

Final Meeting Summary

First Meeting of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force

December 4, 1997
Key Bridge Marriott
Arlington, VA

Executive Summary

On December 4, 1997, six federal, seven state, and two tribal senior representatives met for the first Mississippi River/Gulf of Mexico Watershed Nutrient Task Force meeting in Arlington, Virginia. This group convened to address not only the occurrence of hypoxia (areas of low dissolved oxygen) in the Gulf of Mexico, but also the potential for alleviation of the problem through nutrient and river management practices throughout the Mississippi watershed. At the meeting, Task Force members were provided with, and discussed, background information which defined the problem and the science and management issues relative to solutions. The group reviewed and were asked to comment on the proposed charter for the Task Force and its committees within a week (by December 11, 1997). They were also asked to designate a coordination representative. The general public attending the meeting were provided the opportunity to ask questions and present their concerns (see [Attachment 1](#) for a complete list of attendees). The next meeting is tentatively scheduled for late March or early April 1998 in New Orleans, Louisiana.

An overview of each presentation and the discussions are described below.

Welcome, Introduction, Purpose, Objectives

*Mr. Robert Perciasepe, Assistant Administrator for the Office of Water
U.S. Environmental Protection Agency*

Mr. Perciasepe welcomed the state and tribal representatives to the Task Force and set the goal of the meeting as getting everyone to a common state of information about the problem of nutrients and hypoxia in the Gulf of Mexico. He expects the Task Force will meet 3 to 4 times a year for the next couple of years to continue the dialogue and increase understanding about the problem.

He stressed a kind of strategy in which everyone works together to move ahead with nutrient control solutions and not wait until the problem is too large to handle. The meeting focused on programs and projects already underway and how aggressive and targeted these programs should be. He mentioned that the Clean Water Action Plan, currently under development, could complement these efforts and show how other federal resources can be targeted to help solve the problem.

Review of Science Issues

*Ms. Sally Yozell, Deputy Assistant Secretary for Oceans and Atmosphere
National Oceanic and Atmospheric Administration*

Ms. Yozell emphasized the importance of the active involvement of states and localities. She also explained the role of NOAA related to managing the Nation's fisheries. The hypoxic zone falls in the middle of one of the most important fisheries/recreational areas in the U.S. Commercial fishing in Louisiana supports 90,000 jobs with an economic impact of about \$1.5 billion. In 1991 about six hundred million dollars was spent in Louisiana on recreational fishing.

NOAA is concerned because the zone that forms every spring and summer removes a very significant fraction of convenient fishing areas. Therefore, fishermen must spend more for fuel, supplies, and wages as they move farther out to sea to reach the fishery. Concentrated fishing efforts on the inside of the hypoxic zone (near shore) can lead to localized overfishing and mortality of fin and shellfish.

***Mr. Donald Scavia, Director, Coastal Ocean Program Office
National Oceanic and Atmospheric Administration***

Mr. Scavia discussed the scientific issues associated with hypoxia and the status of knowledge about the problem. He is leading the scientific assessment on hypoxia which comes under the auspices of the White House Science Office. Six assessment teams have been formed that will provide critical peer-reviewed information.

The assessments will be reviewed by independent experts and delivered to the Task Force in approximately one year. An independent editorial board will be established that will oversee the peer review. Once the report from each team has been reviewed, revised, and accepted by the editorial board they will be integrated into one assessment document that summarizes the state of knowledge about the hypoxic zone and evaluates the economic aspects of policy options that may be considered. ([Attachment 2](#) is a copy of the overheads presented by Mr. Scavia.)

After Mr. Scavia's presentation, Bob Perciasepe asked if there were questions/comments from the Task Force members. Mr. Jimmy Palmer commented that having the states actively participate is critical because that is where the strategies will be carried out. So far, all the work done has not included the states and they are just now getting involved.

**Nutrient Management/River Management Issues
USEPA and USDA Activities**

***Mr. Thomas Hebert, Deputy Under Secretary for Natural Resources and Environment
U.S. Department of Agriculture***

Mr. Hebert summarized current USDA and EPA programs and projects that can be used to address the problems associated with nutrient over enrichment, low dissolved oxygen levels, and hypoxia. These programs are being expanded and enhanced and are likely to also have local environmental benefits. Many management practices to reduce farm runoff are economically beneficial to farmers.

Air Deposition (EPA)

Nutrients from power generation, other sources

Run-off Programs (EPA & USDA)

Clean Water Act Section 319 Program

State Management Plans

EPA Implementation Grants (\$100M/Year)

PL 566/Small Watershed Program

Conservation Reserve Program

Environmental Quality Incentive Program

Coastal Nonpoint Source Program

Clean Water Act limits for point sources for Domestic Sewage and Industry (EPA)

Animal Feeding Operations Strategy Being Developed

“Water Quality” Based Permits Where Needed (TMDLs)

Stream Corridor and Wetlands Protection and Restoration (USDA, EPA, & Corps)

USDA’s National Conservation Buffer Initiative

Swampbuster (‘85)

Wetlands Reserve Program (‘85) (USDA)

Wildlife Habitat Incentives Program

Clean Water Act Section 404 (Corps & EPA)

Agricultural Research (USDA)

These programs are being carried out in conjunction with state programs. States are contributing substantial sums to reduce loadings of nitrogen and phosphorus and improve water quality.

Nutrient Management/River Management Issues USCOE Activities

Major General Phillip Anderson, Commander, Mississippi Valley Division, U.S. Army Corps of Engineers (USACE); Presidential Designee, Mississippi River Commission

The Office of the Assistant Secretary of the Army for Civil Works and USACE Headquarters have tasked the recently created Mississippi Valley Division of the Corps with helping the Task Force in its development of the six science assessment reports and related activities. The Corps can provide assistance with development of several of the six topic papers and with the final synthesis report.

MG Anderson went on to discuss current projects that the corps is undertaking or plans to undertake in the future that could help the Task force address nutrient management issues.

In the New Orleans district, the corps is working on a number of coastal wetlands restoration projects that will help preserve Gulf coastal wetlands (69 projects are completed, under construction, or planned) under the authority of the Coastal Wetlands Planning, Protection, and Restoration Act (Breux Act). There is also a demonstration erosion control project in the Yazoo basin in Mississippi that is being carried out by the Vicksburg District. These actions may function to some extent to reduce nutrients reaching the Mississippi River and the Gulf from the lower Mississippi basin. Additionally, the St. Louis, Rock Island, and St. Paul districts are implementing the Environmental Management Program on the Upper Mississippi River to protect and restore wetlands that may increase nutrient-filtering capability along the upper Mississippi river. Other studies and projects underway can be tailored to focus more on controlling excess nutrients while at the same time fulfilling transportation, flood control, hydropower, water supply, or environmental restoration objectives as well.

The corps is more than willing to take a larger role in this effort by providing its expertise and appropriate staff support for ongoing agency activities and could provide enhanced support for any modeling or other studies now needed provided an outside funding source were available.

Public Comments

Commenter: Darryl Malek-Wiley, President, Mississippi River Basin Alliance

Mr. Malek-Wiley expressed a desire to use the Chesapeake Bay as a model and adopt the 40 percent nutrient reduction goal as a goal for the Mississippi River watershed and increase the goal in the future. He urged the Task Force to move forward by including other nongovernmental organizations at the table and have everyone talking as equals. He asked the Task Force to develop action items in order to move forward rather than studying the science and merely thinking about the problem.

Response:

Robert Perciasepe

Mr. Perciasepe stated that the Task Force is in complete agreement that it does need to come up with several action items.

[The Sierra Club provided written comments to the Task Force (see [Attachment 3](#)).]

Mr. Midkiff stated that there are two major contributors to the problem of hypoxia in the Gulf of Mexico:

1. Runoff from farm chemical fertilizers - Farmers are losing money and topsoil and they should be encouraged to help themselves by reducing the amount of fertilizer they use voluntarily. This is already being done through programs like the National Conservation Buffer Initiative and the Conservation Reserve Program. This problem could eventually resolve itself through voluntary efforts.
2. A trend of increasing the numbers of chicken and hogs without increasing acreage. There has been a change in the way farming is done. In the past, farmers had a few hundred hogs or chickens. Today, many have thousands of hogs or chicken in very small areas. There are pockets of concentration across the country and in each state. All the waste from these animals is land-applied. The waste of one pig is equivalent to 2.5 times that of a person, yet there are no sewage treatment plants for pigs. Voluntary-based incentives will not work for these types of operations because these farmers don't lose money when it rains and washes away their fertilizer. Their fertilizer is free and plentiful.

The Ozark Chapter of the Sierra Club suggests the following regulatory changes as the first steps in the process of cleaning up the Mississippi River:

1. EPA should define operations with 500 or more animal units as an industrial facility, subject to the full force of industrial waste and discharge regulations.
2. EPA should define point sources of pollution as discharges where polluted runoff comes from property where waste has been land-applied.
3. EPA should issue discharge permits based on cumulative impacts of loadings for all sources to a particular water body. Now, permits are issued without regard to other permits that have been issued for the same body of water.
4. EPA needs to establish TMDLs for all water bodies receiving wastes.

Discharge permits need to be based on the capability of the water body to handle the waste.

Responses:

Thomas Hebert

Mr. Hebert pointed out that many producers are looking at using waste in a more economical way. There are opportunities for voluntary action in livestock agriculture just like in farming. There may never be enough regulators to do all those things, therefore there *must* be a voluntary component.

Becky Doyle

Ms. Doyle said that in Illinois soil erosion is down, use of commercial fertilizers is down, and livestock manure run-off is down, but the Gulf hypoxia has increased during the 1990s. So she questioned the connections Mr. Midkiff had made in his statement to the Task Force.

Robert Perciasepe

Mr. Perciasepe stated that the Task Force also needs to consider air deposition as a source.

Becky Doyle

Ms. Doyle stated that the USDA and EPA are working with state and local government and pork producers to develop national guidelines for pork production. (Those guidelines were released Dec. 17, 1997)

Dale Cochran

Mr. Cochran stated that animal waste has been a problem in Iowa in only the last 3 to 4 years. The Iowa Agriculture and Land Stewardship Department has cut down on nitrogen demonstration projects and education. The Department needs to be careful that they don't overdo it. In 1995 there were 33,000 hog farmers and in 1996 there were only 21,000 but there was an increase in the number of hogs. Regulators need to be careful about what is done in each state in the way of regulations. In some cases when a state put a moratorium on hog farmers, they just moved their operations to another state. States have to move in the same direction together. The laws were written in the 70's and need to be updated with today's information.

Lois Schiffer

Ms. Schiffer recommended the need for a regulatory standard and the use of enforcement as a tool to prevent problems in the future. National standards can prevent the states from working against each other.

Peder Larson

Mr. Larson stated that Minnesota has some strict animal feedlot laws. He felt that there need not be a big federal presence to take care of this problem. States need to make sure that animal waste is being applied at agronomic rates. In Minnesota the problem now is air pollution by hydrogen sulfide from the wastes, not nitrogen.

Commenter: Mary Wells, Earth Justice Legal Defense Fund

[Earth Justice Legal Defense Fund provided written comments to the Task Force (see [Attachment 4](#)).]

The Earth Justice Legal Defense Fund represented the groups that originally sued EPA over TMDL enforcement and called for the formulation of the TMDL/Nutrient Task Force.

Ms. Wells stated that things need to move at a much faster pace than they moved after the Kenner meeting in 1995. Earth Justice Legal Defense Fund hopes that the Task Force will use the Vice President's Clean Water Action Plan to address this issue.

Commenter: Roy Bardole, Iowa soybean producer

Mr. Bardole, a soybean, corn, and hog farmer in Rippey, Iowa, believes that everyone is responsible for altering "mother nature." He has been farming prairie pothole soil, which can only be farmed by tiling it. The potholes provide a direct link for nitrates between his land to the creek and ultimately to the Mississippi River and the Gulf of Mexico. Mr. Bardole knows that his farming practices contribute to the hypoxia problem. However, he feels he is not the only one to blame. Society has built large cities and paved over huge areas of land with roadways, streets, and parking lots that cause just as many problems. In addition, vehicles burn fuel and release nitrates in the air that are deposited directly into the water. These nitrates are not even filtered by soil first. Channelization and other hydromodification activities have destroyed natural filters— wetlands. All of these things weren't causing too much of a problem until the flood of 1993, when 12 inches of rain fell on Iowa soil, which had already reached its saturation point. Des Moines went without drinking water because the water ran off at such a level that it contaminated the Des Moines water plant. Mr. Bardole felt that agriculture did not have a hand in that problem. The river would have risen just as high had it been 1793. The point is that people are there now— people that affect the environment. A farmer's greatest fear coming from any government body is that rules and regulations will be implemented in the hypoxia issue. Because nature often heals itself, a regulation may be in place that may not have solved the problem. The problem may fix itself, and then farmers are left with the regulation. However, because the strategy developed by the Task Force will be peer reviewed by many scientists, farmers can feel much better about the solutions that will be implemented.

Mr. Bardole also talked about a friend in Iowa whose sole business is pumping lagoons. Last winter he pumped a lagoon and spread it on the land and manure-laden water ran off in the snow. However, the lagoon pumper was fined \$10,000 instead of the producer. Mr. Bardole felt that the decision was not fair and that the Task Force should avoid allowing things like that to happen as a result of the solutions they develop.

Commenter: Cynthia Sarthou, Gulf Restoration Network

Ms. Sarthou has been involved in this issue for quite some time and stated that in 1994 18 environmental groups went to the Sierra Legal Defense Fund with the hypoxia problem. They asked the Sierra Legal Defense Fund to file a petition on their behalf to have a 319 conference— an interstate management conference— because they felt that the dead zone was a really serious problem. EPA promised on-the-ground nutrient reduction strategies with set goals that could be counted on by 1997, but there weren't any. Finally, a national Task Force was convened.

All along the way, these public interest groups kept asking how they were going to be involved in the Task Force, but they have always been excluded from the process. Ms. Sarthou felt that none of the public interest groups are on the Task Force or have a voice. The grass roots people are going to be the ones that implement the strategies developed. The grass roots organizations need to be involved up front. There will either be participants or detractors and those that are not allowed to participate end up becoming detractors from the process.

She asked the Task Force to find some way to involve all the interested public (fisheries communities, agricultural communities, environmental communities, etc.). From that level the Task Force will get the development of the strategies that are needed. Goals need to be set and strategies need to be implemented now.

Responses:

Thomas Hebert

Mr. Hebert stressed that the USDA and the states are working hard toward several goals and objectives now. The CRP and the National Conservation Buffer Initiative are just two examples. The only thing that hasn't been done yet is to set goals for the Gulf of Mexico because no one knows all of the linkages. There is not a complete understanding of the exact links between the small subwatersheds and the Gulf of Mexico. He encouraged grass roots and other organizations to get involved through their USDA Natural Resource Conservation Services' State Technical Committees.

Robert Perciasepe

Mr. Perciasepe felt that the idea of setting goals is a very powerful one. At this point, it is probably too premature to set goals, but it's not too early to set objectives.

Task Force and Committee Roles, Process, Expectations

Mr. Perciasepe charged everyone on the Task Force with designating someone from their office as a Coordinating Committee member. He stated that each person needs access to the Task Force member they were appointed by and must also represent that Task Force member's desires.

Next, the Task Force was asked to review the Draft Charter handed out to the Task Force members at the conference and to provide their comments on the charter, as well as their appointed Coordinating Committee representative within one week of the meeting, to Mary Belefski of EPA's Office of Water.

Peder Larson commented that part of the mission of the Task Force is to coordinate activities all over the Mississippi River watershed— which seems to be too large of a job for the Task Force. Mr. Perciasepe replied by saying that it would be even more difficult and unwieldy to have representatives from each of the 31 states in the watershed trying to work together to coordinate activities. He suggested that at the next meeting the Task Force could come up with a group of representatives that could help coordinate and implement strategies, for example, at the major tributary level.

The Task Force also agreed that the Task Force or sub-work groups be restructured to further involve the nongovernmental organizations and other interest groups, without creating a FACA. One person even suggested that the nongovernmental organizations convene a conference and invite the Task Force members.

Conclusions and Next Steps

Mr. Perciasepe concluded the meeting by summarizing the action items facing the Task Force as the following:

- Review draft charter
- Provide contact name of Coordinating Committee representative to Mary Belefski
- Develop ideas on how to approach the issue and provide them at the next meeting

The next meeting is tentatively scheduled for late March or early April 1998 in New Orleans, Louisiana. A field trip to a fishing community affected by the hypoxic zone will be scheduled.

Potential agenda items include the following:

- Follow up to the release of the Clean Water Action Plan
- 1999 Federal Budget
- CENR
- Progress of the Coordinating Committee
- How do we deal with tributary basin angles? Do we want to break the Mississippi watershed into smaller units, but still have multi-state units?
- How are we going to measure and track our progress? What kinds of goals or objectives do we set?
- Solicit advice from other similar, multi-state effort representatives (i.e., such as the Chesapeake Bay Effort, OTAG, etc.)
- Expand information base on areas of interest to Task Force (e.g. have presentations at the Task Force meetings on Corps Waterways Experiment Station modeling capabilities, coastal wetlands restoration work in LA, etc.)

Mississippi River/Gulf of Mexico Watershed Nutrient Task Force

December 4, 1997
Arlington, Virginia

List of Attendees

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CENR Assessment of Causes and Consequence of Gulf of Mexico Hypoxia

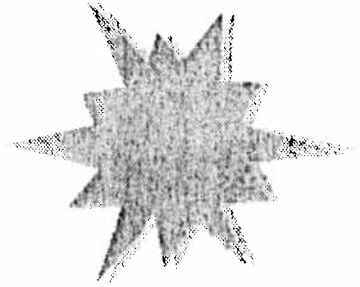


Mississippi River/ Gulf of Mexico Watershed Nutrient Task Force

Don Scavia
NOAA Coastal Ocean Program
December 4, 1997



COASTAL EUTROPHICATION/HYPOXIA

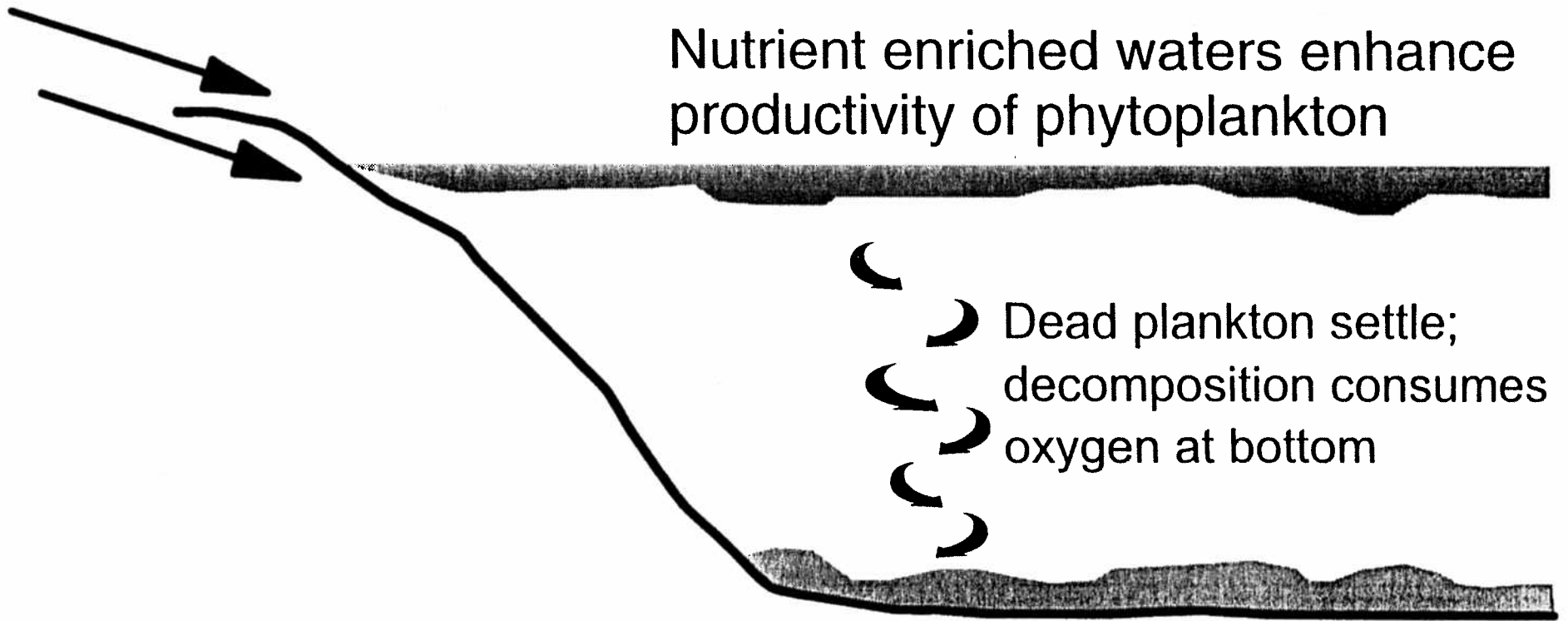


Nutrient Inputs

Nutrient enriched waters enhance productivity of phytoplankton

Dead plankton settle; decomposition consumes oxygen at bottom

Hypoxic Layer (<2mg/l Oxygen)





Hypoxia Assessment -- Participating Organizations

Academy of Natural Sciences
College of William and Mary, Virginia Institute of Marine
Studies
Illinois State Water Survey
Institute of Ecosystem Studies
Iowa State University, Leopold Center for Sustainable
Agriculture
Limno-Tech, Inc.
Louisiana Universities Marine Consortium
Louisiana State University, Louisiana Cooperative Extension
Service
Louisiana State University, Coastal Ecology Institute
Louisiana State University, Coastal Fisheries Institute
Louisiana State University, Coastal Studies Institute
Purdue University, Agricultural Economics Department
U.S. Dept. of Agriculture, Economic Research Service
U.S. Dept. of Commerce, NOAA, National Marine Fisheries
Service, Galveston Laboratory
U.S. Dept. of Commerce, NOAA, National Marine Fisheries
Service, Panama City Laboratory
U.S. Dept. of Commerce, NOAA, Air Resources Laboratory
U.S. Geological Survey, Denver Federal Center
U.S. Geological Survey, Reston Area Office
U.S. Army Corps of Engineers, Waterways Experiment Station

North Carolina State University, Soil Science Department
Ohio State University
Texas Agricultural Experiment Station, Blackland
Research Center
Texas A & M University
University of Texas at Austin, Marine Science Institute
University of Miami, Rosenstiel School of Marine and
Atmospheric Sciences
University of Florida
University of Kansas
University of Minnesota, Water Resources Center
University of Missouri, Agricultural Economics
Department
Woods Hole Oceanographic Institution, Marine Policy
Center

In consultation with:
American Farm Bureau
Florida State University
Louisiana Department of Wildlife and Fisheries
U.S. Dept. of Agriculture, Natural Resources
Conservation Service
U.S. Dept. of Agriculture, Agricultural Research Service
Others as needed





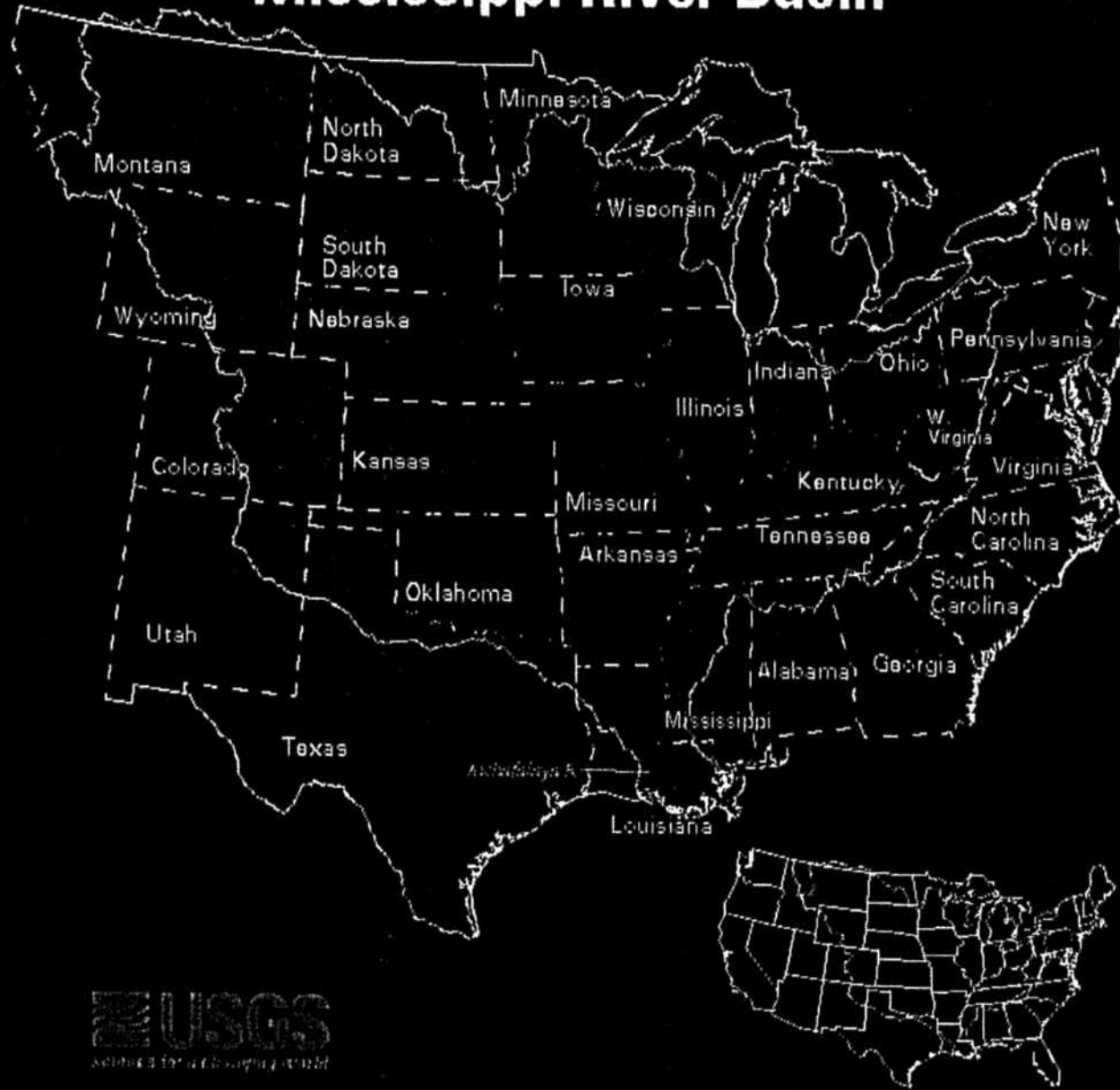
Hypoxia Assessment

What is to be determined:

- Full spatial and temporal extent of hypoxia
- Detailed ecological and economic impacts
- Relative N,P contributions from within the watershed
 - by land use
 - by source type
- Costs and benefits of reducing nutrient loads

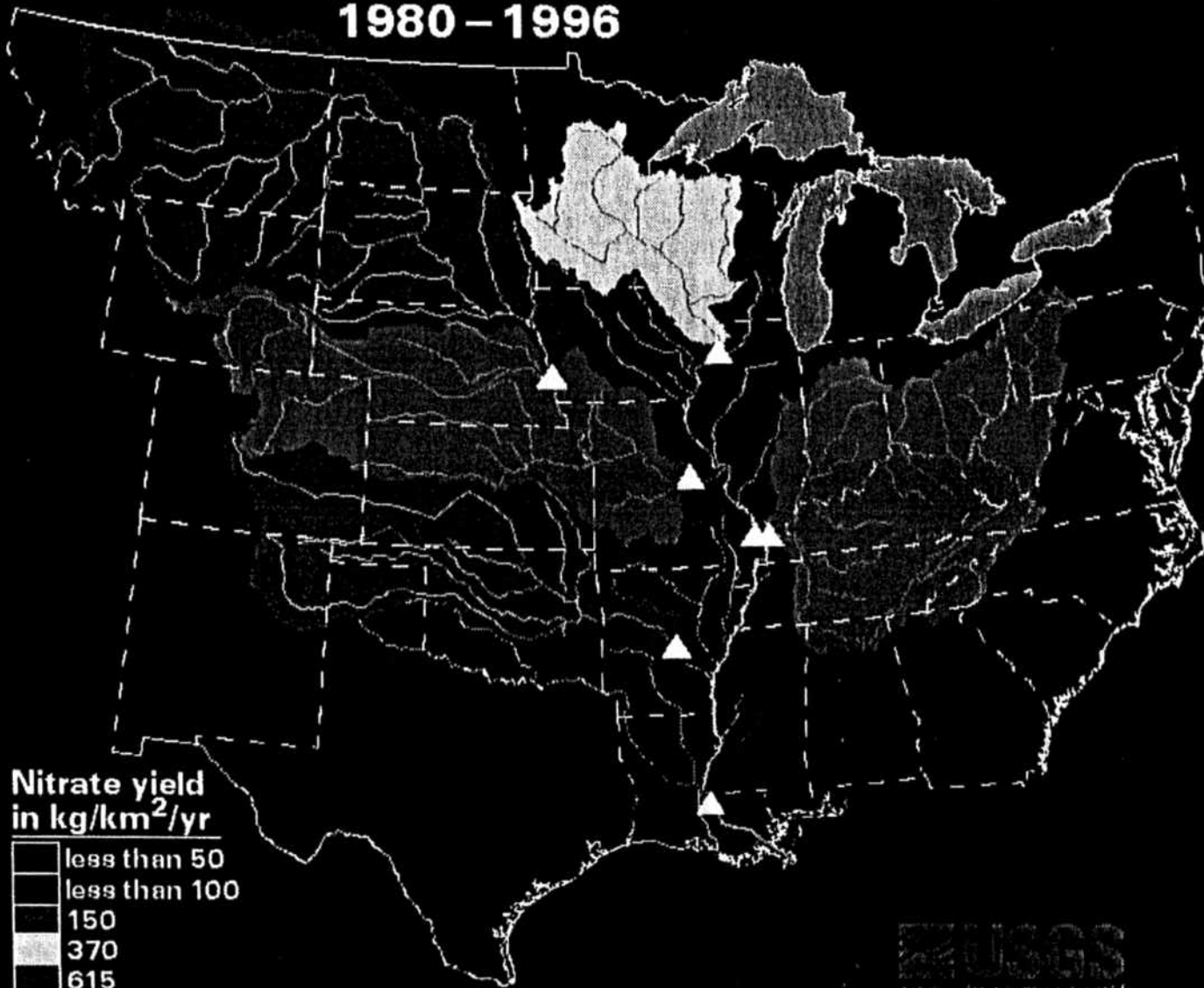


Mississippi River Basin



USGS
science for a better world

Average Annual Nitrate – N Yields, 1980 – 1996



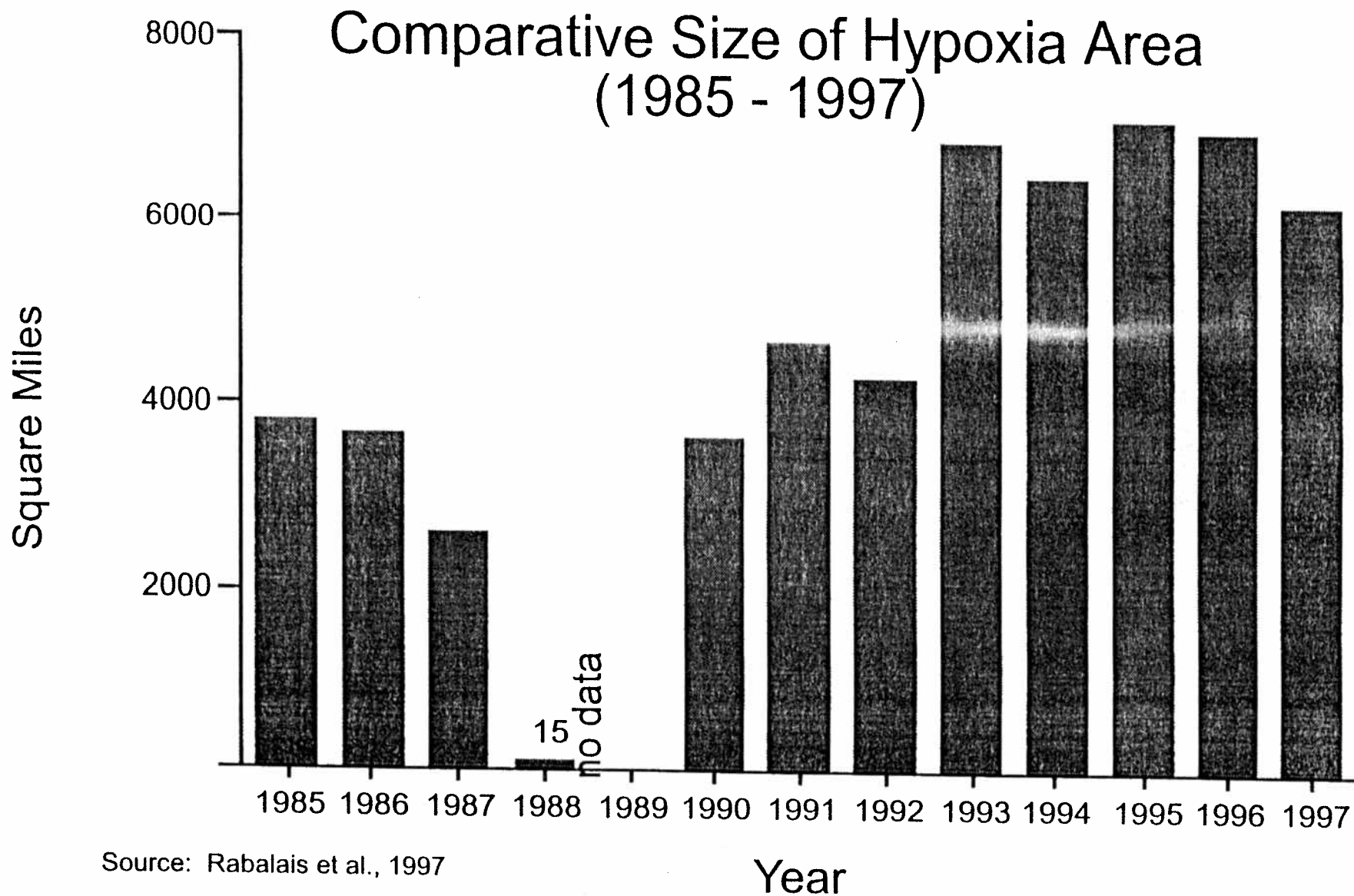
Nitrate yield
in $\text{kg}/\text{km}^2/\text{yr}$

less than 50
less than 100
150
370
615
1,440

USGS
U.S. Geological Survey
A Division of the U.S. Department of the Interior

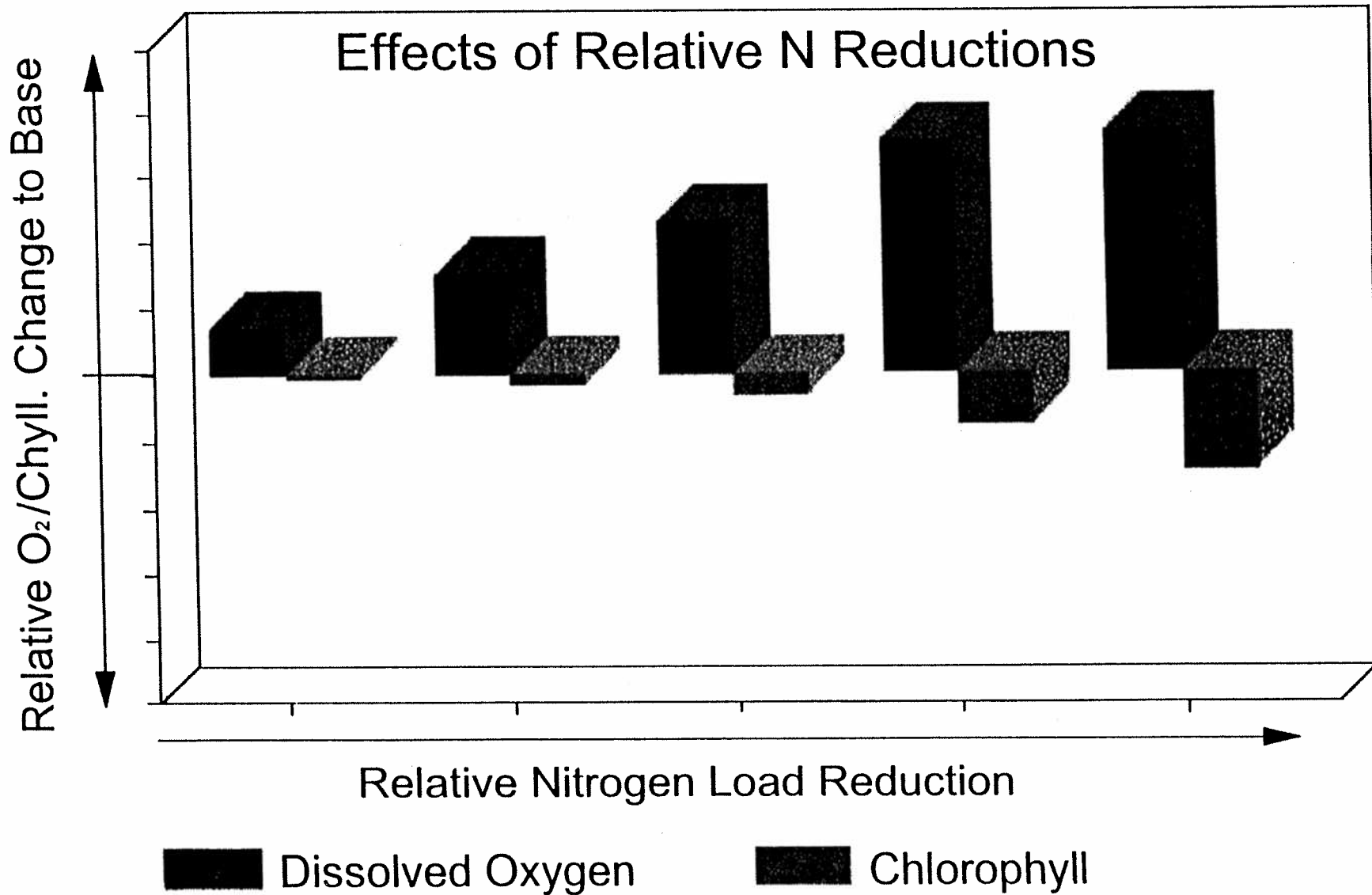


Gulf of Mexico Hypoxia Zone





Gulf of Mexico Hypoxia Assessment



Attachment 3

Written Comments from The Sierra Club



Sierra Club

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COMMENTS TO MISSISSIPPI RIVER/GULF OF MEXICO WATERSHED NUTRIENT TASK FORCE - Dec. 4, 1997

KEN MIDKIFF

-DIRECTOR MISSOURI SIERRA CLUB

-STAFF FOR NATIONAL SIERRA CLUB AQUATIC RESOURCES STEERING
COMMITTEE

First, as a resident of the state of Missouri, I wish to apologize to the citizens of Louisiana - and particularly those who depend upon fisheries of the Gulf of Mexico for their livelihood - for fouling their waters. Missouri is a significant contributor to the nutrient overload entering the Missouri and Mississippi rivers watersheds, and I must report that not much is being done about it - even though the sources are readily identifiable.

But, Missouri is certainly not alone in its contributions to this massive infusion of nitrogen, phosphorous and organic materials. Minnesota, Iowa, Nebraska, Illinois, Ohio, Kansas, Arkansas -- literally all of the urban, corn belt, and farming states in the Midwest - broadly defined - are providing the same levels.

Since I am most familiar with Missouri and the states surrounding it, let me recount sources of nutrients that have been identified (and what, if anything, is being done on each source). There is nothing particularly new in this listing, but it perhaps might be useful.

First: Runoff from over-application of farm chemical fertilizers. This seems to me to be the easiest problem to address primarily due to the fact that farmers are losing vast amounts of money when their fertilizer runs off their crops and ends up in the Gulf of Mexico. In addition, they

are losing topsoil in the same process. It benefits no one for this to occur. The US Department of Agriculture through the Natural Resource Conservation Service is providing technical assistance and funding to assist farmers in proper applications at agronomic rates, and to assist in contouring, developing riparian zone buffer strips and other technical and logistical assistance. The primary problem is over-application, with additive problems of poor land use practices. The agricultural organizations are aware of the problems - and are advocating better practices. This may well be a problem that is resolved itself through voluntary efforts IF there is sufficient progress with the implementation of the 1996 Farm Bill..

Second: the increasing trend of raising hundreds of thousands of poultry and thousands of hogs in small spaces. There has not been a dramatic increase in the total numbers of hogs or chickens produced in the United States - and in fact, in some Midwestern states the number of hogs raised has actually declined in the past 15-20 years. What has changed is the METHOD of raising hogs and poultry - from a few hundred on many, many farms throughout each state to a concentration of production into small areas of each state.

In McDonald County, Missouri, there are 13.5 million chickens being raised at any given time. Around 4 million are processed each week. All of the wastes from these chickens - and the processing plants - ends up on the lands and in the waters of the county - the streams drain into Grand Lake of the Cherokees, hence into the Arkansas River, and eventually into the Gulf of Mexico. The same situation exists in many counties of northwestern Arkansas and into eastern Oklahoma.

~~In five counties of northern Missouri, there are over 2~~ million hogs on site at any given time - and processing plants in those counties and just across the line in Iowa. Just to increase your knowledge of trivia, a single hogs excretes as much as 2.5 humans. So in this two-county rural area is a human equivalent of a town of 4 million - **WITH NO SEWAGE TREATMENT PLANT.** this scenario is replicated throughout the Mississippi River Basin.

At present, these wastes are applied to surrounding lands - allegedly as fertilizer. However, application rates - when they are observed - are based on nitrogen demand. Using nitrogen as the limiting factor results in a massive over-application of phosphorous - both poultry and hog manure are rich in phosphorous. Phosphorous causes algae blooms that result in hypoxia - some of our Midwestern streams have their own "dead zones" due to oxygen depletion.

This is a problem that will not resolve itself. Waste from hog and poultry operations is NOT being properly used as fertilizer - there is just too much of it to do so. Consequently, it is a waste management problem - and currently it is cheaper to just dump it on the land and let it run off in the creek. Unlike the farmers who lose money from fertilizers running off of row crops, the huge hog and poultry operations, and the large corporations that own them, are not losing money - and at present there is not much incentive for them to change their methods of waste disposal.

However, there are in the Clean Water Act and its implementing regulations, the tools to use to compel these large operations to reduce their contaminant and nutrient overloading. Two simple REGULATORY changes would go a long way:

-Define Concentrated Animal Feeding Operations of over 500 Animal Units (1250 hogs) as "Industrial Facilities" and subject them to the full force of industrial waste and discharge regulations.

-Define "point source" or "outfall" as any point where polluted runoff leaves the property where waste was land-applied.

This problem must be addressed at the federal level - a state by state approach simply will not work. Some Midwestern states - Kansas for one - have allowed counties to ban mega-hog operations. The large corporations simply moved their proposed developments across the line to Oklahoma - Beaver County in that state is literally under siege.

There must be basic, minimal national standard to stop agri-business corporations from seeking, and locating in,

the states with the lowest standards. We would expect that such standards and any inter-agency agreements would be developed with full public participation.

THIRD: Currently, discharge permits are issued to wastewater treatment facilities (domestic, municipal, and industrial) on an individual basis, without consideration of other discharges into the watershed in question. Each permit application, each modification, each re-issuance, is treated in a vacuum, as if that applicant was the only discharger to the body of water. Consequently, even though each NPDES permittee is operating within the limits of the permit, the total nutrient load into a water body may be massive - and degrading to water quality.

This, of course, is patently NOT the ways things are supposed to be. According to the federal Clean Water Law, the US EPA or the state agencies with primacy, were to have conducted ambient water quality monitoring, identified Water Quality Limited segments, and established TMDL (Total Maximum Daily Load) limitations for each receiving waterbody. This was to have been accomplished by 1981 - but it has not been done to any degree of significance in any state in the Mississippi River Basin - and even in the states where some studies have been accomplished, NPDES permits are still issued on a case-by-case basis, rather than taking into account the impacts of all discharges (point and non-point) on that waterbody.

The US EPA Office of Water has recently issued guidelines for complying with the requirements of Section 303 and 305 of the Clean Water Act - in which the National Pollution Discharge Elimination System permits as specifically applied to TMDL requirements are outlined. These actions have been taken, quite frankly, because there have been a number of successful lawsuits against the US EPA on the failure of TMDL implementation. Federal courts have ordered the US EPA to come into compliance.

Issuing NPDES (Discharge ELIMINATION) permits on a watershed basis would be difficult -- but it would provide THE major key to addressing basinwide nutrient overloading. If each discharge permit were based on the ability of the

receiving waterbody to "accommodate" the contaminants and nutrients in that discharge, and the limitations were such that water quality was not degraded, the nutrient overloading - and the hypoxia problem - in the Gulf of Mexico would disappear or substantially diminish in a few years. This would be particularly so if polluted runoff from row cropping were also brought under control - which likely will occur.

PLEASE NOTE THAT IN THE ABOVE COMMENTS AND RECOMMENDATIONS. WE ARE NOT CALLING FOR ANY NEW LAWS. WE DO RECOMMEND THAT CERTAIN DEFINITIONS BE CHANGED IN REGULATIONS - AND THAT EXISTING LAWS AND REGULATIONS BE COMPLIED WITH AND ENFORCED.

Finally, I want to reiterate that none of this is new: the problems are identified, the sources are known, and the remedies are available. What is lacking is implementation.

HOG OPERATIONS IN U.S. 12/96								
in 1000 HEAD								
State	TOTAL	1-99 HEAD	100-499 HEAD	500-999 HEAD	1000- 1999 HEAD	2000+ HEAD	Inventory on 12/1/97	Marketings(for whole year)
CA	3400						210	383
CO	1100						630	1,378
ID	1100						33	94
IL	8800	2900	330	1300	830	470	4400	8,315
IN	8500	4200	2400	1000	500	400	3750	6,634
IA	21,000	4600	8800	4600	2200	800	12,200	22,190
KS	4100	2400	1200	310	90	100	1,450	2,553
MN	11,000	5000	3300	1400	800	500	4,850	9,097
MO	7000	3600	2300	700	250	150	3,500	6,718
MT	750						150	342
NC	6000	4000	310	190	300	110	9,300	14,234
ND	1300						200	447
NE	8000	2600	3500	1100	550	250	3,600	6,453
NM	500						21	15.5
OH	11,000	8000	2200	490	200	110	1,500	3,117
OK	3400	3200	80	20	10	90	1,320	2,836
PA	5100	3800	800	220	180	100	950	1,489
SD	3500	1200	1600	450	150	100	1200	2,432
TX	6700	6700					500	826
WI	4700	4700	1000	220	130	50	800	1,549
total	116950	48,800	30,790	12,000	6190	3230	50564	91102.5
US	157,450	96,000	36,170	13,350	7050	4880	56,171	101,890
Compiled by the Missouri Rural Crisis Center								
for the Campaign for Family Farms & the Environment								
(Source: raw data, USDA Agricultural Statistics Board)								

CATTLE & CALVES JANUARY 1987							
NUMBER OF OPERATIONS							
STATE	TOTAL	WITH BEEF COWS	WITH DAIRY COWS	BEEF OPS. W/ 500+HEAD	DAIRY OPS. W/ 200+ HD.	BEEF OPS 100-499	DAIRY OPS. 100-199
CA	24,000	15,000	2,900	300	1800	1800	300
CO	1,100	9,500	900	250	120	2450	70
ID	12,500	7,500	1,400	120	280	1280	250
IL	27,000	17,800	2,100		40	600	330
IN	27,000	16,000	3,600		50	200	250
IA	44,000	28,000	4,800	50	70	1800	480
KS	39,000	30,000	1,200	120		3,980	
MN	36,000	16,000	11,000	20	170	480	830
MO	74,000	64,000	4,000	100	50	3,900	550
MT	13,200	22,000	800	550		4,200	
NC	33,000	12,400	1,200		100		260
ND	14,000	21,000	1,300	60		3,140	
NE	28,000	22,000	1,800	500		4,600	
NM	8,500	6,200	700	300	130	1,300	10
OH	34,000	21,000	6,500		100	220	400
OK	64,000	54,000	2,300	200		4,400	
PA	33,000	12,000	11,500		200	120	1000
SD	20,000	18,000	2,000	300		5,000	
TX	149,000	133,000	3,000	1,000	600	10,500	700
WI	49,000	10,200	27,000		370		2,530
TOTAL	730,300	535,600	90,000				
TOTAL U	1.21 MIL	900,680	126,800				

Compiled by the Missouri Rural Crisis Center
for the Campaign for Family Farms & the Environment
11/1/97
(Source: raw data, USDA Agricultural Statistics Board)

Attachment 4

Written Comments from Earth Justice Legal Defense Fund



Sunrise, Mt. McKinley

Ansel Adams

SIERRA CLUB LEGAL DEFENSE FUND, INC.

The Law Firm for the Environmental Movement

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*(On August 1, 1997, we will officially
become Earthjustice Legal Defense Fund!)*

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December 3, 1997

Dear Members of the Mississippi River/Gulf of Mexico Nutrient Reduction Task Force:

Earthjustice Legal Defense Fund represents 18 environmental, social justice and fishermen's organizations that petitioned the U.S. Environmental Protection Agency to take action to abate the devastating hypoxia (oxygen depletion) that threatens to destroy the biological integrity and productivity of the Gulf of Mexico.¹ The Gulf Restoration Network, a coalition of 40 local, regional and national groups dedicated to protecting and restoring the health of the Gulf of Mexico, has joined in that call for action. We thought it would be useful for you to understand the concerns and perspectives of these groups as you begin your work on the task force.

The Gulf's hypoxia, appropriately referred to as the Dead Zone, is an annual summertime plague that kills every animal in a 7,000 square mile zone that cannot escape its reach. The magnitude of the Dead Zone calls for an immediate and coordinated strategy from all appropriate states, tribes, and federal agencies to deal with the problem; a strategy that should be the ultimate proving ground for the effectiveness of Vice President Gore's recent Clean Water Initiative. Your leadership in developing and implementing an aggressive nutrient reduction strategy will be vital for obtaining the critically needed improvements in the health of the Gulf of Mexico.

The Impacts of the Dead Zone are Enormous and Potentially Catastrophic

The Dead Zone is caused by excess nitrogen and phosphorous (with nitrogen being the limiting nutrient) washed into the Gulf from the Mississippi River. These nutrients ignite huge

¹ The petitioning organizations are: Citizens for a Clean Environment, Citizens for a Healthy Environment, Coalition to Restore Coastal Louisiana, Delta Chapter of the Sierra Club, Greenpeace, Illinois Stewardship Alliance, Iowa Audubon Council, Izaak Walton League, Kentucky Resource Council, Lone Star Chapter of the Sierra Club, Louisiana Environmental Action Network, Louisiana Wildlife Federation, Mid-South Peace and Justice Center, Mississippi River Basin Alliance, Organization of Louisiana Fishermen, Orleans Audubon Society, Sierra Club Mississippi River Ecoregion Program, Terrebonne Parish Fishermen's Organization. At the time the petition was filed, Earthjustice Legal Defense Fund was known as the Sierra Club Legal Defense Fund

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phytoplankton blooms. When the blooms die, they drop to the bottom and decompose, using up the oxygen in the deeper water. The summertime stratification in the Gulf prevents reoxygenation of those bottom waters. As a result, oxygen levels become so low, less than 2 parts per million, that most marine life cannot survive.

There can be no doubt that the Dead Zone, which is now one of the largest zones of hypoxic water in the world, poses an enormous threat to the biological integrity and productivity of the Gulf of Mexico. Indeed, the magnitude of the devastation caused by the Dead Zone, cannot be overstated. For each of the past three years, hypoxia in the Gulf has killed or driven away virtually all marine life in an incredible 7,000 square mile area -- an area as large as the states of Connecticut and Rhode Island combined. If you picture the Dead Zone as 7,000 square miles of dead and dying farm animals, perhaps you can get a truer sense of the level of devastation.

Scientifically documented impacts of hypoxia include: altered coastal phytoplankton food webs; noxious algal blooms; altered benthic ecosystems, including severely reduced species abundance and low overall biomass in the benthic zone; and direct and indirect impacts on fisheries, including direct mortality, altered migration patterns for species such as shrimp, reduction of suitable habitat and increased susceptibility to predation. Moreover, if it is consistent with other regions that suffer from seasonal hypoxia, the areas impacted by the Dead Zone will undergo recolonization only about 80 percent of the time, and the long term implications of the yearly die off remain unclear.

There also can be no doubt that the Dead Zone poses a very real threat to the economy of the Gulf region, and the livelihoods of those who live there. Already, officials at one seafood processing plant that closed down in Louisiana, blamed the closure in part on the Dead Zone. The increase in the company's fuel costs, caused by its boats needing to go beyond the Dead Zone to fish, was a factor in the decision to close the plant. As a result of that one plant closure, Louisiana lost 46 jobs. The town where the plant was located suffered further dislocation, as 130 others jobs were relocated. Eric Alan Barton, *Dead Zone Blamed for Plant's Closure*, The Courier, Nov. 6, 1995 (a copy of this article is attached for your convenience).

The economic impacts could become much more dire if the Gulf's hypoxia continues to increase. Robert Diaz of the College of William and Mary's School of Marine Science who has studied hypoxic zones around the world, has said that the Gulf Coast faces the risk of developing hypoxia severe enough to wipe out the commercial fishery. Tina Alder, *The Expiration of Respiration*, Science News, Feb. 10, 1996, Vol. 149 at 88 (a copy of this article is attached for your convenience). Such a loss would be devastating to the Gulf region and the entire nation, as

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the Gulf of Mexico produces approximately 40 percent of the nation's commercial fishing yield, including a substantial portion of the country's most valuable fishery, shrimp.

In short, the current ecological impacts of the Dead Zone are enormous, and the potential for future catastrophic impacts -- both ecological and economic -- clearly exists. Yet, despite years of calling for on the ground efforts to help abate this crisis in the Gulf, and increasing public attention on the problem of the Dead Zone, little has been done. (Copies of numerous news articles discussing the Dead Zone are attached for your convenience.)

Efforts to Address the Dead Zone to Date Have Been Abysmal

In December 1995, the U.S. Environmental Protection Agency ("EPA") officially recognized the very serious adverse ecological impacts of the Dead Zone and committed to cleaning up the Dead Zone regardless of how long that process takes. That commitment came at the close of the "First Gulf of Mexico Hypoxia Management Conference," convened by EPA and the Gulf of Mexico Program in direct response to our petition. At that meeting, EPA committed to a number of critical actions to begin that process, a number of which still have not been carried out.

First, recognizing that only on the ground implementation of nutrient reduction strategies would have any hope of stemming the devastating impacts of hypoxia in the Gulf, EPA agreed to identify specific controls that could be implemented immediately to reduce nitrogen loading into the Mississippi River and the Gulf of Mexico. This identification was to have been completed by December 1996.

Despite the fact that such strategies are well known -- they include more efficient nutrient application; on the ground implementation of best management practices to reduce nutrient runoff, the creation of natural vegetative corridors; and habitat protection and restoration, including particularly the protection and restoration of wetlands and tidal habitats -- EPA still has not identified selected strategies, and does not have a schedule for doing so. Most importantly, EPA cannot point to a single on the ground control that has been implemented to assist in abating the Dead Zone.

Second, recognizing that goals are critical to obtaining results in as far reaching a process as abating the Dead Zone, EPA promised to establish mid-range and long term goals for nutrient reduction into the Mississippi River by no later than December 1996. Again, EPA has not fulfilled this commitment. Instead, it has rescheduled the development of nutrient reduction goals for sometime in 1998 or 1999.

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Third, EPA committed itself to securing both an understanding of the hypoxia problem and a commitment to address hypoxia by environmental agencies, farmers, local government and others. Part of this commitment evolved into an assessment of the current state of the science on the Dead Zone. While planing for this process is underway, none of the scientific assessments have yet been funded, let alone begun.

Fourth, EPA committed itself to involving diverse participants from the Gulf states and the states throughout the Mississippi River watershed, including citizen groups, in the strategy development process. Efforts to date to include these diverse participants, particularly environmental, conservation, social justice, and sustainable agriculture organizations have not approached the level necessary to fulfill this commitment.

We Call On the Task Force to Take Decisive Action to Stem the Devastation

It is quite clear that cleaning up the Dead Zone will not be an easy task, but as we have said repeatedly over the past three years, it is a task that must begin now. If there is to be any hope of success in stemming the devastation, this task force must take decisive action and implement an aggressive clean-up effort. To this end, we call on the task force to:

- Adopt, at this meeting, a goal of reducing the nitrogen and phosphorous entering the Mississippi River and Gulf of Mexico by 40 percent by the year 2003.
- Identify, by no later than March 1998, specific and directed prescriptions, best management practices, and habitat protection and restoration efforts that can be implemented immediately to limit nitrogen loading into the Mississippi River, and push for their immediate and broad-scale implementation.
- Require that each appropriate state, tribe, and federal agency take steps to ensure that their own activities do not exacerbate the problem of nutrient loading into the Mississippi River and Gulf of Mexico.
- Ensure that the scientific assessments currently being planned are funded no later than January 1998, and are completed as quickly as possible. Require that those assessments that have an economic component take into account the historic and notorious inability to appropriately value our natural resources.
- Direct funds to those on-the-ground efforts, including habitat restoration, that have the highest opportunity for reducing the nutrient loading into the Mississippi River.

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- Establish, by no later than February 1998, a mechanism for ensuring formal and significant citizen involvement in the efforts of the task force.

We are committed to ensuring that a viable and effective strategy for cleaning up the Dead Zone is implemented and carried out as expeditiously as possible. We ask that you call on us and on other members of the environmental, conservation, and sustainable agriculture communities to assist you in your efforts.

Very truly yours,



Melissa A. Samet
Director, Marine Biodiversity Program

Attachments