the improvements that they have recommended here would help both improve water quality, streamflows and meet other problems in the local area, including trust obligations to the Nez Perce Tribe.

So I will put my full statement into the record.

[The prepared statement of Mr. Walden follows:]

**Statement of The Honorable Greg Walden, Vice Chair, Subcommittee on
Water and Power, on H.R. 3480 and H.R. 3606**

Today we will hold a legislative hearing on two bills,
H.R. 3480, the Upper Mississippi River Protection Act of 2001, and
H.R. 3603, the Wallowa Lake Dam Rehabilitation and Water Management Act of
2001

First, H.R. 3480, the Upper Mississippi River Basin Protection Act of 2001, provides for the Department of the Interior, U. S. Geological Survey to supplement, coordinate and manage data collection on sediments and nutrients in the Upper Mississippi River Basin and use the data to perform computer modeling to provide the baseline data and modeling tools needed to make scientifically-sound and cost-effective river management decisions. The legislation includes a provision requiring landowner permission prior to disseminating information from monitoring stations located on private lands to protect the privacy of individual landowners. Finally, it provides for the National Research Council of the National Academy of Sciences to conduct a comprehensive water resources assessment of the Upper Mississippi River Basin.

Second, H.R. 3606, the Wallowa Lake Dam Rehabilitation and Water Management Act of 2001.

Before we hear from our witnesses, I now recognize the gentleman from Wisconsin, Mr. Kind, the first bill's sponsor to further discuss the bill.

Mr. WALDEN. And with that I would like to welcome our witnesses, Mr. Keys and Dr. Hirsch, and would welcome your comments at this time.

We will start with Mr. Keys. Good morning and welcome to the Committee.

STATEMENT OF JOHN W. KEYS, III, COMMISSIONER, BUREAU OF RECLAMATION, U.S. DEPARTMENT OF THE INTERIOR

Mr. KEYS. Mr. Chairman, it is a pleasure to be here and talk with you about the H.R. 3606, the Wallowa Lake Dam Rehabilitation and Water Management Act. I would ask that my full written statement be made part of the record for this hearing.

Mr. WALDEN. Without objection.

Mr. KEYS. Mr. Chairman, H.R. 3606 would authorize Reclamation to participate in the Wallowa Lake Dam Rehabilitation and Water Management Program in Oregon, near Joseph, Oregon. The proposed bill sets out an 80/20 cost-share arrangement for this program, with the Government's share of \$32 million to be funded by the Bureau of Reclamation.

While we believe that there are merits to the proposed program, the Department does not support H.R. 3606.

Wallowa Lake Dam is a privately owned dam constructed in 1918 and raised in 1929. It is owned and operated by the Associated Ditch Companies in Oregon. Dam safety deficiencies have been identified by the U.S. Army Corps of Engineers and the Oregon Water Resources Department. Associated Ditch Companies organized and led a partnership composed of the Grande Ronde Model Watershed Council, Reclamation, and other local, county and State agencies in developing the four-phased plan for the program or the act. They did that to address dam safety deficiencies and to the correction of these deficiencies to encourage larger environmental issues in the Wallowa River Basin.

The proposed act would begin construction in Fiscal Year 2002 and continue through the Fiscal Year 2007, at an estimated cost of almost \$39 million. The act calls for the Federal Government to provide \$32 million of that program cost.

While we fully understand the importance of ensuring the safety of the Wallowa Lake Dam, this dam is not a Federal project. It is a privately owned and operated facility, and it falls under the Dam Safety Program of the Oregon Department of Water Resources.

Reclamation believes that the Wallowa Lake Dam program is worthwhile, with potential numerous benefits to the environment, to the fish and so forth and to the dam itself. However, we are concerned about the proposed Federal role in the project.

Despite the very high Federal cost share for the project, under H.R. 3606, there is no Federal interest in the dam and none is provided by the bill. Moreover, there is no provision for repayment by project beneficiaries in accordance with Reclamation law.

Finally, Reclamation was not involved in the preparation of the Phase I engineering document defined in the bill, and we have not had the opportunity to review the designs of that proposed plan.

Mr. Chairman, we are also concerned that Reclamation's participation in this program would adversely impact ongoing projects and operations of Reclamation. H.R. 3606 would authorize the use of Reclamation funds for a non-Federal purpose. Reclamation funds must be targeted to perform essential functions at our Federal

projects, such as the Bureau of Reclamation's own Safety of Dams program, security of our facilities, operation and maintenance, resource management and construction.

In summary, the Department of Interior cannot, therefore, support H.R. 3606. Mr. Chairman, that concludes my oral comments. I would certainly be glad to answer any questions that you might have.

[The prepared statement of Mr. Keys follows:]

**Statement of John W. Keys, III, Commissioner, Bureau of Reclamation,
U.S. Department of the Interior, on H.R. 3606**

Mr. Chairman and Members of the Subcommittee: I am John Keys, Commissioner of the Bureau of Reclamation. I appreciate the opportunity to present the Department's views on H.R. 3606, a bill that would authorize Reclamation to participate in the Wallowa Lake Dam Rehabilitation and Water Management Program in Oregon. H.R. 3606 sets out an 80/20 cost share for this Program, under which the Federal Government would pay \$32 million funded through the Bureau of Reclamation.

While we believe there are merits to the proposed program, the Department does not support H.R. 3606.

Wallowa Lake Dam is a privately-owned dam constructed in 1918 and raised in 1929, and is owned and operated by the Associated Ditch Companies, Inc. (ADC). Dam safety deficiencies have been identified by the US Army Corps of Engineers and Oregon Water Resources Department. ADC, in conjunction with the Grande Ronde Model Watershed Council, Reclamation, and other local, state, and Federal agencies, developed the Wallowa Lake Dam Rehabilitation and Water Management Program to address dam safety deficiencies and to tie correction of those deficiencies to larger environmental issues in the Wallowa River Basin.

The Wallowa Lake Dam Rehabilitation and Water Management Program is proposed to begin in Fiscal Year 2002 and continue through Fiscal Year 2007, at an estimated total cost of \$38,800,000. Under H.R. 3606, the Federal Government would provide funding of \$32,000,000.

Reclamation itself has an inventory of aging dams—and the responsibility to ensure the safety and reliability of Reclamation dams to protect the downstream public. Dam safety is one of Reclamation's highest priorities. I would like to give you a sense of the scope of our dam safety responsibilities: the Bureau has reservoirs impounded by 457 dams and dikes. Of these structures, 362 dams and dikes, located at 252 different project facilities, would likely cause loss of life if they were to fail. Approximately 50 percent of Reclamation's dams were built between 1900 and 1950, and about 90 percent of the dams were built before currently-used state of the art design and construction practices. Aging Reclamation-owned dams, which lack state-of-the-art structural reliability features, require Reclamation to conduct extensive ongoing risk management activities to assure safe dam performance and protect the public from unreasonable risk.

While we fully understand the importance of ensuring the safety of Wallowa Lake Dam, this dam is not a Federal project. It is privately owned and operated, and falls under a dam safety program of the Oregon Department of Water Resources. Reclamation believes the Wallowa Lake Dam Rehabilitation and Water Management Program is worthwhile, with potentially numerous benefits; however we are concerned about the proposed Federal role in this project. Despite the very high Federal cost share for the project, under H.R. 3606 there is currently no Federal interest in the dam, and none is provided by the bill; moreover, there is no provision for repayment by project beneficiaries in accordance with reclamation law, and, finally, Reclamation was not involved in the preparation of the "Phase I" engineering document defined in section 2(3) of the bill nor have we reviewed it.

We are also concerned that Reclamation's participation in this program would adversely impact ongoing projects and operations. H.R. 3606 would authorize the use of Reclamation funds for a non-Federal purpose. Reclamation funds must be targeted to perform essential functions at our Federal projects, such as security at BOR dams and reservoirs, operations and maintenance (O&M), resource management, dam safety, or construction. The Department cannot, therefore, support H.R. 3606.

Mr. WALDEN. Thank you, Mr. Keys.
Dr. Hirsch?

**STATEMENT OF ROBERT M. HIRSCH, Ph.D., ASSOCIATE
DIRECTOR FOR WATER, U.S. GEOLOGICAL SURVEY, U.S.
DEPARTMENT OF THE INTERIOR**

Mr. HIRSCH. Thank you, Mr. Chairman. Mr. Chairman and members of the Subcommittee, thank you for the opportunity to provide the views of the Department of Interior on H.R. 3480, the Upper Mississippi River Basin Protection Act of 2001.

The administration agrees with the goals of H.R. 3480, and we especially appreciate the bipartisan efforts of the sponsors of the bill to address this important issue. We also appreciate the emphasis that the bill places on sound science. However, the administration has concerns about the financial resources that would be required for the U.S. Geological Survey to carry out the provisions of the bill.

The bill directs the Secretary of the Interior, acting through the United States Geological Survey, to provide a scientific basis for the management of sediment and nutrient loss in the Upper Mississippi River Basin. This would be accomplished through a sediment and nutrient monitoring network; research and modeling that relates to sediment and nutrient losses to landscape, land use and land management characteristics; technical assistance regarding data collection; and dissemination of information to managers, scientists and the public.

The role identified in the bill for the USGS is consistent with our leadership role in monitoring, interpretation, research, and assessment of the health and status of the water and biological resources of the Nation. As the Nation's largest water, earth, and biological science and civilian mapping agency, the USGS has been active in a number of programs of great significance to the Upper Mississippi River Basin. Let me briefly review these ongoing programs.

The USGS is an active participant in the Mississippi River-Gulf of Mexico Watershed Nutrient Task Force. This Task Force, which has representation from Federal agencies, and State and Tribal Governments in the basin, is charged with fulfilling requirements of The Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, by preparing a plan for controlling hypoxia in the Northern Gulf of Mexico, and improving water quality throughout the Mississippi River Basin.

The USGS has a lead role in the preparation of a science report of the task force that defines what is currently known about nutrient sources and transport in the Mississippi River Basin. This is a baseline from which future water quality trends and improvements will be made.

The USGS has offices in each of the five Upper Mississippi River Basin States. These offices have a long history of conducting water quality and quantity monitoring and assessment activities within the basin. Existing USGS programs involved in this effort include the National Water Quality Assessment Program, the National Stream Quality Accounting Network, the National Streamflow Information Program, the Toxic Substances Hydrology Program, the Water Resources Research Act Program, and the Cooperative Water Program, as well as reimbursable programs that we operate,

such as the Long-Term Resource Monitoring Program funded by the U.S. Army Corps of Engineers.

For the past 20 years, the USGS Upper Midwest Environmental Sciences Center, known as UMESC, in La Crosse, Wisconsin, has provided research support in the Upper Mississippi River Basin to Department of Interior Agencies and to the U.S. Army Corps of Engineers to address complex issues of navigation, contaminants and other natural resource concerns.

More recently, the Center has developed an active partnership with the USDA Natural Resources Conservation Service on sediment and nutrient concerns of the agencies. For 15 years, the UMESC has provided the scientific and management leadership for the Long-Term Resource Monitoring Program of the U.S. Army Corps of Engineers' Environmental Management Program for the Upper Mississippi River Basin main stem rivers. This monitoring program of water quality, fisheries, vegetation, land use, and other critical indicators of river health is the largest main stem river assessment program in the Nation.

H.R. 3480 acknowledges the need to use all existing monitoring and science programs of the USGS and others while identifying information needs in the Upper Mississippi River Basin. These existing programs can help to define how water quality conditions are affected by human activities and natural climatic variations. This is a necessary step in understanding how management actions will improve water quality conditions in the Mississippi River Basin.

The provisions of H.R. 3480 are consistent with Gulf of Mexico Watershed Nutrient Task Force recommendations with regard to science and management activities. The proposed legislation describes a program consistent with current USGS activities. The goals of the bill are commendable, and the bill contains provisions that are well within the scope and expertise of the USGS. However, funding for the activities of H.R. 3480 is not included in the Fiscal Year 2003 President's budget proposal.

One concern we would like to express is that we believe that the cost-sharing provisions of this bill should conform with other similar programs, such as the USGS Cooperative Water Program, which requires a dollar-per-dollar match of Federal and non-Federal funds.

On a personal note, I would like to say that I have had the good fortune to participate in the USGS research crews on the Upper Mississippi River, and I am very proud of the monitoring, modeling, and research that we have conducted, as the Mississippi River and its basin is one of the Nation's unique natural resources. Developing the scientific knowledge that is needed to help manage this resource is a welcome challenge for the scientists at the USGS.

Thank you, Mr. Chairman, for the opportunity to present this testimony, and I will be pleased to answer any questions you or other members might have.

[The prepared statement of Mr. Hirsch follows:]

**Statement of Robert M. Hirsch, Associate Director for Water,
U.S. Geological Survey, U.S. Department of the Interior, on H.R. 3480**

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to provide the views of the Department of the Interior (DOI) on H.R. 3480, the "Upper Mississippi River Basin Protection Act of 2001." The Administration agrees

with the goals of H.R. 3480; we especially appreciate the bi-partisan efforts of the sponsors of the bill to address this important issue and emphasis within the bill on the need for reliance on sound science. The Administration has concerns about the financial resources that would be required for the United States Geological Survey (USGS) to carry out this bill in the context of the availability of resources overall for Administration programs. Further, some provisions of the bill may be duplicative of existing Federal and State programs.

The bill directs the Secretary of the Interior, acting through the United States Geological Survey, to provide a scientific basis for the management of sediment and nutrient loss in the Upper Mississippi River. This would be accomplished through establishing a sediment and nutrient monitoring network that builds on existing monitoring activities; conducting research and modeling that relates sediment and nutrient losses to landscape, land use and land management characteristics; providing technical assistance regarding use of consistent and reliable methods for data collection; and instituting a program to disseminate new information to managers, scientists and the public.

The role identified for DOI in this bill is consistent with USGS's leadership role in monitoring, interpretation, research, and assessment of the health and status of the water and biological resources of the Nation. As the Nation's largest water, earth, and biological science, and civilian mapping agency, USGS conducts the largest single non-regulatory ambient water-quality monitoring activity in the Nation. Furthermore, the USGS has been active in a number of programs and investigations that involve the Upper Mississippi River Basin (UMRB) specifically.

The USGS is an active participant in the Mississippi River, Gulf of Mexico Watershed Nutrient Task Force. This Task Force, which has representation from Federal agencies, and State and Tribal governments in the basin, is charged with fulfilling requirements of The Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, by preparing a plan for controlling hypoxia in the Northern Gulf of Mexico, and shares a common goal of improving water-quality conditions in the Mississippi River Basin.

The USGS also has had a lead role in the preparation of a science report that uses available water-quality information to define a recent baseline condition for nutrient sources and loads in the Mississippi River Basin—a baseline from which future water-quality trends and improvements will be measured. This report identifies those parts of the Upper Mississippi River Basin that have the highest nutrient yields.

The USGS has offices in each of the five Upper Mississippi River Basin States. These offices have a long history of conducting water-quantity and water-quality monitoring and assessment activities within the basin. Existing USGS programs include the National Water-Quality Assessment Program, the National Stream Quality Accounting Network, the National Streamflow Information Program, the Toxic Substances Hydrology Program, the Water Resources Research Act Program, and the Cooperative Water Program, as well as reimbursable programs we operate, such as the Long-Term Resource Monitoring Program funded by the U.S. Army Corps of Engineers. These programs currently provide information on nutrients and sediment within the basin.

For the past 20 years, the USGS Upper Midwest Environmental Sciences Center (UMESC) in La Crosse, Wisconsin has provided research support in the Upper Mississippi River Basin to Department of the Interior agencies and the U.S. Army Corps of Engineers to address complex issues of navigation, contaminants, and other natural resource concerns. More recently, this Center has developed an active partnership with the USDA Natural Resources Conservation Service on sediment and nutrient concerns of the agencies. For 15 years, the UMESC has provided the scientific and management leadership for the Long-term Resource Monitoring Program of the U.S. Army Corps of Engineer's Environmental Management Program for the Upper Mississippi River Basin main stem rivers. This monitoring program of water quality, fisheries, vegetation, land use, and other critical indicators of river health is the largest main stem river assessment program in the Nation.

The USGS conducts monitoring activities in cooperation with many States and local governments in the Upper Mississippi River Basin. The USGS is also active in hydrologic and water-quality studies in the Lower Mississippi River Basin. The continuity of research is important from the standpoint of developing a complete assessment of the entire Mississippi River basin. To this end, the USGS has begun a partnership this year with the Long-term Estuary Assessment Group, centered at Tulane University.

H.R. 3480 acknowledges the need to use all existing monitoring and science programs of the USGS and others while identifying information needs in the Upper Mississippi River Basin. Existing programs and development of models are tools for

defining how water-quality conditions are affected by human activities and natural climatic variations and how management actions may best improve water-quality conditions at a wide range of scales from small watersheds to the Mississippi River Basin.

Furthermore, the bill would authorize integration of activities conducted in cooperation with other Federal partners and would emphasize and expand the existing USGS coordination and assistance to State monitoring programs. For example, the U.S. Fish and Wildlife Service's (FWS) Partners for Fish and Wildlife Program restores wetland habitat in watersheds across the country, including the Upper Mississippi River Basin. The FWS is available to apply its expertise to the reduction of sediment and nutrient loss in the basin through participation in demonstration projects, technical assistance, and working groups. We recognize the need to ensure that future monitoring activities complement and do not duplicate State monitoring activities.

The provisions of H.R. 3480 are consistent with Gulf of Mexico Watershed Nutrient Task Force recommendations with regard to science and management activities. The proposed legislation describes a program consistent with current USGS activities to support protection of the UMRB.

In summary, the goals of the bill are commendable, and the bill contains provisions that are within the scope and expertise of the USGS, and that may be met by other on-going programs. However, funding for the activities in H.R. 3480 is not included in the Fiscal Year 2003 President's Budget proposal and would remain subject to available resources. Also, there are several provisions of the bill with which we have concerns. We believe that the cost-sharing provisions of this bill should conform with other similar programs, such as the USGS Cooperative Water Program which requires a dollar for dollar match of Federal and non-Federal funds.

We welcome the opportunity to discuss with the Committee the matters of concern to us and ways to best achieve the important purposes of the bill. Thank you, Mr. Chairman, for the opportunity to present this testimony. I will be pleased to answer questions you and other members of the Subcommittee might have.

Mr. WALDEN. Thank you very much, Doctor.

Now I would like to extend the opportunity for Mr. Kind, who has joined us, to give us an opening statement, if you would like, and then we will take questions.

STATEMENT OF THE HON. RON KIND, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN

Mr. KIND. Thank you, Mr. Chairman. I do have a written statement I would like to submit for the record, without objection.

Mr. WALDEN. Without objection.

Mr. KIND. Thank you.

I thank you, Director Hirsch, for your willingness to come and testify in regards to the legislation and all of the witnesses who have been called to testify before the Committee today.

I would also like to thank the Chairman and Ranking Member of this Committee, Mr. Calvert and Mr. Smith, for their willingness to hold the hearing, as well as the Chair and Ranking Member of the Full Committee, and the staff for working closely with us on refining and fine-tuning the legislation, it is very much appreciated, as well as Mr. Tauzin and his staff, who had some suggestions on how we can improve the legislation.

Mr. Chairman, this bill that was reintroduced in December, it has actually been pending before this Committee, this Congress for the last few years. It has been a personal quest of mine since I became a Member of Congress a few years ago to do everything that I can with my colleagues to better preserve and protect one of the great natural treasures that exist in the country, the Upper Mississippi River Basin, and the huge impact that it has not only

on the communities directly in the basin, but the entire country as a whole.

When you look at the Mississippi River Basin, what you are really talking about is everything west of the Appalachian Mountains and everything east of the Rocky Mountains. It encompasses a geographic area of roughly 40 percent of the continental United States, and locally, the Upper Mississippi region, has about a \$1.2-billion recreation impact, a \$6.6-billion economic. It is also the primary drinking water source for 22 million Americans, and it is the largest migratory route in North America, with roughly 40 percent of the water fowl flying down and flying back up again the Mississippi River corridor.

But there is a lot of concern, for those of us who are familiar with the river and from the experts who I have talked to in regards to the sustainability of the river basin as a whole. If you talk to the experts, and we have some of those witnesses here today, they say one of the chief challenges that we face in regards to maintaining the sustainability of the river is being able to better track the sediment and nutrients that flow into the river basin.

This stuff has adversely affected this very valuable ecosystem by filling in back bays, by ruining natural habitat, by the flow that is occurring in the Upper Mississippi region, the impact it also has in the Southern region, and that is what 3480 is meant to address.

It is trying to put the science in place, where we can develop comprehensive monitoring, a network between the Federal, State and local agencies, and developing a private-public partnership and doing a better job of monitoring what is happening in the system, and then developing the computer models so that we know what is taking place and then what best practices, best management plan can be put in place to better protect the river basin as a whole.

It has been a work in progress, a collaborative effort. The other thing that I did as a new Member of Congress was help form a Mississippi River Bipartisan Task Force, a Caucus. I have a letter from the two current chairs of the task force, Kenny Hulshof and Len Boswell, in support of the legislation, that I would like to introduce for the record, at this time.

Mr. WALDEN. Without objection.

[The letter from Messrs. Hulshof and Boswell follows:]

Congress of the United States
Washington, DC 20515

March 6, 2002

The Honorable Ken Calvert
Chairman
Subcommittee on Water and Power
U.S. House Committee on Resources
1522 Longworth House Office Building
Washington, DC 20515

Dear Chairman Calvert:

As Co-Chairs of the bipartisan Mississippi River Caucus, we are writing to express our support for H.R. 3480, the Upper Mississippi River Basin Protection Act, introduced by U.S. Representative Ron Kind (D-WI).

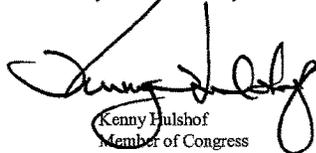
Since its inception in 1997, the Mississippi River Caucus has advocated a comprehensive approach to river management that encompasses all of the river's varied uses. It is essential that any management plan address the navigation, flood control, agriculture, recreation and environmental issues facing the Mississippi River. Striking this balance is possible only if decision-makers have quality data collected using sound scientific methods.

Representative Kind's bill will help provide the reliable data for policy makers to consider when addressing the environmental concerns of the Mississippi River. Using existing federal, state, and local programs, H.R. 3480 establishes a water-quality monitoring network and computer modeling program. These monitoring and modeling efforts would be undertaken in a manner that protects the property rights of our constituents who live along the river. This common-sense approach will provide the baseline data needed to make environmental management decisions that are cost-effective and scientifically sound.

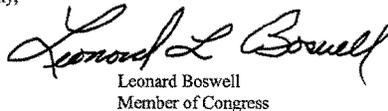
Protecting the environmental health of the Mississippi River is an important part of a comprehensive river management strategy. Accordingly, we hope you will look favorably on efforts to improve environmental data collection as you consider the merits of H.R. 3480.

Thank you in advance for your consideration of this matter.

Sincerely,



Kenny Hulshof
Member of Congress



Leonard Boswell
Member of Congress

Mr. KIND. And also what we are proposing in this legislation is consistent with the work that has been taking place with the Hypoxia Task Force and their current action plan.

In fact, I also have a letter from a variety of Governors of the States along the Mississippi River— Louisiana, Missouri, Arkansas, Mississippi, Tennessee, and Minnesota—supporting the goals of the task force and the action plan in place. In fact, in their letter they indicate, “To succeed, this effort will require an extensive program that is supported by States and funded and coordinated by the Federal Government.”

They also go on to state in the letter, “A parallel monitoring effort conducted jointly by USGS and the States is required within the basin to determine the water quality effects of the actions taken and to measure the success of efforts on a sub-basin and project level.”

That is, I would submit, entirely consistent with the goals and the objective of this legislation. When it was reintroduced in December, we had seventeen original co-sponsors, nine “Ds” and eight “Rs,” which shows the broad bipartisan support that the legislation has. I am not aware of any colleague in Congress that opposes the legislation or any group outside who opposes the legislation or any group outside who opposes the legislation. In fact, we have worked very closely with a whole host of groups and agencies to determine what the best course of action would be.

So I thank the Committee again for the opportunity to hold a hearing on this important piece of legislation and the witnesses who have come to testify, and I look forward to hearing your testimony.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Kind follows:]

Statement of The Honorable Ron Kind, a Representative in Congress from the State of Wisconsin, on H.R. 3480

Thank you Mr. Chairman and members of the Subcommittee for the opportunity to comment on H.R. 3480, the Upper Mississippi River Basin Protection Act. While I have spoken before this Subcommittee on similar legislation in the 106th Congress, H.R. 3480 is a much more focused bill, specifically designed to enhance existing monitoring programs on the Upper Mississippi River Basin, and provide reliable, scientific data for targeting future nutrient and sediment reduction efforts.

The Upper Mississippi River system, whose tributaries and basin encompass much of Wisconsin, Minnesota, Iowa, Illinois, and Missouri, is widely recognized as one of our nation’s great multi-use natural resources. While the Mississippi River and its tributaries provide drinking water to approximately 22 million Americans, the system’s 1,300 navigable miles transport millions of tons of commercial cargo via barges. In addition, 40% of North America’s waterfowl use the wetlands and backwaters of the main stem as a migratory flyway, illustrating the environmental significance of the system as well as recreation capabilities. Overall, the Upper Mississippi River Basin provides \$1.2 billion annually in recreation income and \$6.6 billion to the area’s tourism industries.

Unfortunately, high sediment and nutrient levels threaten the health of the river system and the vast recreational, agricultural, and industrial activities it supports. Sediment fills the main shipping channel of the Upper Mississippi and Illinois Rivers, costing over \$100 million each year to dredge. Nutrient inputs degrade water quality in the Upper Mississippi River system and impact far downstream to the Gulf of Mexico.

As a basis for making effective decisions for improving water quality, accurate data must be available. Building the nutrient and sediment monitoring system that provides this data will require extensive communication and coordination between government agencies at the Federal, state, and local levels, as well as other stakeholders. By utilizing existing monitoring programs to the maximum extent possible,

H.R. 3480 builds upon existing efforts by authorizing the U.S. Geological Survey (USGS) to coordinate and integrate these efforts, expand where necessary, develop guidelines for data collection and storage, and establish an electronic database system to store and disseminate information. USGS would also establish a state-of-the-art computer modeling program to identify significant nutrient and sediment sources, at the subwatershed level, to better target reduction efforts. In addition, H.R. 3480 includes strong protections for the privacy of personal data collected and used in connection with monitoring and modeling activities.

The need for accurate and comprehensive data collection is essential to addressing the problems of the Upper Mississippi River Basin. In crafting this legislation, I have worked with farmers, the navigation industry, sporting groups, environmental organizations, and government agencies throughout the region. As co-chair of the Upper Mississippi River Basin Congressional Task Force, I have also worked to build consensus among regional legislators on how best to approach the natural resource challenges of the basin.

While focused in the Upper Mississippi River Basin, the benefits of the programs authorized in this bill would extend far beyond the five-state region, because nutrients and sediments from the Upper Midwest have impacts all the way down the Mississippi and into the Gulf of Mexico. Moreover, I see this approach as a pilot for future watershed and basin initiatives in other parts of the nation.

As you know, water quality problems in the Mississippi River Basin cross traditional state and administrative boundaries. Solving these problems requires a coordinated and cooperative approach between the Federal, state, and local agencies and groups working throughout the region. H.R. 3480 represents a common-sense move toward building the scientific foundation necessary to remedying nutrient and sediment problems in the region.

Thank you for the opportunity to share my remarks on this important legislation. I appreciate your consideration and I urge the Subcommittee's support.

Mr. WALDEN. Thank you. Did you want to insert the letter from the Governors?

Mr. KIND. I would, without objection.

Mr. WALDEN. Without objection, it will be added in.

Mr. KIND. Thank you.

[The letter from the six Governors submitted for the record by Mr. Kind follows:]

October 23, 2001

The Honorable Ann M. Veneman
Secretary of Agriculture
1400 Independence Avenue
Washington, DC 20250

The Honorable Donald L. Evans
Secretary of Commerce
14th Street and Constitution Avenue, N.W.
Washington, DC 20230

The Honorable Christine Todd Whitman
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20004

Dear Secretary Veneman, Secretary Evans, and Governor Whitman:

We are writing to express our support for actions to reduce hypoxia in the Gulf of Mexico. Hypoxia refers to the seasonal occurrence of large areas of low dissolved oxygen that threatens valuable fisheries and other sea life in the Gulf. One of the major causes of hypoxia has been identified as nutrients draining to the Gulf from the Mississippi River Basin. The reduction of nutrient inputs to the Gulf will benefit the offshore environment as well as improve the water quality of rivers throughout the basin. To succeed, this effort will require an extensive program that is supported by the states and funded and coordinated by the federal government. We recognize that a multi-year effort is necessary because of the size of the Mississippi Basin and the need to work locally to reduce nutrient loss to streams and rivers. The diversity of nutrient sources and the broad range of land use practices and weather conditions within the basin require that the federal government also allow states flexibility in addressing this problem.

The funding to support efforts to reduce hypoxia should be based on the principles of the *Action Plan for Reducing, Mitigating and Controlling Hypoxia in the Northern Gulf of Mexico* as presented to Congress in January of this year. The Plan recognizes that agricultural sources of nutrients would be reduced most efficiently through voluntary approaches, such as expansions of the USDA's Environmental Quality Incentives Program (EQIP), Wetland and Conservation Reserve Programs (WRP and CRP), and

Page 4
October 23, 2001

EPA's Nonpoint Source Management Grants (Section 319). Requests for funding these programs have greatly exceeded appropriations for many years indicating that increased funding would provide additional benefits to farmers and the environment. We feel that USDA's Farm Programs and EPA's Clean Water Programs are critical to the success of the Hypoxia Action Plan and ask your support in enhancing these programs for this purpose.

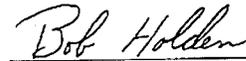
Additional funding of infrastructure needs for wastewater treatment plants provides another method for addressing this problem. Examination of potential approaches through the environmental programs of the U. S. Army Corps of Engineers and wetland expansions by the Corps and other federal agencies should also be considered based on the demonstration of positive effects in the area affected by hypoxia. Further discussion of this is contained in the Hypoxia Action Plan.

In conjunction with these efforts, support for basic and applied research to understand the hypoxia phenomenon as conducted by NOAA and EPA and to measure the efficacy of the efforts to reduce nutrient loading must continue. Because of the complexity of the physical and biological systems involved in hypoxia, a long-term monitoring program as conducted by the National Oceanic and Atmospheric Administration through the Nutrient Enhanced Coastal Ocean Productivity Program is vital to understanding whether our efforts to reduce hypoxia are successful. A parallel monitoring effort conducted jointly by the U. S. Geological Survey and the states is required within the basin to determine the water quality effects of the actions taken and to measure the success of efforts on a sub-basin and project level.

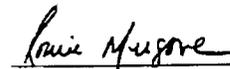
Our states have been working in conjunction with your agencies on local water quality issues for many years and through the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force to reduce nutrient loading to our rivers, lakes and the Gulf of Mexico. We encourage the expansion of this coordination through continuation of the task force. In closing, we welcome this opportunity to work together with your agencies and interested citizens to face this serious environmental issue and reach the goals set out in the Action Plan.

Respectfully,

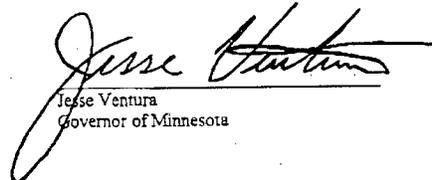

M.J. "Mike" Foster, Jr.
Governor of Louisiana


Bob Holden
Governor of Missouri


Mike Huckabee
Governor of Arkansas


Ronnie Musgrove
Governor of Mississippi


Don Sundquist
Governor of Tennessee


Jesse Ventura
Governor of Minnesota

Mr. WALDEN. Thank you.

Mr. KEYS, let us focus on House Bill 3606 for a second, the Wallowa Lake Dam issue. Is there ever any Federal interest in a non-Federal facility, from your perspective?

Mr. KEYS. Mr. Chairman, I think all of us are always interested when we see a facility that is not safe. Who funds it and how you take care of it is another issue. In the past, we have worked with some non-Federal facilities, but when we did that, they actually became part of the project.

Mr. WALDEN. Part of the Federal project.

Mr. KEYS. Yes, sir. An example is over on the Ochoco project in your district there, that was an old private dam that became part of the Federal project when we added on to it, and then we went back in and did safety and damage repairs on it. It became part of the Federal project and became part of the repayment obligation under Reclamation law.

Mr. WALDEN. As you are aware, there is a need for rehabilitation of this facility. This is pretty obvious I think to all of us. Who would you suggest then that we could turn to for help, if we do not go that approach, the Federalizing approach? Are there other resources out there we can bring to bear? This is a small community in a very economically devastated part of my district.

Mr. KEYS. Mr. Chairman, in other places that we have worked with a private facility like that that is done on safety, we worked with the States involved.

In the Northwest there, Oregon, Washington, Idaho have worked with us on our Safety of Dams Program and us working cooperatively with them on their Safety of Dams Programs for a long time.

I know that those three States have mechanisms for funding those kinds of corrections. I don't know what was done in the Wallowa Lake Dam process for them to seek funding from the State of Oregon, though.

Mr. WALDEN. All right. Are you aware of the Bureau's involvement in conservation and fisheries issues in the Upper Basin that date back like to 1984 and obligations under the ESA?

Mr. KEYS. Mr. Chairman, yes, I am.

Mr. WALDEN. Is there a nexus there we can look onto, Mr. Keys?

Mr. KEYS. Mr. Chairman, dealing with the Endangered Species Act and those listed salmon there have been a challenge to Reclamation since they were listed in 1990, 1991.

There are a number of actions that are underway to try to do off-site mitigation, to provide waters for helping move the fish up and down the river. That part of this proposal is a good proposal. For them to be able to try to set up an exchange there is something that we have participated in and encouraged them to do. It is a good part of the program. It is just that the Safety of Dams part of it makes it not acceptable.

The way they deal with the power plant in this funding is also something that causes us pause.

Mr. WALDEN. From what perspective?

Mr. KEYS. Mr. Chairman, from the perspective that they are asking for Federal money to go in and put a power plant in, us not have any ownership, us not get any of the benefit from the generation there, that it become part of the Federal grid.

The precedent of spending Reclamation money, when we need to spend that money on our own Safety of Dams Program, to spend that money building a power plant, when we have our own system to operate, and maintain and try to add to just causes us pause.

Mr. WALDEN. Can you tell me, if you know, what kind of the backlog is of your Federal Dams Safety Program in terms of cost?

Mr. KEYS. Mr. Chairman, I would not say that we have a backlog in our Safety of Dams Program. We have a long list of facilities to take a look at. We have planned schedule to do that. We, this year, in 2002, are finishing up work at Pine View. We are doing the work at Horse Tooth and in Wickiup in your district.

Mr. WALDEN. Right.

Mr. KEYS. We should finish up Pine View this year and pick up Keechelus, in the State of Washington, to start on next year.

Those monies that we have are adequate for meeting that schedule. We have to come back for reauthorization of the act next year because the authorization and funding levels that we have now run out in the year 2003.

Mr. WALDEN. Thank you very much, Mr. Keys.

Mr. Kind, do you have any questions of our witnesses?

Mr. KIND. Just a couple for Director Hirsch.

First of all, thank you for your testimony and for the feedback that you have been able to give our office in working with us.

Just so we are clear, is the stated purpose and goals of the legislation consistent with the type of work that USGS is currently involved in, in better preserving and protecting the Upper Mississippi River Basin, in your opinion?

Mr. HIRSCH. Yes, absolutely. It is quite consistent.

Mr. KIND. Is it, in your opinion, consistent with the Gulf of Mexico Watershed Nutrient Task Force and the recommendations that they made, especially as it relates to the scientific and the research portion of what needs to be done to address that issue?

Mr. HIRSCH. Yes, it certainly is.

Mr. KIND. I share your concern in regards to the funding level of the variety of USGS water monitoring and water quality programs in that. I think, at a time, given the work that has been done with the task force down South and the collaborative network of cooperation that exists in the Upper Miss area, too, that we need to be moving more in the direction of increased water monitoring and even in establishing a modeling network in that.

But it is a little disheartening to see so many current water gauges being taken out of service at a time when we really should be protecting that and, in fact, expanding that so we know what is happening and what the best management practice is, but obviously that will be an issue for the Congress to decide, in regards to the appropriate allocation of resources.

Let me just quickly compliment USGS. I have seen your offices and the personnel that you have working in them, and the professionalism and the scientific expertise that they bring to a whole host of issues, whether it is long-term resource monitoring and even some of the modeling now that they are starting to dab into. I think this legislation is very consistent and a nice mesh with the type of quality that exists with USGS personnel you have in place

and the type of work that is being conducted. Would you say that is an accurate statement?

Mr. HIRSCH. Yes, and thank you for the compliments. We are indeed proud of what we have been doing. I recently visited our office in La Crosse and was most impressed by the work that they do there.

Mr. KIND. Right. Well, thank you very much again for your testimony and your feedback. We will be happy to continue working with you and your entire office as we move forward.

Thank you.

Mr. WALDEN. Thank you, Mr. Kind.

Gentlemen, thank you for being here today. We appreciate your testimony very much.

I would like to call up our second panel of witnesses; Mr. Schnoor, Mr. Daigle, Holly Stoerker, and John McLachlan, and Mr. McMillen as well.

Mr. McMillen, we will start with you, since you are the only other witness on H.R. 3606—clearly, the most important bill before this Subcommittee this morning.

[Laughter.]

**STATEMENT OF MORTON McMILLEN,
MONTGOMERY WATSON HARZA**

Mr. McMILLEN. Thank you, Mr. Chairman.

My name is Morton McMillen, and I am here today representing the Steering Committee for the Wallowa Lake Dam Rehabilitation and Management Project. I am currently a design engineer with Montgomery Watson Harza, assigned to their Boise, Idaho, office, where I serve as a senior project engineer and manager for water resources and aquaculture projects.

Mr. WALDEN. Mr. McMillen, push down the button. There you go.

Mr. McMILLEN. I wish to thank the U.S. House of Representatives and the Subcommittee on Water and Power for the opportunity to testify on behalf of Bill H.R. 3606 to authorize the Bureau of Reclamation to participate in the Wallowa Lake Dam Rehabilitation and Water Management Plan. It is truly an honor to be present here in our Nation's capital and work with elected leaders of this Nation.

As a member of the Steering Committee and a native of Wallowa County, I bring a project proposal before you which is founded in the soil of rural Wallowa County. This project balances the needs of competing demands for our precious water resources, while protecting the economic foundation of the community. This project was framed by the local residents to meet the needs of agriculture, flood control, recreation and water supply, while also protecting and enhancing our invaluable fish and wildlife resources.

Wallowa Lake Dam is located on the natural outlet of Wallowa Lake and provides up to 50,000 acre-feet of storage. The dam was originally constructed in 1918 and raised in 1929 to provide additional storage for irrigation and hydropower generation. The reservoir has historically provided high-quality water, supporting a wide range of uses, which include: irrigation; potable water supply for the city of Joseph; it has a huge recreation opportunity, with over 800,000 recreational users per year that visit the lake; the

flood control, with active storage managed to provide flood protection in the Cities of Joseph, Enterprise, and Wallowa during spring runoff periods; and it also comprises base flows to the Wallowa River and the Grande Ronde Rivers, which currently have listed species for spring chinook and bull trout.

The ADC embarked on the planning and design of long-term improvements to Wallowa Lake Dam and quickly realized that the dam was the central structure to water management within Wallowa Valley. The balance between agricultural needs and the salmon recovery was identified as one of the primary program elements. The Nez Perce Tribe, in cooperation with the Oregon Department of Fish & Wildlife, with oversight by the National Marine Fisheries Service and the U.S. Fish & Wildlife Service, have begun the planning and implementation of salmon recovery measures throughout the Wallowa Valley.

An integrated water management plan for the Wallowa River Corridor is necessary to ensure these measures are successful, as well as meet demands from a widespread spectrum of additional users.

ADC invited members of the community, State resource agencies, and Federal agencies to participate in the development of a water management plan, which considered the multi-purpose water demands. Through this coordinated effort, a partnership was formed led by the ADC and the Grande Ronde Model Watershed, with technical assistance in the upper valley by Montgomery Watson Harza and in the lower valley by the Bureau of Reclamation.

An integrated plan was formulated addressing water management issues within the length of the corridor. The basic elements of this plan are presented within the Wallowa Lake Dam Rehabilitation and Water Management Plan Vision Statement, dated February 2001.

There are a number of benefits in addition to dam safety for this project. These benefits include flood protection; there is water conservation, through improved irrigation methods; potable water supply; fish passage and protection, including enhancement and reintroduction of coho and sockeye salmon in the basin; continued recreation use; provisions for additional hydropower to meet future demands so we don't have a repeat of what happened last year; fish protection; agriculture production; increased tourism; and economic stability.

The Wallowa Valley economy has historically been founded in natural resource industries, primarily agriculture and timber. Wallowa Lake Dam has provided irrigation water support to agriculture development. As with most rural communities, timber-based industries are rapidly disappearing. Tourism has become an increasingly important part of the local economy. Wallowa Lake is the principal draw to this area. Rehabilitation of the dam and enhancement of the fishery resources will provide additional tourism dollars to the local economy.

The experience and knowledge gained from this project will also serve watershed planning efforts throughout the Northwest. This program will outline the framework and institutional requirements to implement a true watershed approach to balancing competing demands for our water supplies. The grassroots-driven approach,

which anticipates and plans for regulatory requirements, rather than reacting to regulatory enforcement, is critical to maintain economic stability and cooperative working environments.

We strongly support the passing of Bill H.R. 3606, authorizing the Bureau of Reclamation to participate in the rehabilitation of the Wallowa Lake Dam in Oregon and for other purposes. This project has its root in the Wallowa Valley. The local residents developed the framework for the project to address current pressing dam safety issues, as well as anticipating future regulatory requirements. These stakeholders have proactively formed a Steering Committee and invited all interested agencies to participate and become part of the solution.

We have received written letters of support from the National Marine Fisheries Service, U.S. Fish & Wildlife Service, Oregon Department of Fish & Wildlife, and the Nez Perce Tribe.

The Steering Committee initiated the planning and coordination for this project prior to the Klamath Falls calamity. The committee implemented a cooperative program, requesting up-front coordination with the participating agencies. The proposed project elements represent a balance between what is physically, institutionally and financially feasible. This grassroots approach is the foundation to a successful project development, implementation, and operation.

Thank you.

[The prepared statement of Mr. McMillen follows:]

Statement of Morton D. McMillen, Principal Engineer, Montgomery Watson Harza, Boise, Idaho, Representing Wallowa Lake Dam Rehabilitation and Water Management Plan Steering Committee

Dear Mr. Chairman and Members of the Subcommittee on Water and Power:

We wish to thank the members of the U.S. House of Representatives and the Subcommittee on Water and Power for the opportunity to testify on behalf of bill H.R. 3606 to authorize the Bureau of Reclamation to participate in the Wallowa Lake Dam Rehabilitation and Water Management Plan. It is truly an honor to be present here in our Nation's Capital and participate in the democratic process which is the foundation of our Country.

As a member of the Steering Committee and native of Wallowa County, I bring a project proposal before you which is founded in the soil of Wallowa County, balances the needs of competing demands for our precious water resources, and protects the economic foundation of the community. This project was framed by the local residents to meet the needs of agriculture, recreation, flood control, recreation and water supply while also protecting our invaluable fish and wildlife resources.

The Steering Committee requested that I present written and verbal testimony to this Subcommittee hearing representing the interests of the Steering Committee partners. My understanding of the engineering and scientific basis for the proposed project as well as a hands on understanding of the issues facing the local residents was the basis for this selection. My roots are firmly entrenched in the Wallowa Valley and I bring a personal commitment to see this project through to completion to the Subcommittee.

My family originally homesteaded in the Grangeville, Idaho area and relocated to the Wallowa County in 1948. My grandfather raised cattle and farmed until his retirement in 1975. My father and most of my relatives have been employed in the agriculture or timber industry within Wallowa County. I was raised on a cattle farm outside of Enterprise and grew up using the irrigation systems provided with water stored behind Wallowa Lake Dam. My father served as the foreman for an Angus cattle ranch and my mother was a charge nurse at the Wallowa County nursing home.

Upon graduation from Enterprise High School, I attended the University of Idaho at Moscow, Idaho graduating with a degree in Civil Engineering in May 1986. My first professional employment was with the Army Corps of Engineers, Walla Walla District. I started employment with the Corps as a cooperative education student in 1984 and continued following graduation until 1989. While with the Corps, I was

actively involved in the planning and design of fish passage and production facilities within the Snake River Basin, including the Grande Ronde River for which the Wallowa River is a tributary. Specific project experience included juvenile and adult passage projects on the Lower Snake River dams, hatchery production facilities on the Clearwater and Snake River, and acclimation facilities in Idaho and Eastern Oregon. My work experience also includes design of flood control structures including dams, channels, and pipelines.

I returned to graduate school in 1989 at Stanford University where I focused on expanding my background into water quality and treatment process design. Upon graduation, I entered the private engineering industry. For the past 9 years I have been employed at Montgomery Watson Harza where I serve as a senior project engineer and manager for water resources and aquaculture projects. I have been involved in projects throughout the Umatilla, Walla Walla, and Grande Ronde River Basins.

This written testimony was developed to provide a summary of the background and elements of the project, the benefits and schedule, and the importance of the project to the community and watershed planning in future basins. The testimony is organized as follows:

- Project Background summarizing the events leading to the program development.
- Mission Statement guiding the program development.
- Identified Issues addressed within the program.
- Water Management Plan and Infrastructure project elements.
- Proactive Agency Coordination which has occurred
- Proactive Coordination with Other Programs which has occurred.
- Achieved Visible Accomplishments already derived.
- Measurable Benefits resulting from the program.
- Budget and Schedule requirements.
- Summary

Project Background

The Wallowa Valley is located in Northeast Oregon approximately 330 miles east of Portland, Oregon. The valley is encircled by the Wallowa Mountains, Blue Mountains, and Seven Devil Mountains. Located one mile south of Joseph, Oregon, Wallowa Lake sits at the base of the Wallowa Mountains and is fed by a drainage basin over 50 square miles in size located within the Eagle Cap Wilderness Area.

Wallowa Lake Dam is located on the natural outlet of Wallowa Lake and provides up to 50,000 acres-feet of storage. The dam was originally constructed in 1918 and raised in 1929 to provide additional storage for irrigation and hydropower generation. The dam is owned and operated by the Associated Ditch Companies, Incorporated (ADC).

Fed from wilderness area high in the Wallowa Mountains, the Wallowa Lake reservoir has historically provided high quality water supporting a wide range of uses including:

- Irrigation of over 15,000 acres of prime agricultural land within the Wallowa Valley.
- Potable water supply for the City of Joseph.
- Recreation with over 800,000 recreational users enjoying boating, water skiing, personal water craft, swimming, and fishing.
- Flood control with the active storage managed to provide flood protection to the Cities of Joseph, Enterprise, and Wallowa during spring runoff periods.
- Base flows to the Wallowa River and Grande Ronde Rivers preserving and enhancing riparian habitat, fish stocks, water fowl, and overall water quality.

Wallowa Lake Dam was listed as a high hazard structure in March of 1996 by the Oregon Water Resources Department of Dam Safety. The sudden failure and release of water would probably result in loss of life as well as severe economic and environmental damage. The ADC moved quickly to implement short-term structural improvements in 1996 to stabilize the dam. The reservoir has subsequently been held below full pool elevation to maintain safety.

The ADC embarked on the planning and design of long term improvements to Wallowa Lake Dam and quickly realized that the dam was the central structure to water management within the Wallowa Valley. The balance between agricultural needs and salmon recovery was identified as one of the primary program elements. The Nez Perce Tribe in cooperation with the Oregon Department of Fish and Wildlife are actively planning and implementing salmon recovery measures throughout the Wallowa Valley. An integrated water management plan for the Wallowa River corridor is necessary to ensure these measures are successful as well as meet demands from a wide spectrum of additional users.

ADC invited members of the community, state resource agencies, and Federal agencies to participate in the development of a water management plan, which considered the multi-purpose water demands. Through this coordinated effort, a partnership was formed led by the ADC and the Grande Ronde Model Watershed Program with technical assistance provided by Montgomery Watson Harza. An integrated plan was formulated addressing water management issues through the length of the Wallowa River Corridor. The basic elements of this plan are presented within the Wallowa Lake Dam Rehabilitation and Water Management Plan Vision Statement, dated February 2001.

Mission Statement

The steering committee set out to define the goals and objectives at the onset of the project development. These objectives are clearly summarized in the project Mission Statement:

“To rehabilitate Wallowa Lake Dam and implement a water management program for the Wallowa Valley serving the needs of agriculture, salmon recovery, fish and wildlife enhancement, recreation, flood control, municipal water supply, and hydropower generation.”

This mission statement serves as the foundation of the program upon which progress and benefits will be measured. Throughout the project development and implementation, the steering committee will return to the mission statement to ensure the project is managed within the original mission framework.

Identified Issues

Water management issues within the Wallowa River corridor, both environmental and infrastructure needs were identified by the study team through pre-planning work tasks and coordination meetings. The primary issues identified were:

- Wallowa Lake Dam does not meet current dam safety requirements for stability against sliding and overturning, earthquake resistance, spillway capacity, and outlet tunnel condition. The dam is listed as a high hazard structure by the Oregon State Department of Dam Safety and major improvements are necessary to protect human life and property.
- Three irrigation withdrawals downstream from the dam are unscreened potentially impacting ESA listed bull trout and salmon.
- Accurate water measurement and control are not possible with the existing manual diversion gates. Without these systems in place, active conservation efforts would be difficult to implement and monitor.
- Adult fish passage at Wallowa Lake Dam will be required to support the re-introduction of coho and sockeye salmon to Wallowa Lake as part of the Wallowa County Salmon Recovery Plan.
- Irrigation withdrawals in the Lostine River create low flow conditions impassable to migrating ESA listed Spring Chinook salmon and Bull Trout.
- Hydropower production with the dam water releases is not being realized.
- Current water management in the Wallowa River corridor is fragmented with competing needs for irrigation and salmon recovery efforts.

Water Management Plan and Infrastructure

The participating partners have developed a phased project approach focusing on early action on the high priority project elements. The phased approach allows the planning and design of the complete project, then implementation of the infrastructure in a sequenced manner. The project phases are:

- Phase I—Wallowa Lake Dam Rehabilitation and Water Management Plan Development
- Phase II—Fish Passage Improvements and Water Conservation Measures
- Phase III—Implementation of Water Exchange Infrastructure
- Phase IV—Hydropower Implementation

Rehabilitation of Wallowa Lake Dam is the critical element to the success of the program. The dam serves as the water management tool for storing and releasing water to support the multi-purpose uses. The priority of Phase I is to plan, design, and construct the recommended improvements to Wallowa Lake Dam. With the dam rehabilitation complete, operation will return to the full pool storage elevation. Water from the storage reservoir will then be allocated to the Lostine River and Bear Creek Valley irrigators in exchange for Lostine River water to remain within the river. A water management plan will be developed outlining the water management framework for the Wallowa River corridor including the water exchange from the storage reservoir.

The Phase I work will also complete the planning and environmental analysis required to support implementation of the integrated water management plan. The administrative, policy, and management framework required to develop a successful

water management plan will be developed. The mechanism and infrastructure necessary to address the critical water management issues will be identified and serve as the basis for the subsequent work phases.

Phase II will focus on the planning and implementation of fish screens, automated head gates, and flow measurement devices at the unscreened diversions. Provisions for adult fish passage will be planned as part of the Phase I work and implemented in Phase II to support re-introduction of coho and sockeye salmon to Wallowa Lake. The Nez Perce Tribe are currently preparing a masterplan outlining the requirements for coho re-introduction within the Wallowa Valley.

With Wallowa Lake Dam Rehabilitation complete, the stored water will be available to supplement irrigation needs within the Lostine River and Bear Creek Valleys. Phase III will plan, design, and implement the infrastructure and institutional framework to execute a water exchange. The infrastructure requirements include pumps and pipelines to transfer water from the Wallowa River to the Lostine and Bear Creek Valley irrigation system. Lostine River water will remain in the river during the critical spring chinook salmon migration period of late July through September. Storage in Wallowa Lake will be reserved to supplement irrigation demands in the Lostine Valley during this period. The Bonneville Power Administration has completed the pre-design for new production facilities on the Lostine River designed to supplement and enhance runs of ESA listed spring chinook salmon. The production facilities will be completed in December 2005 which concurs with the scheduled completion of Phase III.

Phase IV will evaluate and implement a hydropower facility to recover energy from water releases from Wallowa Lake Dam. A generation plant was operated at the dam for many years, but was decommissioned following a fire in the 1950's. With the current increase in power rates throughout the country, re-establishing a hydropower facility at the facility is a prudent step. Plans are in place to donate revenue in excess of cost to support the Wallowa County Hospital. The hospital has been operating unprofitably for many years and is threatened with closing. The hydropower facility would provide the hospital with a stable revenue stream and benefit the community. The proposed hydroelectric generation facility provides a renewable energy source operating with environmental measures in place to protect endangered species and maintain water quality.

Proactive Agency Coordination

The partners have been working over the past two years to develop a framework for planning and implementation of the program. This framework is designed with a foundation led by local Wallowa County groups and extending to the support of State and Federal agencies. This grass roots approach has led to a number of accomplishments.

- Development of a steering committee to assist in development and guidance of the program. This steering committee is led by strong local groups, which are the Grande Ronde Model Watershed and the ADC.
- Coordination with the Nez Perce Tribe and the Oregon Department of Fish and Wildlife to integrate ongoing salmon recovery measures with water management. The tribe and Oregon Department of Fish and Wildlife are co-managers of the fishery resources within the Wallowa Valley and have established working relationships to manage and enhance fishery resources.
- Submittal of grants proposals to obtain technical data and install flow measuring devices. These grants were obtained and monitoring devices installed to assist in the planning, design, and implementation of the project elements.
- Implementation of a public involvement program to involve members of the community and participating agencies.
- Collection of engineering and scientific data on Wallowa Lake Dam, Wallowa River, and Lostine River.
- Conducted a dam safety inspection, evaluation, and remediation evaluation.
- Preliminary evaluation of the feasibility of hydropower generation at Wallowa Lake Dam.
- Developed groundwork with the affected irrigators to develop administrative framework for executing the water exchange.

The partners have been pro-active in developing relationships with the regulatory agencies and bringing these agencies on board as part of the steering committee. The program is designed to address looming ESA issues, develop solutions, and implement these solutions before regulatory action is required.

Proactive Coordination with Other Programs

Many local, State, and Federal agencies are involved in restoration programs within the Wallowa Valley. The Wallowa Valley has historically supported a wide

range of fisheries resource including sockeye salmon, coho salmon, spring chinook salmon, steelhead, as well as bull trout. Through the Steering Committee and the leadership of the partnership, close coordination will occur with these programs. Coordination is currently ongoing with but not limited to:

- Wallowa County Salmon Restoration planning activities.
- Northwest Oregon Hatchery Project where the Nez Perce Tribe and Oregon Department of Fish and Wildlife are planning a spring Chinook hatchery on the Lostine River.
- Coho Salmon restoration master plan led by the Nez Perce Tribe to re-introduce coho salmon to Wallowa Lake and the Wallowa River.
- Steelhead enhancement master plan designed to supplement current steelhead runs on the Wallowa River and throughout the Grande Ronde Basin.
- Oregon Department of Fish and Wildlife fish screening program designing and constructing fish screens on small irrigation diversions.
- Watershed planning and implementation projects led by the Grande Ronde Model Watershed.
- Oregon Dam Safety requirements.

Coordination with these and other ongoing program will ensure that measures developed and implemented as part of the Wallowa Valley Project will be optimized and fully support other program objectives.

Achieved Visible Accomplishments

The partners have been working over the past year to develop a framework for planning and implementation of the program. This framework is designed with a foundation led by local Wallowa County groups and extending to the support of State and Federal agencies. This grass roots approach has led to a number of accomplishments.

- Development of a steering committee to assist in development and guidance of the program.
- Coordination with the Nez Perce Tribe and the Oregon Department of Fish and Wildlife to integrate ongoing salmon recovery measures with water management.
- Submittal of grants proposals to obtain technical data and install flow measuring devices.
- Implementation of a public involvement program to involve members of the community and participating agencies.
- Collection of engineering and scientific data on Wallowa Lake Dam, Wallowa River, and Lostine River.
- Conducted a dam safety inspection, evaluation, and remediation evaluation.
- Preliminary evaluation of the feasibility of hydropower generation at Wallowa Lake Dam.
- Developed groundwork with the affected irrigators to develop administrative framework for executing the water exchange.

These accomplishments are visible, productive, and meet the objectives of the mission statement. The demonstrated ability to develop and implement specific project elements has been demonstrated and will be maintained throughout the course of the program.

Measurable Benefits

The proposed project benefits the Wallowa Valley community in many ways. The integrated approach to the dam rehabilitation and water management is a true ecosystem approach to resource management. Both the citizens of the Wallowa Valley and the environment can co-exist. Benefits to be realized by the project include:

- | | |
|--------------------------------|--------------------------------------|
| • Flood protection | • Fish protection |
| • Water conservation | • Agricultural production |
| • Potable water supply | • ESA listed salmon restoration |
| • Fish passage and protection | • Improved fish and wildlife habitat |
| • Continued recreational use | • Increased tourism |
| • Hydropower energy production | • Economic stability |

The Wallowa Valley economy has historically been founded in natural resource industries, primarily agriculture and timber. Wallowa Lake Dam has provided the irrigation water to support the agriculture development. As with most rural communities, timber based industries are rapidly disappearing. Tourism has become an increasingly important component of the local economy. Wallowa Lake is the principal draw to the area. Rehabilitation of the dam and enhancement of the fishery restores will provide additional tourism dollars to the local economy.

The experience and knowledge gained from this project will also serve watershed planning efforts throughout the Northwest. This program will outline the framework and institutional requirements to implement a true watershed approach to balancing competing demands for out water supplies. The grass roots driven approach which anticipates and plans for regulatory requirements, rather than reacting to regulatory enforcement is critical to maintain economic stability and cooperative working environments.

Summary

We strongly support the passing of bill HR 3606 authorizing the Bureau of Reclamation to participate in the rehabilitation of the Wallowa Lake Dam in Oregon and for other purposes. This project has its roots in the Wallowa Valley. The local residents developed the framework for the project to address current pressing dam safety issues as well as anticipating future regulatory requirements. These stakeholders have proactively formed a steering committee and invited all interested agencies to participate and become part of the solution. The stakeholders have a vision beyond the rehabilitation of Wallowa Lake Dam and outlined a program which:

- Addresses pressing dam safety issues with Wallowa Lake Dam.
- Allocates storage in the Wallowa Lake reservoir to use for enhancing fish passage and habitat conditions in the Lostine River and Bear Creek.
- Proactively identifies fish passage improvements to protect existing ESA listed species as well as support future re-introduction of coho and sockeye salmon.
- Allows for incorporation of a renewable hydroelectric power energy source.
- Maintains the agricultural economic base for the community.
- Enhances the tourism and recreation economic expansion within the valley.

The Steering Committee initiated the planning and coordination for this project prior to the Klamath Falls calamity. The committee implemented a cooperative program requesting up front coordination with the participating agencies. The proposed project elements represent a balance between what is physically, institutionally, and financially feasible. This grass roots approach is the foundation to a successful project development, implementation, and operation.

Mr. WALDEN. We have been called for legislation. We will go for legislation and then come back for questions.

So Dr. Schnoor, you are next.

STATEMENT OF JERALD L. SCHNOOR, Ph.D., P.E., DEE, PROFESSOR, CIVIL & ENVIRONMENTAL ENGINEERING, CO-DIRECTOR, CENTER FOR GLOBAL AND REGIONAL ENVIRONMENTAL RESEARCH, THE UNIVERSITY OF IOWA

Mr. SCHNOOR. Thank you. Good morning, Chairman Walden, members of the Subcommittee, Congressman Kind. Thank you for the invitation to discuss the water quality of the Mississippi River and H.R. 3480, the Upper Mississippi River Basin Protection Act.

I am Jerry Schnoor, professor of environmental engineering at the University of Iowa and a member of the National Research Council's Water Science and Technology Board. I have prepared remarks on the need to monitor, model and reduce nutrient and sediment loads in the Upper Mississippi River Basin, and I ask that the full written statement that I have provided be made a part of the record.

Together with Congressman Kind, I co-chaired a workshop on this subject in January 2001, sponsored by the Board of Science and Technology Board of the NRC. I was born and reared in Davenport, Iowa, performed research on water quality issues on the Mississippi River and other places for over 30 years, and I have observed the river all my life.

Permit me to tell you a fish story. When I was 10 years old, my uncle ran a smokehouse and a small grocery store near Muscatine, Iowa, on the banks of the Mississippi. He taught me to fish for

large white sturgeon, a strange prehistoric-looking fish, but a true delicacy when smoked and savored. Unfortunately, the river has changed considerably over the past decades. It is no longer possible to catch sturgeon. They have been largely extirpated from the river, the victims of soil erosion, over-fertilization and wastewater discharges.

This tension between humans and the environment is neither inevitable nor completely irreversible. We must find ways to protect the environment, while developing a strong economy. A healthy economy and a clean environment can go hand-in-hand, I believe, but to do this, we must understand fully the environment, technologies for improving it, and human social systems.

The Upper Mississippi River Protection Act seeks to develop a coordinated public-private approach to reducing nutrient and sediment losses in the Upper Mississippi. It is sorely needed. The first steps are to establish a water quality monitoring network and mathematical models of the basic processes for pollutant fate and transport in the river basin. By cross-comparisons of sub-basins, it will allow scientists and engineers to decipher what management approaches are cost-effective in reducing sediment and nutrient loads to the river. This is a critical need in the Nation's effort to improve water quality, impacted to a large extent by nonpoint source runoff from the land.

Since pre-settlement days, about 1850, land cover and land use have changed dramatically. In Iowa, for example, my home State, 90 percent of the land is now in agriculture. This agriculture is the lifeblood of the economy, but we need to find ways to harmonize it better with the environment and to sustain quality ecosystems.

Since 1850, we have cleared about two-thirds of the forest land, drained 95 percent of the wetlands, and replaced 99 percent of the native prairies. Such drastic change in land cover is bound to influence water quality. Streams have become clogged by soil erosion, critical habitat for fish spawning has been covered, and species have been lost. Changes in land cover, together with the introduction of locks, and dams and channelization, have destroyed prime habitat for native aquatic organisms.

What has gone wrong? Well, I would submit that nothing has really gone wrong. It is simply that we are in the middle of an ongoing effort in adaptive management. Congress recognized the need in 1972, with the original Clean Water Act, to address nonpoint source pollution, but monitoring data for proper assessment and modeling purposes did not exist. Ever since then, we have been moving toward assessment of the problem and a new program, Total Maximum Daily Loads. This program requires the States to perform a new waste load allocation and a load allocation for nonpoint source pollution for the first time with a margin of safety to recognize uncertainties.

Basinwide implementation plans will be required and new permits will be eventually issued, a process that could take 10 to 15 years in the future. I believe that monitoring the Nation's waters is critically underfunded in this regard, and it slows the process. The States are most perplexed by how to implement a program without enough data to fulfill modeling needs and to perform defensible TMDLs. The Upper Mississippi River Protection Act,

H.R. 3480, will help to gather this data and construct computer models for one of the most ecologically and economically important waters in the Nation.

I strongly support this bill, and thank you for the chance to answer any questions.

[The prepared statement of Mr. Schnoor follows:]

Statement of Jerald L. Schnoor, Ph.D., P.E., DEE, Professor, Civil and Environmental Engineering, Co-Director, Center for Global and Regional Environmental Research, The University of Iowa, and Member, Water Science and Technology Board, National Research Council

Good morning, Chairman Calvert and members of the Subcommittee. Thank you for the invitation to discuss water quality of the Mississippi River and H.R. 3480, the Upper Mississippi River Basin Protection Act. I am Jerry Schnoor, a professor of environmental engineering at the University of Iowa and a member of the National Research Council's (NRC) Water Science and Technology Board. The National Research Council is the operating arm of the National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, chartered by Congress in 1863 to advise the government on matters of science and technology. I have prepared remarks on the need to monitor, model, and reduce nutrient and sediment loads in the Upper Mississippi River Basin. Together with Congressman Kind, I co-chaired a Workshop on this subject in January 2001, sponsored by the Water Science and Technology Board of the NRC. I have authored a textbook related to this subject, *Environmental Modeling: Fate and Transport of Pollutants in Water, Air, and Soil* (John Wiley and Sons, New York, 682 pp., 1996), and performed research on water quality issues for almost 30 years. I am born and reared inavenport, Iowa, on the Mississippi River, and I have observed the river all my life.

Permit me to tell a fish story. When I was ten years old, my uncle ran a smokehouse and small grocery store near Muscatine, Iowa, on the banks of the Mississippi River. He taught me to fish for large white sturgeon, a strange prehistoric-looking fish, but a true delicacy when smoked and savored. Unfortunately, the river has changed considerably over the past decades. It's no longer possible to catch sturgeon—they have been largely extirpated from the river, the victims of soil erosion, over-fertilization, and wastewater discharges. This tension between humans and their environment is neither inevitable nor completely irreversible. We must find ways to protect the environment while developing a strong economy. A healthy economy and a clean environment can go hand-in-hand. To do this, we must understand fully the environment, technologies for improvement, and human social systems.

The Upper Mississippi Protection Act seeks to develop a coordinated public-private approach to reducing nutrient and sediment losses in the Upper Mississippi River Basin. It is sorely needed. The first steps are to establish a water quality monitoring network and mathematical models of the basic processes for pollutant fate and transport in the river basin. By cross-comparisons of sub-basins, it will allow scientists and engineers to decipher what management approaches are cost-effective in reducing sediment and nutrient loads to the river. This is a critical need in the nation's effort to improve water quality, impacted to a large extent by nonpoint source runoff from the land.

Since pre-settlement days (circa 1850), land cover and land use have changed dramatically. In Iowa, for example, 90% of the land is now in agriculture. This agriculture is the lifeblood of the economy, but we need to find ways to harmonize it better with the environment and to sustain quality ecosystems. Since 1850, we have cleared about two-thirds of the forestland, drained 95% of the wetlands, and replaced 99% of the native prairies. Such drastic change in land cover is bound to influence water quality. Streams have become clogged by soil erosion, critical habitat for fish spawning has been covered, and species have been lost. Changes in land cover, together with the introduction of locks and dams and channelization, have destroyed prime habitat for native aquatic organisms.

In 1972, the Federal Water Pollution Control Act (Clean Water Act), P.L. 92-500, sought a goal of "swimmable and fishable" waters. After spending billions of dollars each year, the nation has benefited significantly from secondary treatment of point source discharges (municipal and industrial wastewater treatment). The Act established the National Pollutant Discharge Elimination System (NPDES) in which approximately 70,000 permits have been issued to enforce water quality standards. Water quality of the nation's inland waters improved greatly during the next 20 years. Unfortunately, those improvements have, for the most part, run their course, and we are still short of our goal. In the U.S., we have 21,000 waters that are not

expected to meet their intended uses, even with permitted discharges. Many of these stream and lake segments are in the Upper Mississippi River Basin, primarily impacted by sediments, nutrients and fecal coliform bacteria. What went wrong?

Nothing really went wrong. It is simply an ongoing effort in adaptive management. Congress recognized the need in 1972 to address nonpoint source pollution, but monitoring data for proper assessment and modeling purposes did not exist. Ever since then, we have been moving towards assessment of the problem and a new program, Total Maximum Daily Loads (TMDL). This program requires the states to perform a new waste load allocation and a load allocation for nonpoint source pollution with a margin-of-safety to recognize uncertainties. Basin-wide implementation plans will be required and new permits will eventually be issued, a process that may take 10–15 years. I believe monitoring of the nation's waters is critically under-funded and slows this process—the states are perplexed by how to implement a program without enough data to fulfill modeling needs and perform defensible TMDLs. The Upper Mississippi River Basin Protection Act will help to gather this data and construct computer models for one of the most ecologically and economically important waters in the nation.

Trends in water quality of the Upper Mississippi River over the past 30 years are difficult to delineate with so little data, but some general observations can be stated. Nitrate concentrations are getting worse in some highly agricultural areas, probably due to increased applications of nitrogen fertilizers. Fertilizers are applied at application rates larger than the crops can assimilate, and the result is runoff of nitrogen valued at more than \$300 million per year. The trend towards greater density of animals in concentrated animal feeding operations (CAFOs) is also accelerating. It is difficult for operators to apply manure onto the land in an acceptable manner when the density of animals and sheer volume of the manure becomes so great. On the other hand, conservation tillage practices on farms have really taken hold, and there is some evidence that suspended solids (silt) and total phosphorus concentrations may be decreasing (improving).

That the Upper Mississippi River still fails to meet the goals of the Clean Water Act and its intended uses is undeniable. Spawning areas are covered with silt by soil erosion, nitrate concentrations exceed drinking water standards in many locations, bathing beaches are closed due to fecal coliform bacteria in the water, and algae choke many waterways due to eutrophication (the excessive rate of addition of nutrients). Furthermore, the problems are multiplied by the transport of sediments and nutrients downstream, creating a conundrum for the Gulf of Mexico.

“Gulf Hypoxia” refers to a zone of low dissolved oxygen in the Gulf of Mexico that has grown to 12–17,000 square kilometers since 1985, roughly the size of Massachusetts. It is probably caused by the build-up of nutrients in sediments from algal blooms over the past 50 years or so. Remember, we said that the nation's inland waters had, for the most part, improved during the period 1972–1990s because of the Clean Water Act and its amendments. But our nation's coastal waters have not improved similarly. We do not understand fully why, but it seems there is a time lag associated with sediment anoxia that has grown steadily worse due to development of coastal zones and the cumulative build-up of nutrients and silt from riverine transport. Thus, the problems in the Gulf of Mexico are, to a large extent, the problems of the Upper Mississippi River Basin transported downstream. It is thought that about 31% of the nutrient loadings to the Gulf come from the Upper Mississippi River Basin alone, mainly from agricultural runoff. Although it is difficult to document damages in the Gulf at the present time, continued growth of the hypoxic zone will eventually result in the loss of important fisheries.

Economic impacts already can be documented in the Upper Mississippi River Basin. Dredging of sediments in the navigation channel costs over \$100 million each year. Farmers lose more than \$300 million annually in nitrogen fertilizer runoff, and the loss of aquatic habitat and beach closings threatens the river's \$1.2 billion recreation and \$6.6 billion tourism industries. The fishing industry, both commercial and recreational, has changed substantially in the past 50 years, but it is difficult to allocate damages among the many causes of soil erosion, agricultural runoff, municipal and industrial wastewater discharges, over-fishing, and invasive species. Invasive species are one of the thorniest problems nation-wide, a serious by-product of global commerce. Zebra mussels, *Dreissena polymorpha*, were introduced by ballast water to the Great Lakes in 1986. They entered the Upper Mississippi River Basin a few years later, clogging water intake structures and out-competing native mussels for habitat. So far, costs of control and eradication have exceeded \$138 million. They are not the only problems: several carp species including grass, bighead, silver and black carp have all been introduced since the 1970s by aquaculture.

Perhaps the largest data gap and the greatest motivation for H.R. 3480 are to evaluate Best Management Practices (BMPs). BMPs refer to those management

practices that could ameliorate agricultural runoff and reduce its impact on lakes and rivers. They include conservation tillage, grass stripping, riparian zone buffer strips, contour plowing and terracing, and wetlands restoration. There is a “disconnect”—while most scientists believe that BMPs are what is needed to solve the problem of nonpoint pollution, they have precious little data to prove it. Some BMP practices are already in place, and a coordinated public-private program of monitoring and modeling could help to analyze their effectiveness. Local, state, and Federal water quality monitoring and modeling efforts need to be joined to obtain a comprehensive picture. Eventually we will need to control nonpoint sources of pollution in the most cost-effective manner. We are embarking on a massive undertaking, but Americans deserve nothing less than clean water for drinking, fishing, contact recreation, and beautiful, functioning ecosystems.

One mantra in business is, “If we can measure it, we can manage it. If we can manage it, we should be able to improve it.” That is the impetus for the Upper Mississippi River Basin Protection Act. It should be accomplished by the highest qualified professionals, subjected to rigorous peer review, and results should be published in the freely available literature. I believe that H.R. 3480 provides such a study. It addresses a very serious national problem, protection of water quality and a natural resource treasure.

Again, thank you for the opportunity to discuss these issues. I would be happy to try to answer any questions you may have.

Mr. WALDEN. Thank you, Doctor.

We are getting called for a vote, but we will go ahead and take two more panelists. We can get this done in about 5 minutes, and that should give Mr. Kind and I time to sprint over and vote, and then come back.

So let us go now to Doug Daigle, I believe.

Mr. Daigle, welcome.

**STATEMENT OF DOUG DAIGLE, HYPOXIA PROGRAM
DIRECTOR, MISSISSIPPI RIVER BASIN ALLIANCE**

Mr. DAIGLE. Thank you. My name is Doug Daigle. Mr. Chairman and members of the Subcommittee, I welcome the opportunity to speak with you about Bill H.R. 3480, the Upper Mississippi River Protection Act, authorized by Representative Kind.

This bill is of particular interest to the organization that I represent because it will help address one of the key issues that we are dealing with. It is an issue of national concern as well, which is nutrient pollution of the river and the growth of hypoxia in the northern Gulf of Mexico.

The Mississippi River Basin Alliance is a nonprofit organization, and it has got over 150 member groups along the entire length of the river, and we have a real diverse membership, shrimpers on the Gulf, farmers in the Midwest. The mission is really to protect and restore the health of the river system and the communities who depend on it, and the organization was founded on the premise that the Mississippi River Basin, though large, is really one system, and its problems need to be addressed in a basin-like context.

That is why we adopted the issue of Gulf hypoxia as one of our key issues of concern. The concerns about the impacts of hypoxia on the most productive fisheries in the lower 48 States led to the problem being addressed at the highest levels of the U.S. Government, and the White House Office of Science and Technology initiated an integrated assessment of hypoxia. There was the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, mandating a task force made up of Federal agencies with jurisdiction

and key States along the river to deal with the problem, and they came up with an action plan.

The action plan called for reducing the frequency, the duration, the size and degree of oxygen depletion in the Gulf. It provided a basinwide context for doing that and relies on incentive-based voluntary efforts for nonpoint sources of nitrogen loading, and the existing regulatory controls for point sources, but it does more than that because it makes clear that the efforts to reduce Gulf hypoxia will also deliver improvements to water quality throughout the basin and that there is really a reciprocal relationship there, and I will quote briefly from the action plan.

“While the primary focus of this strategy is on reducing nitrogen loads to the northern Gulf, many of the actions proposed through this plan will also achieve basinwide improvements in surface water quality. Likewise, actions taken to address local water quality problems in the basin will frequently also contribute to reductions in nitrogen loadings to the Gulf.”

So this brings us to the importance of H.R. 3480. The action plan identifies priorities of research and monitoring necessary to support its goals, and it has a framework of adaptive management, based on implementation, monitoring and research, so they could address known problems, clarify scientific uncertainties and evaluate the effectiveness of the efforts to reduce hypoxia.

The expanded monitoring network for sediment and nutrient loss in the Upper Mississippi River Basin proposed by H.R. 3480 has the potential to significantly aid and complement implementation of the Gulf Hypoxia Action Plan with the upper river, and it also is going to help us by integrating data from all sources, and the consultation and collaboration with other public and private monitoring efforts that it has called for are going to be a tremendous aid as well.

We want to discuss this bill today. We should recognize, as well, as we discuss it, we would be remiss if we didn't recognize some other events that could affect its success and the success of the action plan and that measure. The proposed budget reductions for Fiscal Year 2003 for the U.S. Geological Survey would negatively impact water data collection, water quality research and assessments, and university-based education and research-related water systems.

As our discussions about 3480 illustrate today, these proposed reductions are really shortsighted. The work of the USGS is too important and our need for it is too great to really trade that all for some short-term fiscal gain from reducing the budgets of those programs.

A couple of weeks ago, the Gulf Hypoxia Task Force met in St. Louis, a very constructive meeting. They are willing to work, but they need funding, and this type of bill is just the type of measure that could help bring success to their efforts and to similar efforts throughout the basin.

Thank you.

[The prepared statement of Mr. Daigle follows:]

Statement of Doug Daigle, Hypoxia Program Director, Mississippi River Basin Alliance, on H.R. 3480

Dear Mr. Chairman and members of the Subcommittee,

I welcome the opportunity to speak to you regarding the bill H.R. 3480, the "Upper Mississippi River Protection Act", authored by Representative Ron Kind of Wisconsin. This bill is of particular interest to the organization I represent, the Mississippi River Basin Alliance (MRBA), because it will help to address one of our key issues of concern, as well as a major problem facing the basin and the country, which is nutrient pollution in the river system and growth of hypoxia in the northern Gulf of Mexico.

MRBA is a non-profit organization with over 130 member groups along the length of the river. Our main office is in Minneapolis, and regional offices are located in St. Louis and New Orleans. The mission of MRBA is to protect and restore the health of the river system and the communities who depend on it. The founding of the organization was premised on the realization that the Mississippi River, though large, was one system and that its problems needed to be addressed in a basin-wide context.

MRBA adopted the hypoxic zone in the Gulf of Mexico as one of its key issues for just this reason. A substantial body of scientific research has described the process by which this zone of low oxygen manifests itself in Louisiana's coastal waters.¹ The occurrence of the hypoxic zone is a result of interactions of nutrients such as nitrogen carried by the Mississippi River, channelization of the river and loss of riverine wetlands in the basin, and the stratification of fresh and salt water layers in the Gulf. Over half of the nitrate load in the Mississippi enters above its confluence with the Ohio.

The highest nitrogen loads enter the river from basins in the upper Midwest. The majority of the nitrogen is believed to come from non-point sources, such as agricultural runoff, although municipal and industrial wastewater and (to a lesser extent) atmospheric deposition of nitrates from fossil fuel combustion also make a contribution.

A simplified description of the process by which hypoxia forms off Louisiana's coast would run as follows: extensive nutrient loading from the Mississippi and Atchafalaya Rivers fuels the growth of large algal blooms offshore. As the algae dies and sinks through the water column, its decomposition leads to the depletion of oxygen, primarily in the lower, saltier layer of water. As oxygen levels drop below 2 milligrams per liter, marine life is unable to survive. Mobile organisms such as fish and shrimp migrate out of the hypoxic area if they can, while benthic (bottom-dwelling) organisms die off. Since systematic scientific mapping of the Gulf hypoxic zone began in 1985, the size that it can attain has more than doubled, from roughly 4000 square miles in 1991 to 8000 square miles in the summer of 2001.²

Concerns about the growth of this hypoxic zone, one of the largest in the world, center around its effects on the Gulf ecosystem, which sustains the most productive fishery in the lower 48 states. The rich fisheries off Louisiana's coast are in an already precarious position because of the dramatic ongoing loss of the state's coastal wetlands. As coastal marshes erode and break up, they dispense large amounts of detritus into the water, which fuel higher populations and harvests of fish and shrimp, but on a one-time basis. At some point, the loss of marsh habitat, so vital for the life-cycles of estuarine seafood, will lead to a sharp decline in those populations and the harvest levels.³

These concerns led to the hypoxia issue being addressed at the highest levels of the U.S. government. Under the Clinton administration, the White House Office of Science and Technology Policy initiated the Integrated Assessment of Hypoxia in the Northern Gulf of Mexico (completed in 2000), and with the additional mandate provided by the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998⁴, the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force (hereafter referred to as the "Task Force") convened representatives of jurisdictional Federal

¹ See Integrated Assessment of Hypoxia in the Northern Gulf of Mexico, May 2000. National Science and Technology Council Committee on Environment and Natural Resources, Washington, DC; also see Rabalais, Turner, and Scavia, "Beyond Science into Policy: Gulf of Mexico Hypoxia and the Mississippi River," *Bioscience* Vol. 52, no. 2, February 2002.

² Dr. Nancy Rabalais, Louisiana Universities Marine Consortium, Press release, July 26, 2001.

³ For information on Louisiana's coastal crisis and restoration program, see Coast 2050: Towards a Sustainable Coastal Louisiana, Coastal Wetlands Conservation Task Force (www.lacoast.gov)

⁴ Title VI of Public Law 105-383, section 604 (b), November 13, 1998.

agencies and the governments of states along the river to create an action plan to reduce the growth of hypoxia in the Gulf.

The Task Force worked for two years in an often contentious atmosphere, since farm states in the Midwest were understandably concerned about the potential economic impacts on their agricultural sectors of remedies to reduce Gulf hypoxia. As someone who participated in the process as an observer and public commenter, I can say that it was a significant learning experience for all involved. At the end of that process, the Task Force fulfilled its charge and reached consensus on a plan.

The Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico (hereafter referred to as the "Action Plan") lays out a national strategy to reduce "the frequency, duration, size, and degree of oxygen depletion" of the hypoxic zone.⁵ The Action Plan provides a basin-wide context for achieving this goal, relying on incentive-based, voluntary efforts for non-point sources of nitrogen loading, and existing regulatory controls for point sources.

Yet it does more than that. The Action Plan also makes clear that efforts to reduce Gulf hypoxia will deliver improvements to water quality throughout the basin: "water quality throughout the Mississippi [river basin] has been degraded by excess nutrients. Most states in the basin have significant river miles impaired by high nutrient concentrations, primarily phosphorus [and] excess nitrate, which can be a human health hazard."⁶

"While the primary focus of this strategy is on reducing nitrogen loads to the northern Gulf, many of the actions proposed through this plan will also achieve basinwide improvements in surface-water quality" Likewise, actions taken to address local water quality problems in the basin will frequently also contribute to reductions in nitrogen loadings to the Gulf."⁷

This brings us to the importance of H.R. 3480, the "Upper Mississippi River Protection Act" introduced by Representative Kind. The Action Plan identifies as priorities the research and monitoring necessary to support its goals. Its approach of adaptive management is based on "implementation, monitoring, and research, to address known problems, clarify scientific uncertainties, and evaluate the effectiveness of efforts to reduce hypoxia."⁸

The expanded monitoring network for sediment and nutrient loss in the Upper Mississippi River Basin proposed by H.R. 3480 has the potential to significantly aid and complement implementation of the Gulf Hypoxia Action Plan in that region. In particular, H.R. 3480 could aid the Task Force in carrying out one of the actions called for in the Plan for this year:

"By Spring 2002, States, Tribes, and Federal agencies within the Mississippi and Atchafalaya River Basins will expand the existing monitoring efforts within the Basin to provide both a coarse resolution assessment of the nutrient contribution of various sub-basins and a high resolution modeling technique in these smaller watersheds to identify additional management actions to help mitigate nitrogen losses to the Gulf and nutrient loadings to local waters."⁹

Expanded monitoring programs throughout the basin are critical as well to the ongoing effort to reduce Gulf hypoxia (and to improve state and local water quality):

"Effective implementation of [the Action Plan] will require a monitoring strategy that measures progress towards achieving both long-term and short-term goals. Feedback from such a monitoring strategy will facilitate an adaptive management framework that enables continual improvement of the Action Plan with increasing knowledge of the factors and processes controlling nutrient losses, their effects...and the effectiveness of management actions."¹⁰

These considerations make clear the importance of the integration of data from all sources, and the consultation and collaboration with other public and private monitoring efforts called for in Sections 103 and 104 of H.R. 3480.¹¹ Just as critical is the integration of data into modeling and research, as called for in Title II, Sections 201, 202, and 203 of H.R. 3480. Again, there is significant potential for aiding and complementing implementation of the Gulf Hypoxia Action Plan, while

⁵The Action Plan can be viewed at www.epa.gov/msbasin.

⁶Action Plan, p. 7.

⁷Action Plan, p.8.

⁸Ibid., p.4

⁹Ibid., p.13.

¹⁰Ibid., p.23.

¹¹Section 103 (a), (b), (c), (d), and Section 104, respectively, H.R. 3480.

accurately gauging the effectiveness of water quality improvements in the Upper Mississippi River Basin:

“[The Action Plan] strategy must quantify environmental trends and include periodic data analysis, interpretation, and reporting to all stakeholders that are involved with design and implementation of management, remediation, and restoration actions...Analysis and interpretation must use models that integrate knowledge across scales and hydrologic compartments from the smallest watersheds to the Mississippi and Atchafalaya River Basins and the Gulf of Mexico.”¹²

While we discuss today the opportunities provided by the Action Plan and H.R. 3480, we would be remiss not to bring into focus other issues that could affect the success of those and similar efforts. The President’s proposed budget for Fiscal Year 2003 envisions significant reductions to the budget of the U.S. Geological Survey. Proposed reductions to funding for USGS Water Programs would negatively impact water data collection, water quality research and assessments, and university-based education and research related to water systems.

As our discussions today demonstrate so clearly, these proposed reductions are ill-advised and short-sighted. The work of the USGS and the pressing need for timely data and “sound science” dwarf whatever small fiscal gains might be achieved by cutting those programs, and are far too important to relegate to some unspecified future date. We need them now, today, and in the future.

The Gulf Hypoxia Action Plan was submitted to Congress in January of 2001. The change of administrations and the turnover of top-level agency participants on the Task Force led to virtually no action on implementation being taken during most of 2001. The Task Force reconvened on February 7–8, 2002 in St. Louis for a constructive and positive meeting at which they reiterated the common ground they had attained and the resolve to act. Unfortunately, the challenge facing them has grown significantly. The funding situation at the Federal level is far more complicated than it was a year ago, and most states face budgets that are becoming progressively tighter.

The Task Force will need to be creative and persistent in its efforts, and they will need the help of stakeholders as well as state and Federal Governments.

The Mississippi River Basin Alliance is committed to progress on the problem of hypoxia, and to cooperation throughout the basin on issues that affect the future of the river and the many people who depend on it, from farmers in the Midwest to shrimpers on the Louisiana coast.

One of several hopeful notes at the recent St. Louis meeting came from a number of presentations that were made to the Task Force about innovative strategies for nutrient management, wetland restoration, and on-farm conservation.¹³ There is no shortage of new ideas coming from universities, non-governmental organizations, and farmers, but all of them will require monitoring and modeling efforts to gauge both their effectiveness and how our limited resources can best be spent.

Collaboration and coordination will be essential not only to progress on implementation of the Action Plan and reduction of Gulf hypoxia, but to improvement of water quality throughout the basin. One of the most exciting things about the Action Plan is that it provides a context for the beginning of basin-wide cooperation among states in the Mississippi Valley. H.R. 3480 can be an important part of this wider effort. This is a significant opportunity that should be grasped.

Mr. WALDEN. Thank you very much.

Now we will hear from Ms. Holly Stoerker. Ms. Stoerker, thank you for being here. We welcome your testimony.

**STATEMENT OF HOLLY STOERKER, EXECUTIVE DIRECTOR,
UPPER MISSISSIPPI RIVER BASIN ASSOCIATION**

Ms. STOERKER. Thank you.

¹² Action Plan, p.25.

¹³ These included Dr. Donald Hey of the Wetlands Initiative in Chicago, Dr. Suzie Greenhalgh of World Resources Institute, and Dr.s John Day and Bill Mitsch of Louisiana and Ohio State Universities, respectively. For a summary of the “suite” of actions available to address hypoxia, see the Action Plan as well as “Reducing Nitrogen Loading to the Gulf of Mexico from the Mississippi River Basin: Strategies to Counter a Persistent Ecological Problem,” Mitsch, et.al, Bioscience Vol. 52, No. 5, May 2001.

Good morning, Mr. Chairman and members of Subcommittee. My name is Holly Stoerker, and I am the executive director of the Upper Mississippi River Basin Association, which is an organization that was formed 20 years ago by the Governors of the States that border the upper river, and those would include Minnesota, Wisconsin, Illinois, Iowa, and Missouri.

I would certainly like to thank Representative Ron Kind for his leadership in addressing this very important issue of sediment and nutrients on our basin. I think it has been probably 30 years' worth of reports that I have read about our basin, and every single one of them lists sedimentation as the single most important problem.

And so in recognition of that, which is both an environmental problem because it fills in backwater areas on our river, but it is also an economic problem because the Corps of Engineers has to dredge a channel for commercial navigation and get that sediment out of there, so we have an economic and an environmental problem.

And as Doug Daigle pointed out, we also have an environmental problem in the Gulf of Mexico with regard to hypoxia, which is, in large part, caused by nutrients from the Mississippi River Basin.

I am here today on behalf of the States of this basin with a very simple message, and that is that we need what H.R. 3480 is seeking to do; in particular, an integrated monitoring network, under the leadership of the U.S. Geological Survey, to monitor nutrients and sediments in our basin.

We need this for a number of reasons. We need to target our investments in our basin, our investments in land conservation, in water quality efforts, and wetlands protection, and to do that we need good, sound science. And then we need this kind of monitoring system so that we can figure out whether those investments have really made a difference over time, and we are only going to know that if we keep track of that over time.

At this point, I would like to simply reemphasize the letter that Representative Kind introduced into the record from six Governors. This was a letter last October that—a tripartisan letter, I should emphasize—from last October that the Governors sent to Bush administration officials, declaring their support for the actions recommended in the Hypoxia Action Plan, and, in particular, as Mr. Kind pointed out, they do, in fact, call for “a monitoring effort conducted jointly by the U.S. Geological Survey and the States.” Well, I guess, in my view, that is exactly what H.R. 3480 is, in fact, seeking to do.

Our organization has testified twice now. This will be the third time on this bill, previous versions, including an appearance 2 years ago before this Subcommittee, and while the bill has undergone a number of changes over this period of time, I think we really do have a very sound piece of legislation here and one which I would encourage this Subcommittee to endorse and move quickly to the House Floor.

Our written testimony, which I guess I assume will be included in the record—

Mr. WALDEN. Yes, it will.

Ms. STOERKER. —makes a number of points, specific points, about the bill, most of which simply set forth the States'

expectations and assumptions, frankly, about how this kind of a program would be implemented, given the expectation that we are going to be able to move it forward.

I will let you just simply reflect on those specific points at your leisure, but before I close, I do want to make one very important point, and it is one that I think my colleagues here at the table have already made, which is that establishing a new USGS monitoring and modeling program in our basin should not come at the expense of existing programs and funding.

For example, we cannot assess nutrient and sediment transport in our rivers and streams unless we have good flow data. And the USGS Fiscal Year 2003 budget calls for a reduction of \$2.1 million in the National Streamflow Information Program, which is going to result nationwide in 129 stream gauges being lost, nine of which are in our basin. Similarly, the cuts to the Toxic Substances Hydrology Program, where we are doing current nutrient research, is particularly devastating.

So I would urge this Committee to also help us on that front to maintain the good work that the U.S. Geological Survey is already doing.

And so with that, I will close. Thank you again, and I certainly underscore our members' strong support for this bill.

[The prepared statement of Ms. Stoerker follows:]

Statement of Holly Stoerker, Executive Director, Upper Mississippi River Basin Association

Good morning. Thank you, Chairman Calvert and Members of the Subcommittee, for this opportunity to appear before you. My name is Holly Stoerker and I am Executive Director of the Upper Mississippi River Basin Association (UMRBA). The Governors of Illinois, Iowa, Minnesota, Missouri and Wisconsin formed the UMRBA in 1981 to coordinate the state agencies' river-related programs and policies and to work with Federal agencies on regional issues. On behalf of our member states, I am quite pleased to offer the following comments regarding the Upper Mississippi River Basin Protection Act (H.R. 3480).

Overview

The Upper Mississippi River Basin Association (UMRBA) is a strong supporter of efforts to reduce sediment and nutrients in the basin. As such, the UMRBA enthusiastically supports the Upper Mississippi River Basin Protection Act (H.R. 3480).

The UMRBA applauds the leadership of Representative Ron Kind and the Upper Mississippi River Congressional Task Force in addressing water resource needs in the basin and their commitment to providing sound scientific data upon which to make water resource management decisions. The UMRBA has worked closely with the sponsors of H.R. 3480 on previous versions of the legislation including H.R. 4013 in the 106th Congress and H.R. 1800 in the 107th Congress. While H.R. 3480 is narrower in scope than its predecessors, it is significantly improved. In large part, these improvements are the result of Representative Ron Kind's willingness to work closely with state and Federal water management agencies, as well as stakeholders in the basin.

The Importance of Monitoring and Modeling

Both sediment and nutrients have a profound affect on the quality of lakes, rivers, and streams throughout the Upper Mississippi River Basin. Sediment fills in valuable wetlands and streams throughout the basin, as well as the unique backwater habitats and navigation channel of the Mississippi River. Excess nutrients degrade water quality, impairing rivers and streams and threatening ground water supplies. In addition, excess nutrients from the Mississippi River Basin have been linked to oxygen depletion in the Gulf of Mexico, resulting in what is known as Gulf hypoxia. Meeting these challenges will require significantly enhancing our understanding of sediment and nutrient sources, mobilization, and transport. The monitoring and modeling program authorized in H.R. 3480 is not a scientific luxury; it is a management imperative. The data and information that results from these efforts will help

guide Federal, state, and local programs designed to solve the very real problems of water quality and habitat degradation. Targeting our efforts to restore wetlands, reduce nonpoint pollution, and help agricultural producers apply best management practices, depends on good scientific data.

The need for enhanced sediment and nutrient monitoring in the Upper Mississippi River Basin is widely recognized. In the January 2001 “Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico,” state and Federal agencies participating in the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force called for “increasing the scale and frequency of monitoring of both the extent of the hypoxic zone and the sources of nutrients and conditions of waters throughout the basin.” In an October 23, 2001 letter to Bush Administration officials, six Governors of Mississippi River Basin states urged that Federal programs to reduce nutrient inputs be enhanced. In this regard, the Governors state that a “monitoring effort conducted jointly by the U.S. Geological Survey and the states is required within the basin to determine the water quality effects of the actions taken and to measure the success of efforts on a sub-basin and project level.” H.R. 3480 reflects just the type of increased monitoring effort that has been proposed by both the Task Force and the Governors.

Specific Comments on H.R. 3480

- **Sediment and Nutrient Monitoring Differences**—The monitoring network and modeling efforts described in H.R. 3480 are designed to address both sediment and nutrients. However, the sources, transport, delivery, and impacts of sediment and nutrients are not identical and will require different monitoring and modeling approaches. Moreover, there are natural baseline levels of sediment and nutrients that would occur without human activity. For many waterbodies in the basin, acceptable levels of sediment and nutrient impairment have not been identified. While it may not be necessary for the legislation to explicitly acknowledge or accommodate these considerations, they will be critical in the design of the monitoring network and in development of the models. In part, this is why Section 104 of the bill is a key provision. Section 104 requires that USGS collaborate with other Federal agencies, states, tribes, local units of government, and private interests in establishing the monitoring network. Such collaboration should help ensure that the design of the monitoring network yields data that is relevant to both sediment and nutrient management issues.
- **Relationship to Mississippi River/Gulf of Mexico Watershed Nutrient Task Force**—The Mississippi River/Gulf of Mexico Watershed Nutrient Task Force is the joint Federal/state body that developed the Hypoxia Action Plan published in January 2001. At its most recent meeting on February 8, 2002, the Task Force’s Coordination Committee agreed to work with USGS to establish a “framework” for nutrient monitoring in the Mississippi River watershed and Gulf of Mexico. That framework is to be presented to the Task Force at its next meeting in August 2002. It is our expectation that the monitoring network authorized in H.R. 3480 be designed and implemented consistent with the framework already under development by the Task Force.
- **Cost-Sharing**—The states are pleased that the cost-sharing requirements in Section 105 provide that up to 80 percent of the nonfederal share may be provided through in-kind contributions and that existing state and local monitoring efforts may be applied to the nonfederal share. Given the geographic scope of the basin and the complex array of potential nonfederal partners, aggregating contributions to ensure compliance with the bill’s cost sharing requirements would seem to pose significant challenges. Nevertheless, it is significant that H.R. 3480 recognizes the value of state and local monitoring.
- **Additional New Funding**—Section 301 of H.R. 3480 authorizes annual appropriations of \$6.25 million for this new monitoring and modeling effort. It will be imperative that this funding represent additional new resources rather than a redirection of existing resources. H.R. 3480 emphasizes integration of existing monitoring efforts and use of existing data, a strategy that will certainly help to leverage scarce resources. However, integration of existing efforts is not a substitute for a real increase in the level of effort. And most importantly, this increased effort must not come at the expense of other important USGS programs such as the National Water Quality Assessment Program (NAWQA) or the National Streamflow Information Program (NSIP). In particular, streamgaging supported by NSIP provides flow data that will be critical to successfully monitoring and modeling sediment and nutrient loads. We cannot afford to lose any of that streamflow data, and in fact will likely need to increase flow monitoring. It is particularly troubling that, in fact, the President’s Fiscal Year 03 budget proposes deep cuts to existing monitoring efforts in the basin,

including current USGS water programs, as well as the Corps of Engineers' Upper Mississippi River Environmental Management Program. Such cuts will severely limit USGS' ability to undertake the new monitoring responsibilities proposed in H.R. 3480.

- National Research Council Assessment—Section 107 of H.R. 3480 directs the National Research Council of the Academy of Sciences to conduct a “comprehensive water resources assessment of the Upper Mississippi River Basin.” In the context of this legislation, it is our assumption that such an assessment would be focused on the specific water quality issues associated with sediment and nutrients. As such, it would potentially provide important input to the scoping and implementation of the monitoring and modeling authorized in H.R. 3480.

Mr. WALDEN. Thank you for your testimony. The Committee will go into recess at this point until after our votes. We have a motion on a previous question, which tells me we will probably have another one right after that, so it may be 15 or 20 minutes before we are back. So we will be back, and we look forward to this line of testimony and then question and answers.

Thank you. We are in recess.

[Recess.]

Mr. WALDEN. I would like to bring the Subcommittee back to order. We will conclude this morning's hearing with our final witness, Dr. John McLachlan.

My colleague, Mr. Kind, is on his way back, so please go ahead.

STATEMENT OF JOHN A. McLACHLAN, Ph.D., WEATHERHEAD DISTINGUISHED PROFESSOR OF ENVIRONMENTAL STUDIES, PROFESSOR OF PHARMACOLOGY, DIRECTOR, CENTER FOR BIOENVIRONMENTAL RESEARCH, TULANE AND XAVIER UNIVERSITIES

Mr. McLACHLAN. Thank you very much.

Mr. Chairman and members of the Subcommittee, I am Dr. John McLachlan, the Weatherhead distinguished professor of environmental studies at Tulane University and director of the Center for Bioenvironmental Research at Tulane and Xavier Universities in New Orleans, and we are the founding partner of the Long-Term Estuary Assessment Group, which “acronymsially” we call LEAG.

Our Center was founded in 1989 and is a New Orleans-based scientific research and educational partnership between Tulane and Xavier Universities, focusing on environmental and public health issues, with particular emphasis on the lower Mississippi River and the Gulf of Mexico.

In 1999, we teamed with the Navy Office of Oceanographic Research, the Office of Naval Research, the USGS and a variety of other academic and private organizations to form the Long-Term Estuary Assessment Group. The purpose is to seek better understanding of the complex Mississippi River/Gulf of Mexico estuary system and its resources.

I am here as a representative of just a poor Southern State, and the poorest of the poor, at the very end of the line of the river, but we just want to make sure that researchers and people living in this region, that the down-river aspects and perspectives are put into H.R. 3480.

So we would like to just thank you sincerely for giving us the opportunity to provide these down-river perspectives and to make the point that we think that any of the Upper Mississippi deliberations

should be done by involving and having the participation of the Lower Mississippi River Basin.

We support, as a group, the H.R. 3480. The bill promotes scientific efforts to manage sediment and nutrient loss in the Upper Mississippi River, with the eventual goal of reducing this load on the river. These efforts are good for both the Upper and Lower Mississippi and for the Nation. From a lower river perspective, we note the following advantages of H.R. 3480:

First, the "dead zone." Under natural circumstances, the Mississippi River delivers nutrients to the Gulf of Mexico, which stimulate the biological production upon which Gulf fisheries depend. Excess nutrients, namely, nitrogen fertilizers, enable algae growth in the Gulf to grow to dangerous levels. We support the efforts of H.R. 3480 to reduce the nutrients in the river.

Secondly, in terms of dredging, under natural conditions, sediments are deposited upon Southern Louisiana during periodic floods at the river's mouth. With the construction of flood control levees, such sediment now accumulates in the river. H.R. 3480 seeks to monitor and eventually reduce sediment load, and we applaud this.

Third, nonpoint-source pollution. A reduction of sediments and nutrients in the Upper Mississippi has the parallel benefit of reducing the quantity of agricultural, chemical, household pollutants, urban runoff and bacteria reaching the river. Less sediment means fewer particles to which these contaminants can bind. These are all benefits to the Lower Mississippi region.

From the lower river perspective, we view the impact of H.R. 3480 as primarily beneficial. We offer a few caveats, not as problems with the bill, but as suggestions which recognize the connection of the entire river system.

First, what is the optimal level of nutrients for the Gulf? Further research toward understanding the optimal level of nutrients reaching the Gulf of Mexico, so as not to create or maintain a "dead zone," can help us set realistic targets in reducing nutrients in the Upper Mississippi.

Second, sediment flux. Our understanding of sediment flux in the Lower Mississippi, a river highly controlled by men and artificial means, will be affected by changes in sediment runoff in the upper river. Correlating the lower river's fluxes in sediment and death with changes in the upper river's sediment load can aid in our understanding of how this critically important natural feature functions.

Third, invasive species. Over a decade ago, zebra mussels from the Caspian Sea arrived in North America via ballast water dumped by ships in the Great Lakes region. Since then this species has invaded the entire Mississippi River and are on their way to New Orleans, causing significant damage to utilities and industrial facilities. We see the Mississippi as a pathway for biological pollutants, both up and down river, and one that can be costly, as costly as excess nutrients and sediment.

Fourth, the impact of this bill on Louisiana's Freshwater Diversion Projects. To reverse saltwater intrusion and coastal erosion, Federal and State agencies have constructed several costly freshwater diversion projects along the lower river. We suggest that

H.R. 3480 provide for scientific assessments of the impact of reduced sediment and nutrient loads on these freshwater diversions.

Finally, we would propose in our support of the bill that our position on the Mississippi in New Orleans offers a unique perspective on the connection of the entire river system, and we literally live on the land that has been eroded from the upper basin and drink the water drained from it.

In this regard, we note for the Subcommittee that our Center is currently creating a National Center for the Mississippi River in New Orleans and is actively in partnership with numerous up-river organizations. In this spirit, we suggest including in H.R. 3480 a Mississippi River Summit to be held in our nascent National Center for the Mississippi River in New Orleans to coordinate research and activities on both the Upper and the Lower Mississippi Basin.

Thank you very much. I am happy to take questions.

[The prepared statement of Mr. McLachlan follows:]

**Statement of Dr. John McLachlan, Director of the Center for
Bioenvironmental Research, Tulane and Xavier Universities**

Introduction

Mr. Chairman and members of the Subcommittee, I am Dr. John McLachlan, Director of the Center for Bioenvironmental Research (CBR) at Tulane and Xavier Universities in New Orleans, Louisiana, and founding partner of the Long-Term Estuary Assessment Group (LEAG).

Background of CBR and LEAG

Founded in 1989, the CBR is a New Orleans-based scientific research and education partnership between Tulane and Xavier Universities, focusing on environmental and public health issues with a particular emphasis on the lower Mississippi River region. The CBR specializes in researching the ecological and human-health impact of chemical pollutants, environmental and geological conditions of the lower Mississippi River and Gulf of Mexico, environmental signals and sensors, and related issues such as biosensor technology, invasive species, long-term stewardship of contained pollutants, and information technology for environmental management. World renowned for its progressive, multidisciplinary research on aquatic ecosystems, the CBR has a full-time staff of 27 employees and over 80 affiliated researchers in fields ranging from biology to geology, from toxicology to engineering. Current and upcoming funding for the CBR comes from the Department of Energy, Office of Naval Research, U.S. Geological Survey, National Oceanic and Atmospheric Administration, Environmental Protection Agency, U.S. Department of Agriculture, Department of Health and Human Services, and private foundations.

In 1999, the CBR teamed with the Naval Oceanographic Office, National Oceanographic and Atmospheric Administration, and a number of academic, state, and private organizations to form the Long-Term Estuary Assessment Group (LEAG). LEAG (described as the Lower Estuary Assessment Group in H.R. 3480) seeks a scientific understanding of the complex Mississippi River / Gulf of Mexico estuary system, how it functions, its resources and threats to its health, and how it can help develop technologies and systems for the benefit of the nation. LEAG views the Mississippi River / Gulf of Mexico estuary as one of America's greatest natural laboratories, offering nationally important resources and reflecting the activities of millions of Americans in a vast drainage basin.

As researchers of the lower Mississippi River, the CBR and LEAG offer unique perspectives on the Upper Mississippi River Basin Protection Act of 2001 (H.R. 3480).

Upper Mississippi River Basin Protection Act of 2001: Our Perspective from Downriver

We support H.R. 3480. H.R. 3480 promotes scientific efforts to manage sediment and nutrient loss in the upper Mississippi River and Illinois River basins that is, those parts of Minnesota, Wisconsin, Illinois, Iowa, and Missouri draining into these rivers between Cairo, Illinois and the headwaters of the Mississippi.

Specifically, H.R. 3480 establishes an integrated program to monitor and model the nutrient and sediment load of the upper Mississippi River, with the ultimate

goals of reducing (1) the erosion of these resources from the upper basin and (2) the releases of these constituents to the lower Mississippi and the extended estuary of the Gulf of Mexico.

We offer here our perspectives—as scientists and residents of the lowest part of the Mississippi River—on the benefits of this bill, as well as our suggestions and recommendations for improving it. But more importantly, we wish to communicate to the Subcommittee the importance of keeping those Americans living along the lower Mississippi River involved and participating in upper-Mississippi legislation and management, for, as we all know, downriver communities feel each and every impact upon the river, for better or worse.

While the focus of this bill is the upper Mississippi River basin, its impact will be felt equally, if not more so, by those Americans who live along the lower Mississippi River, and whose quality of life depends in no small part on the environmental health of the Mississippi River / Gulf of Mexico estuary.

We offer these observations of this bill—the pros and cons—from our “downriver” perspective, as scientists researching the Delta region, and as residents of the New Orleans area, a city whose land base was created by the Mississippi, whose economy is dependent on the Mississippi, and whose unique culture is largely a product of the Mississippi.

The Pros

From a lower-river perspective, we see the following “pros” of H.R. 3480:

1. Dead Zone

Under natural circumstances, the Mississippi River delivers nutrients to the Gulf of Mexico, which stimulate the biological production upon which gulf fisheries depend. Too much of a good thing, however, is harmful: excess nitrogen fertilizers running off upper Mississippi Basin farms enable algae in the Gulf of Mexico to grow to dangerous levels. As the algae die and decompose, they lower oxygen levels in the Gulf (hypoxia), which kills or drives away animal life, including commercially important seafood and sport fish. This hypoxic “Dead Zone” forms annually and attracts the attention of the media and public. It effects the lower Mississippi / Gulf of Mexico estuary region in the following ways:

- decreases health and extent of commercial fisheries, an industry estimated to be worth \$2.8 billion annually in coastal Louisiana;
- increases growth of certain algae blooms which are harmful to marine organisms and humans;
- disrupts gulf ecology by eliminating longer-lived species and bottom-dwellers, and shifting productivity to non-hypoxic periods and places;
- decreases recreational fishing opportunities, worth \$1.6 billion annually in coastal Louisiana..

We do not yet know the optimal quantity of river nutrients needed for the ecological health of the Gulf of Mexico, but the efforts of H.R. 3480 to address this research need, and its ultimate goal of reducing excessive nutrients in the river, are positive benefits from the downriver perspective.

2. Dredging

Under natural conditions, sediments carried by the Mississippi River are deposited upon the deltaic landscape during periodic floods (thus creating southern Louisiana) or deposited at the mouth of the Mississippi River. With the construction of levees for flood control starting in the early 1700s, these sediments no longer replenished the lands of southern Louisiana, instead accumulating in and along the river and eventually at its mouth. As a major commercial waterway hosting 400,000,000 tons of traffic annually, sections of the lower Mississippi (particularly the passes at the river’s mouth) must now be dredged repeatedly by the Federal Government for the maintenance of shipping lanes. The Army Corps of Engineers districts responsible for the river from St. Louis to the mouth have spent an average of \$84,000,000 annually since 1995 on dredging. In some cases, dredging may stir up pollutants bound to sediment particles at the bottom of the river. Sediment build-up is also burdensome to flood-control infrastructure in Louisiana, particularly the Old River Control Structure and spillways, as well as riverside wharves, docks, and industries. The monitoring of sediment flux in the upper river, and ultimately the reduction of sediment load in the river, are both encouraged by H.R. 3480. We perceive these as benefits to the lower Mississippi River region.

3. Nonpoint-Source Pollution

A reduction of sediments and nutrients in the upper Mississippi has the parallel benefit of reducing the quantity of pesticides, herbicides, agricultural feed stock, household pollutants, chemicals on urban surfaces, and bacteria originating from

municipal, agricultural, and industrial sources. Less sediment means fewer particles to which these contaminants can bind. These are all benefits to the lower Mississippi River region.

The Cons

From a lower-river perspective, we view the impact of H.R. 3480 as primarily beneficial. We offer these “cons” not as problems with the bill or concerns about its impact on the lower river, but as suggestions which recognize the connectivity of the entire river system.

1. Optimal Level of Nutrients Reaching the Gulf

Further research toward understanding the optimal level of nutrients reaching the Gulf of Mexico—so as not to create a “Dead Zone”—can help scientists and managers set realistic targets in reducing nutrients in the upper Mississippi. More research is needed in this area.

2. Sediment Flux

That the Mississippi is a vast transporter of eroded sediments to the Gulf of Mexico is complicated by its high level of human control, especially in its lower half and particularly in its last 200 miles. Our work in understanding sediment flux in the lower river will be affected by changes in sediment runoff in the upper river. This too needs to be further researched. Correlating the lower river’s fluxes in sediment and depth with changes in the upper river’s sediment load can aid in our understanding of how this critically important natural feature functions.

3. Invasive Species

Over a decade ago, zebra mussels from the Caspian and Black Seas arrived to North America via ballast water dumped by ships in the Great Lakes region. Since then, this introduced species has invaded the Mississippi River down to New Orleans and beyond, causing significant damage to utilities, shipping, and industrial facilities along the banks of the Mississippi. Scraping mussels from pipes in the Great Lakes region alone costs between \$50 to \$100 million a year. Here we see the Mississippi as a pathway for a biological pollutant, one that can be as costly as excess nutrients and sediment. We suggest that H.R. 3480, with its monitoring and modeling directives, also seize the opportunity to study invasive species in the Mississippi River system, so that costly invasions may be prevented in the future.

4. Impact on Louisiana’s Fresh-Water Diversion Projects

To reverse the intrusion of salt water upon Louisiana wetlands and to combat the state’s severe coastal-erosion problem (caused in large part by the manmade levees’ constriction of the river from depositing sediments beyond its banks), Federal and state agencies have constructed two major fresh-water diversion projects along the lower river in Louisiana, with more planned. Total costs are well in the hundreds of millions of dollars. The aim of these immense engineering projects is to emulate, as best as modern-day conditions permit, the historic tendency of the river to overflow its banks, deposit its sediments in the backswamp, enrich the wetlands with its nutrients, and push back intruding salt water from the gulf with a plume of fresh river water. We suggest that H.R. 3480 provide for scientific assessments of the impact of reduced sediment and nutrient loads on these fresh-water diversions.

5. A Mississippi River Summit in New Orleans

Our position on the Mississippi in New Orleans offers us a unique perspective of the connectivity of the upper and lower river, not to mention its tributaries and sub-basins. We literally live on land eroded from the upper basin and drink the water drained from it. In this regard, we note to the Subcommittee that the CBR is currently creating a National Center for the Mississippi River in New Orleans, and is actively partnering (through Memoranda of Understanding) with upper-river organizations such as the Science Museum of Minnesota, St. Louis Science Center, Illinois State Museum, Mississippi River Museum of Dubuque, Iowa, the Upper Mississippi River Citizen’s Commission of Winona, MN, and Mississippi River Basin Alliance. In this spirit, we suggest including in H.R. 3480 a “Mississippi River Summit” to be held at the nascent National Center for the Mississippi River, to coordinate research and activities on both the upper and lower river.

Conclusions

The CBR and LEAG support H.R. 3480. We see in this bill the benefits of monitoring and modeling toward the reduction of sediment and nutrients in the Mississippi thus reducing the size, intensity, and frequency of the “Dead Zone” in the Gulf of Mexico, the need to dredge the river, and the quantity of pollution in our water supply. But we also stress that upper-river legislation impacts the lower

river, and that H.R. 3480 can be more effective by addressing the connectivity of the entire river. LEAG, as a partnership of government, academia, and private groups involved in monitoring and modeling the Mississippi River/Gulf of Mexico estuary, is an ideal entity for conducting such activity.

I thank you for this opportunity to testify on behalf of the CBR and LEAG.

Mr. WALDEN. Thank you, Doctor.

We appreciate the testimony of all of our panelists today. I am going to start with some questions of Mr. McMillen regarding House Resolution 3606.

Mr. McMillen, I wonder, just looking through the information that was provided to me about a project that has been going on out there for some time, and the participating agencies are numerous on this sheet. Can you tell me about the role of the local Bureau of Reclamation has played in your discussions and perhaps other Federal agencies too?

Mr. MCMILLEN. Certainly. That list of participating agencies, the local stakeholders organized stakeholder meetings and invited all of those agencies, of which the Bureau was part of that.

The Bureau has been involved in conservation fish passage projects in the valley since as early as 1984. There was a study done in the upper valley looking at consolidation and turning ditches into pipelines, those type of things. It was about a \$20-million project that reached very final stages before it was basically put on the shelf because of lack of public support.

We have worked with the Bureau. The Bureau has been in the lower valley, the Lostine part of the project, over the last 10 years, doing the same type of work, conservation of fish passage.

The infrastructure, which is Phase III of this project, what it is designed to do is to provide water in the irrigation system, leave the Lostine River water in the Lostine for Endangered Species. The Bureau has done all of that preliminary engineering work. We have not been involved.

However, that part of the project is not feasible unless the dam is rehabbed to provide about 3,500 to 4,000 acre-feet of storage for that water exchange. That is what the Associated Ditch Companies has already got agreement from their participating farmers to permanently allocate that to the Federal Government for that water exchange. So there is a Federal participation and Federal ownership issue with this, and that is in the storage itself.

So it has been ongoing at the Bureau. The Corps of Engineers have been involved, the National Marine Fisheries Service. Every Federal agency that has any interest in this project was invited and has been in attendance to three stakeholder meetings. That started about 2 years ago.

Mr. WALDEN. And they are supportive of the concept that you have laid out?

Mr. MCMILLEN. Yes. This project actually falls right in line with the biological opinion of the National Marine Fisheries Service and the U.S. Fish & Wildlife Service, looking for basically off-river mitigation, both for the Bureau and the Corps projects. This is a total watershed approach for basically protecting and enhancing endangered species.

Mr. WALDEN. Have any of these Federal agencies that embraced and helped create this plan stepped forward to say we will help

fund it, in terms of the major element, which is the dam restoration?

Mr. MCMILLEN. No, they have not. The Corps of Engineers was approached. They also have funding limitations in their current programs. They do have some money available for fish passage. We have approached Bonneville Power Administration, and they are interested, through their normal funding process of providing funding, matching funds, to help with the fish restoration aspects, fish passage at the dams.

Mr. WALDEN. What about the State of Oregon—since, you know, the commissioner referenced that in his testimony, the Dam Safety Study that was done there—is the State of Oregon stepping forward to help finance this?

Mr. MCMILLEN. The State of Oregon, back in 1995, when they issued, in 1996, they issued a letter basically listing this as a high-hazard structure. We brought them in. We actually put together a complete funding evaluation, looking at State grant, Federal money, everything we could find, and the State has no money available for this scale of a project. That was evaluated.

Mr. WALDEN. So, if you have no State funding and you have no Federal funding, what are your prospects?

Mr. MCMILLEN. We have none.

Mr. WALDEN. In terms of even keeping the dam safe?

Mr. MCMILLEN. No. Because if you look at the cost of being able to replace the structure and the payback, it is beyond the ability of the agricultural community that is currently there.

Mr. WALDEN. Do you know the population of the ag community, the patrons in this district?

Mr. MCMILLEN. The total population in the valley, there are 400 shareholders that directly pull water out of irrigation, there is about another 200 shareholder farmers that get it through secondary use.

Mr. WALDEN. So maximum is 600 people you estimate—

Mr. MCMILLEN. Six hundred farmers, yes.

Mr. WALDEN. —farmers, \$32 million?

Mr. MCMILLEN. That is correct. Let me clarify a little bit on that. The dam rehabilitation, which is Phase I, is about \$7 million, and the rest of it is related to fishery restoration and hydropower.

We did look into trying to do a private financing, look at a rate gain, and it is just very difficult, in the current agriculture economies, to be able to pay that back.

Mr. WALDEN. Thank you. My time has expired.

Mr. Kind?

Mr. KIND. Thank you, Mr. Chairman.

I just want to thank, again, the witnesses for your testimony today and for the help that you provided with the drafting of the legislation. We worked closely with many of you, and we look forward to working closely as this moves forward and as we better integrate the planning at all levels on what we can do to sustain the river basin.

Dr. Schnoor, I appreciated the opportunity of co-chairing that working group that we had last year in regards to the Mississippi through the National Research Council. As you are aware, in this legislation it would call for funding of the National Research

Council, the National Academy of Sciences, an assessment of the river basin.

Could you explain to us the importance of that and whether you have had some expertise in this area and other watershed areas in providing such an assessment.

Mr. SCHNOOR. Yes, we think the assessment is important, and the National Research Council is prepared to go ahead with that, should H.R. 3480 become law. The National Research Council, as you know, is the operating arm of the National Academy of Sciences, the National Academy of Engineering and the Institutes of Medicine. It was chartered by Congress in 1863 to advise the Government on matters of science and technology.

We are prepared to go ahead with an assessment of the Upper Mississippi River Valley Protection Act, if this passes, through the Water, Science and Technology Board, of which I am a member.

Unfortunately, he had another meeting and had to leave, but Steven Parker, who is the staff director of that group, was here earlier and is very much interested and feels this is a strong need of the NRC to do an assessment like this, and the chairman of our committee is Richard Luthy from Stanford University, and he agrees as well.

Mr. KIND. What would be the goal of the assessment? What would you be trying to produce?

Mr. SCHNOOR. We would produce basically a book in about a 2-year period, six to eight meetings, in which some of the Nation's experts in the area of water quality would behold the literature and would be brought together as sort of initiation, I would say, to all of the research in monitoring and modeling required under 3480. So it is kind of a kick-off assessment and book of where we stand right now.

Mr. KIND. Thank you.

Mr. Daigle, I understand that you recently participated in a conference in St. Louis involving many of the shareholders that are going to be working to be implement the interagency action plan. Was there any discussion or talk about the importance of monitoring and getting good models in place in regards to the action plan at that conference?

Mr. DAIGLE. Yes, that was the meeting of the Gulf Hypoxia Task Force, the first time it has been convened under the Bush administration, and that was a real key theme that came out from people all along the river.

The representatives of the task force are from Federal agencies and the States, and the secretary of the Minnesota Pollution Control Agency made a very strong point that she supports doing this, but she has got to have the monitoring funding. It is just critical for all of the water quality groups.

Mr. KIND. Thank you.

Ms. Stoerker, you had a chance to listen to Director Hirsch's testimony, and he raised a concern in regards to the cost sharing that is contained in the legislation. I know you had some input in regards to the States' perspective, at least given your position there in regards to the cost sharing. Could you quickly explain why you think the cost sharing contained in this legislation is workable and important.

Ms. STOERKER. Sure. Two points I think worth making in that regard. One is that the States, as many of you are aware, are in dire financial straits. Mr. Daigle just mentioned the fact that the commissioner of the Minnesota Pollution Control Agency made a passionate plea for this program earlier in February. She was hoping to be at this hearing, but could not leave the State because she has to lay off 150 employees this week.

The second point I think worth making about cost sharing, from the States' point of view, is that the Mississippi River is very much a national river, and we have a tremendous Federal influence on that river. The Corps of Engineers, a Federal agency, needs to dredge, and so forth. So I think there is a very unique kind of Federal interest in that system, which does not suggest that the States should not come up to the plate and participate as cost-share partners. I think they are eager to do that. I think that there are going to be some practical, as well as kind of public policy, concerns about that.

Mr. KIND. Thank you.

And, finally, Dr. McLachlan, I was particularly interested in hearing your feedback on this and the support for the legislation, given your perspective from the Lower Mississippi region. And I believed from the very beginning that we need to start dealing with the Mississippi River Basin as one continuous ecosystem and start coordinating and managing the plans is that we view it as one, continuous, flowing ecosystem. And that is probably the best hope we have of seeing significant change and improvement in the area, and I appreciate your interest in this legislation.

Could you speak briefly on the importance, in your view, of better cooperation and collaboration between the Upper Miss region and the Southern Miss region.

Mr. MCLACHLAN. The Upper and Lower Mississippi is more of a political distinction than a real distinction, and everything that happens in one part of the river system is expressed in the other.

When I started working in New Orleans 7 years ago, when I moved to Tulane—I was in the Federal Government before then—I told my mother once, who still lives in Pittsburgh, that everything she does I will find out about 2 weeks later, so she should be careful.

[Laughter.]

Mr. MCLACHLAN. And I think that that is more or less the sense of connectedness not only in the ecosystem, but just as we have expressed here. Every time people who are working on the river get together, we establish other connections, either through websites or interactive science museums. So I think there is almost a kind of a groundswell of interest in river research, river education that was not there really 5 or 6 years ago.

I should also say that in terms of our national commitment to homeland defense and concern, that most of the academic centers studying water have been focused outwardly on oceanography, and that in some ways one should start to look for strips or a "Woods Hole" of the river in the riverine systems, which now are so important not only to our defense, but really to our livelihood, and I think that one way to do that also would be to assure that the USGS budget and the other agencies that are so critically involved

in river strength and maintenance would certainly be kept at a high level.

Thank you.

Mr. KIND. Thank you again. I thank all of the witnesses for your interest in this and your testimony today. As I said, as we move forward with the legislation, I look forward to working with you in the future.

Thank you, Mr. Chairman. That is all I have.

Mr. WALDEN. Thank you.

I also want to thank the witnesses for your valuable testimony and Mr. Kind for joining us today.

The members of the Subcommittee, some of whom obviously aren't here today, may have some additional questions they want to submit to the witnesses, and we would ask that you respond to those in writing. The hearing record will be held open for these responses until March 21st of 2002.

If there is no further business before the Subcommittee, the Chairman again thanks the members of the Committee and our witnesses, and without objection the Subcommittee now stands adjourned.

[Whereupon, at 11:20 a.m., the Subcommittee was adjourned.]

