

**Farmers, Fishers, and Hypoxia:
Common Values for a Better Future**

**A White Paper Prepared by the Mississippi River Basin
Alliance**

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PARTICIPANTS IN GULF HYPOXIA STAKEHOLDER MEETINGS

February 2000, Thibodaux, La.

Participants

Catherine Blades, Louisiana Seafood Promotion and Marketing Board
Dean Blanchard, Barataria-Terrebonne National Estuary Program
Hiram Boone, Natural Resources Conservation Service, USDA
Carrie Borel, Louisiana State University Agriculture Center
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Mark Davis, Coalition to Restore Coastal Louisiana
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Willie Fontenot, Mississippi River Basin Alliance
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Robert Fritchey, Organization of Commercial Fishermen (Louisiana)
Darel Hein, Farmer (Iowa)
Dr. Bill Herke, LSU School of Forestry, Wildlife, & Fisheries
Keith Kemp, Farmer (Ohio)
Charley Ledet, shrimper, Terrebonne Fishermen's Organization (La.)
Donald Lirette, Terrebonne Fishermen's Organization
Chris Mann, Farmer (Indiana)
Karlen Nelson, Farmer (Mn.), National Corn Grower's Association
Barbara Ripley, Wilson, White, Inc. (Vermont)
Deborah Schultz, Barataria-Terrebonne National Estuary Program
Dan Specht, Farmer (Iowa)
Tim Sullivan, Mississippi River Basin Alliance (MRBA) (Mn.)
Gerald Tumbleson, Minnesota Corngrowers' Association
Amy Wold, Houma Courier (La)
Philip Zabriskie, Journalist (NY)

INVITED:

Danny Babin, Andrew Blanchard, Louisiana Shrimp Association
Nancy Erickson, Illinois Farm Bureau
Johnny Glover, Charter Boat Captain, Louisiana
Linda Zaunbrecher, Louisiana Farm Bureau

Guest Speakers: Kerry St. Pe, Director, Barataria-Terrebonne National Estuary Program;
Dr. Len Bahr, Executive Assistant for Coastal Affairs, Office of the Governor (LA).

March 2000, Bloomington, MN

Participants

Dean Blanchard, Barataria-Terrebonne National Estuary Program (LA)
Dave Carvey, Natural Resource Conservation Service (WI)
Cullen Curole, Governor's Office of Coastal Activities (LA)
Doug Daigle, MRBA
Warren Ellender, American Sugar Cane League (Louisiana)
Jenny Eldredge, Minnesota Corn Growers' Association
Willie Fontenot, Mississippi River Basin Alliance (Louisiana)
Warren Formo, Minnesota Corngrowers' Association
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Rod Hendrick, Louisiana State University Agricultural Center
Keith Kemp, Farmer (Ohio)
Charley Ledet, Terrebonne Fishermen's Organization (LA)
Donald Lirette, Terrebonne Fishermen's Organization
Chris Mann, Farmer (Indiana)
Karlen Nelson, Farmer (Minnesota)
Barbara Ripley, Wilson & White (VT)
Dan Specht, Farmer (Iowa)
Gerald Tumbleson, Minnesota Corngrowers' Association
Edgar Veillon, Coalition to Restore Coastal Louisiana
Phil Zabriskie, Journalist (NY)

Guest Speakers: Mike Davis, Minnesota Department of Natural Resources; Donald Pryor, National Oceanic and Atmospheric Administration; Former Congressman Tim Penny (MN); Mark Ritchie, Executive Director, Institute for Agriculture & Trade Policy.

March 2001 Meeting, New Orleans, La.

Participants

Bill Branch, Louisiana State University Agriculture Center
Cullen Curole, Governor's Office of Coastal Activities (LA)
Doug Daigle, Mississippi River Basin Alliance
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Lori Sublett, Mississippi River Basin Alliance
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Other Gulf Hypoxia Project stakeholder meetings of the Mississippi River Basin Alliance: University of Missouri, St. Louis, July 1999; Nicholls State University, Thibodaux, La. January 16, 2001; Minnesota Corn growers' Alliance, Shakopee, MN, March 30, 2003; Minnesota Corn growers' Alliance, Shakopee, MN, December 3, 2003.

Farmers, Fishers, and Hypoxia: Common Values for a Better Future

Introduction: The spread of hypoxia in the northern Gulf of Mexico, commonly known as the “Dead Zone”, is an issue that involves the entire Mississippi River Basin. The hypoxic zone that forms each summer in the waters off the coasts of Louisiana and Texas is now one of the largest in the world, and threatens the most productive fishery in the lower 48 states. A solid body of scientific evidence links the growth of Gulf hypoxia to nitrate loading in the Mississippi River, with some of the largest inputs occurring about the confluence with the Ohio River.

Growing public concern and scientific attention resulted in the formation of a White House Commission in 1997 and a Congressionally-mandated Task Force in 1998.(1) As national attention grew, however, fault lines of tension began to appear between stakeholders and states in the upper and lower river basin. Concerns about the potential cost of remedies for hypoxia were widespread in the agriculture sector, particularly in the Midwest. News stories in the broadcast and print media, while valuable for drawing attention to the seriousness of the hypoxia problem, also emphasized and in some cases exacerbated the conflict aspects of the issue. One national magazine even suggested a “new civil war between the North’s farmers and the South’s fishermen.”(2)

Bringing Farmers and Fishers to the Table

In February 2000, the Mississippi River Basin Alliance (MRBA) began a series of roundtable meetings between farmers from the Midwest and fishers and shrimpers from Louisiana. (3) Also included were coastal advocates from Louisiana, agriculture specialists, and representatives of state and federal agencies charged with addressing the hypoxia problem. The locations of the meetings reflect the community-based approach of MRBA, and were chosen so that participants could see and learn first-hand about the concerns of farmers and fishermen.

A primary goal of these meetings was to foster constructive dialogue between members of the two stakeholder groups most immediately affected by the hypoxia issue, and in the process to move closer to solutions to the problem that were in the common interests of both. Intrinsic to this approach was a willingness on the part of MRBA not to drive an agenda for the ultimate outcome of the meetings. MRBA acted as a facilitator, while the substance of the meetings came from the participants.

While the overarching topic of the meetings was Gulf hypoxia, many other areas of concern were discussed, such as the impacts of global trade, climate change, and the economic stresses on family farm and fishing operations. The connections between these wider issues, and their connections with the problem of Gulf hypoxia, were important points articulated at the meetings.

Most important, however, was the open-mindedness of the participants, which was reflected in their eagerness for real dialogue removed from rhetoric. As discussions progressed, a wide range of common interests, concerns, and values between the farmers

and fishers came to light. Last but not least, the discussions also demonstrated a high degree of innovative thinking about environmental problems. Despite the economic and environmental stresses on the farming and fishing sectors, the participants in the meetings were already involved in organized responses that are focused on the survival of their communities.

“The point of this project is to bring together worlds that are far apart in many ways, but as we’ve learned, also very close, with many parallels.” – Timothy Sullivan, MRBA

Key Conclusions from the meetings

- The farmers and fishers involved viewed themselves as conservationists.
- Both groups shared concerns for a clean environment.
- Both groups shared economic problems in their livelihood.
- Both felt vulnerable to world markets and global trade
- Both wanted to find a way to increase communication and discussion on creative solutions to these problems.
- Both preferred to solve problems from a community base, and to begin that process before a regulatory response was triggered.

As one participant put it, “I came here today thinking I was going to hear about a Gulf of Mexico problem, but what I’ve heard is that it’s a water quality issue and a sustainability issue for the entire basin.”

Outline of the discussions

The following sections will summarize four main areas of discussion: concerns of fishers, concerns of farmers, responses and solutions, and areas of common ground. Wherever possible, the actual words of participants are utilized. (Full transcripts of the meetings can be obtained by contacting MRBA.) (4)

Concerns of Fishers

Commercial fishers and shrimpers along the Gulf coast, as in other parts of the U.S., face a range of economic challenges, from government regulations to the growing impact of low-priced imports of foreign shrimp. These challenges are magnified off the coast of Louisiana, where environmental problems such as hypoxia and the collapse of the Mississippi River’s delta put the future of this productive fishery at risk.

“There are 3 areas of concern for fishermen and shrimpers. One is prices – if you get more money for your shrimp, you become more profitable. We’re interested in survival. Two, cutting losses, which makes good business sense. Three, habitat loss. That’s where this hypoxia issue comes in, and that’s why I’m here today, besides my love for Louisiana, and being a Cajun from a family of fishermen.”

Prices, Regulations, and Trade

“Current shrimp prices today (2000) are actually a nickel a pound less on average than what they were in 1963. But there’s been an increase in the cost of doing business, in overhead and the cost of equipment. Then with imports coming and affecting the industry today, the processors have gone to high-volume to survive. The global economy is impacting all of us – cheap labor sources in other countries, cheap imports. In Louisiana we have half of the crab processing plants that we had five years ago.”

“This economy works on a seasonal basis. 14 parishes in Louisiana depend on commercial for their primary or secondary source of income for taxes and livelihood. When they’re not shrimping, these guys are either trapping or oystering, or doing some other kind of independent, free-lifestyle activity that revolves around the resources. That’s why they live here. Every time something happens that impacts these resources, it impacts them directly.”

“Another challenge is that fishermen are not perceived as stewards of the resource. Somehow we lost the banner of being conservationists. It’s important for us to get it back.”

“In a way it all comes down to public relations. A lot of commercial fishermen got put out of business because some of the sports fishing groups had their p.r. all lined up and managed to convince people that they should take the nets out of the water. But who were they convincing? That 90% of the population that likes to eat fish but doesn’t catch them themselves.”

“Commercial fishermen are independent like farmers, but compete more with each other. It’s harder to get them together in a cooperative-type effort.”

Hypoxia and other environmental factors

“The ‘Dead Zone’ is like the great Berlin Wall of the Gulf. The shrimp run into it. They feed on the bottom, so they’re trying to get back to the open Gulf from the marshes to spawn again and complete their life cycle.”

“The hypoxia issue is one of habitat loss. It’s like the coastal erosion and wetland loss issues.”

“Environmental pressures are increasing in a lot of different ways, with coastal habitat loss, and the impact of global warming. The potential for really severe weather will have an impact on both your community and what you do, and that’s done nothing but increase.”

Facing the Future

“This goes beyond economic concerns to me. We’re really talking about saving a rich part of our cultural heritage. It’s hard to organize the fishing people. You’ve got such diverse groups, offshore, inshore, shrimpers, crabbers, and netters. But this is such a rich part of our heritage that I don’t think anyone wants to see it lost.”

“What our trade does is link the public with the water. That’s what we want to do, we want to say, ‘Here, this is a redfish, this is his life-cycle – get psyched, you’re part of the ecosystem.’ But the links are getting severed, besides some real quantities of food being taken off the market.”

“Economic pressures have grown over time, and those who have been in this business for a long time have found it harder and harder to stay in that business. It’s not as financially rewarding as it used to be, because of international globalization and other commercial pressures.”

“The young people are going of to better jobs in other fields. They see no future in fishing because of the regulations and the wetlands loss. We dedicated a time capsule here in Thibodaux, to be unearthed in 50 years. Why here? Because, sad to say, that’s where the Gulf may be in 2050 if coastal land loss in Louisiana continues as it has.”

“You’re painting a bleak picture of where all this is going to go. It doesn’t sound good. It sounds to me as if you’re describing a last generation of people who are doing what you’re doing, that it’s unlikely that the lifestyle that you have had is really going to be passé on much longer. You’re describing a complex web of cultural loss. Your communities are changing and fading away in some ways. Maybe not this year, and maybe not next, but in 50 years there will be something completely foreign. And then there’s the environmental questions. What is going to be here, and what is it going to be like?”

Concerns of Farmers

Farmers voiced similar concerns about the path of agriculture, in particular the trend toward consolidation in the industry, and trade policies geared towards cheap export prices. They also fear the loss of the next generation of independent farmers.

The State of Agriculture: consolidation, nutrients, and future farmers

“The real problem that’s developed in agriculture is loss of diversification. Twenty years ago, most of our farms had both grain and livestock, but due to economics and other forces, we’ve gotten away from that. A lot of the farms in the Midwest now are just pure grain or pure livestock. Traditionally, most of the livestock was raised in the Midwest, particularly the hogs and cattle. In the past ten years, we’ve seen a lot of the livestock leave the Midwest and go to states that don’t produce the grain that feeds the hogs.

“These huge hog farms have developed a lot of environmental problems, because they don’t have enough land to plow the manure back into to utilize the nutrients, so it’s a liability to them. And we’re shipping corn down from the Midwest to feed those hogs and turkeys. Somebody should have had more foresight, and seen that livestock needs to stay where the grain is, because it’s a perfect biological circle. You’re completing the cycle – raising corn on the ground to feed the hogs or cattle, and then plowing the manure back in to raise the next crop.”

“It seems like the more simple the systems get, the complicated the problems are in production. Back in the 70s in Iowa, we had over twice as many cattle, and probably four times as many farms and farmers. I think there was a lot of nutrient recycling. When you get animals concentrated like they’re doing now, that’s more of a problem. Whereas the older system was able to recycle more of the nutrients, now your putting extra nutrients in and having too much in the concentrated places where the animals are.”

“It’s going with agriculture just like other industries – the large interests are wanting to control everything, and are making the farmer just a tenant. We want to be flexible, and we are, but how flexible can we be to stay in business? One bad decision and we’re out of business. There’s no room for mistakes, and that’s where we all live on this stress ride that we’re on in America.”

“The biggest problem scaring me is that I’ve got a son and a daughter. My son would like to be a full-time farmer. But we’ve got a livelihood that’s going to be lost with our next generation, and I don’t know who’s got the answer to that. The way America’s going right now, they want absentee ownership of everything, and individuals who do all the work to be leasing everything. But that’s not the way of life that I want, and I don’t want that way of life for any of my children.”

“They say that 70% of the farmland in Iowa alone is going to change hands in the next ten years. Is all that going to be owned by absentee landowners? What happens when that comes about? Sharecropping? Will you have a class of highly educated, very technically-trained peasant farmers?”

“We’re facing a lot of development pressure, and we have a fear of losing land.”

“Our rural areas are hurting in the Midwest, much like yours down here. The average age of our residents in rural towns is getting higher and higher. The average age of farmers is getting higher, because young people are leaving the industry and not coming back. It’s hard on our towns, our churches, and our schools. We’re losing people, and what it’s all about is the people.”

“The fishermen and farmers are both being affected by overcapitalization in the country, and it’s squeezing them both out. We’re trying to find some ways to solve those problems so that we can both survive.”

“The world population right now is roughly 6.5 billion people, and by the year 2050 that could double. So, we’re going to have to increase our production to feed those people.”

Hypoxia and nutrient pollution

“When I first heard of hypoxia, I really didn’t know what it was. But it’s a real problem. We’re losing too much of our nitrogen from the Midwest, causing this ‘dead zone’ and causing trouble for these fishermen. A good timing of the application of the nitrogen could improve that.”

“We get tremendous yield boosts from tile drainage, upwards of 100% yield increase on poorly drained soils in some areas. The drainage system also has negative impacts on the environment, because it’s a conduit that takes the nitrate that’s mineralizing from the soil right into the rivers. Well, that’s a problem that needs to be dealt with, and we can do that by using good nitrogen management strategy.”

Common Ground: The River, Mutual Concerns, and Shared Values

One of the most important things to emerge from these discussions were the common concerns and values shared by the farmers and fishermen who participated. Both groups work by similar seasonal calendars, and recognize the importance of the Mississippi River for their continued economic survival. They were also concerned about the future of their communities and the values that they believe their livelihoods have stood for. Tied to the economic stress being faced by rural communities, whether in farming or fishing regions, is a perceived lack of understanding by the general public about our food production and supply systems.

“There are a set of core questions that fishers and farmers have in common – not only are there the concerns about hypoxia and the potential remedies for it, but also how it relates to other pressures they face, whether economic or environmental, such as climate change or other changes that are underway.”

“The Mississippi River is having a big and vast problem, and there’s a lot of people involved in this, and it’s going to take a tremendous amount of effort and a lot of cooperation.”

“The Mississippi River is a big factor in my community in Iowa. Barge traffic brings coal and pig iron upriver from overseas, and allows us to export grain to foreign markets.”

“In Indiana, we rely on the river to export to foreign markets. If it weren’t for the river, that probably wouldn’t be a very viable way for us to make money. We’re able to get grain down to the Port of New Orleans and then to ship it out. So, the river is tremendously important- probably the single most important piece of infrastructure for crop production in the Midwest.”

“One of the first statements made today was that the farmers and the fishing community both feel we’re environmentalists first. That’s our whole livelihood out there.”

“What we’re involved in is a food process that’s the life-savings of America. The fisher and the farmer are the start of that. People today think that our food comes off the grocery shelf, and we need to re-educate them.”

“We have to look at the globalization process. People like us are no longer going to have the input that affects our own destiny, so I think it’s incumbent that we somehow learn how to access the decision-making process and become united and mobilized at the level of deciding what we will do. It looks like we’re going to be left out of things in the near and distant future, unless we find a way to be a part of it.”

“Both farmers and fishers are working with very tight profit margins. It’s tough to make a living, and you’ve got to be very efficient with what you’re doing to make a profit and stay in business. There are things like forming cooperatives, where we can possibly link ourselves closer to a marketplace, to get more of that consumer dollar and make more profit. We talked about markets getting saturated, and that there’s a lot of difficulty in both farming and fishing in terms of risk control.”

“Fishermen learned a bitter lesson over the gill net issues and resource conflicts in Louisiana – there’s got to be a better way to do it. I think what we’re trying here is to find some answers that everybody can live with, and how we can help each other.”

“We’re trying to make rural America survive and grow.”

“I was impressed by the fact that we all have some pretty high values regarding some of our environmental concerns, and our lifestyles and what we do for livings, and how it affects society and how we serve society. There are a lot of parallels in the problems we face.”

“One thing we share with you all upstream is valuing our heritage. I’m sure that in your communities, you have your cultural heritage that you’re proud of and want to see continue. Farming is a cultural heritage and you want to pass it on to your kids, and would like for your kids to live in such an area that is so productive that they could actually make a living there.”

“We’ve got a desire to try to work together, to try to recognize the realities that our occupations do have environmental impacts. The question is, how can we continue those occupations but mitigate the impacts, or change things in a way that will improve the whole situation. Everybody’s willing to learn and to try to do things in a different way, if we can figure out how.”

“A farmer said this morning that we’re focusing on making life better for people. I think if we work on that together that we can make life better for people. And it’s always better if a solution to a problem comes from a united group – then we do a whole lot better.”

Solutions: Innovation and Response

Far from merely focusing on the problems at hand, much of the discussion at the stakeholder meetings focused on finding solutions, including environmental and economic innovations and responses to challenges that were already being tried by the participants. At the time of the initial meetings (2000-2001), the farm groups were better organized in this respect, and highly focused on the new Farm Bill being crafted Congress. Since these earlier meetings, the Gulf shrimp industry has undergone a new wave of organization aimed at ensuring its survival (see *In the Interim*, p.).

Farmers: Changing our relationship to the soil

“In the farm magazines, it seems like crop production is a kind of chemical equation. I really don’t think it is that. You’re talking about a biological, living system.”

“There’s a biological aspect to farming, which is the wildlife in the soil. It can be earthworms, it can be insects, but most of it is invisible, so nobody sees it or thinks about it. But it’s very important. The National Soil Till Program at Iowa State University is starting to say that soil wildlife is the most important aspect of soil quality and the least understood.”

“We’re very concerned with residue management, about recycling residue, which implies recycling carbon, recycling natural nutrients. The bottom line probably is what you can do to have the greatest net build-up of humus in the soil. Humus is a very stable substance. With residue reabsorbed into the soil, you can save considerably on commercial fertilizers and also start growing a healthier crop. With a healthier crop, you’re going to be less subject to insect pressure. With rapid residue biodegradation, you can get by without much insecticide.”

“What really makes no-till work is that it saves on cost. You don’t have all the big equipment. And your soil structure really benefits. You know, the soil is a living creature, and tillage has done a lot of damage, really hurting the structure of our soils. No-till is bringing soil back to life, with earthworms and micro-organisms, and it’s just fascinating.”

“Most of the change in tillage practices we’ve made has been because we’ve seen the benefits first-hand. Economics has been the main driver. When we drive around the countryside and look at this mosaic that makes up our fields, we see what works, and so we know that mole-bore plowing on the side of hills is not the way to go.”

“In our operation, we’re trying to do things that are conservation-friendly, and are seeing an increase in the adoption of reduced tillage. Most farmers have moved to a tillage tool that leaves some of the residue on the surface. We are seeing through biotechnology tremendous reductions in chemical use, we’re seeing more efficient and effective use of

fertilizers through soil testing, so that rather than applying it on the whole field, we apply it where it's needed."

"I've gotten involved in organic agriculture. I'm also growing corn. I haven't purchased any nitrogen. There's all these microbes living there and they're producing waste that can supply all the nutrients that a corn crop needs."

"Livestock manure can be a very valuable nutrient. It's more than just nitrogen and phosphorus. You've also got carbon content, you've got fiber, you've got microbes that will do positive things for the soil. Where it becomes a problem is when you're got tremendous concentration of livestock and don't manage the manure properly."

"Often the best management practices and environmental friendliness go hand in hand. Part of it is paying a lot of attention to the biological component of the soil. Some aspects of modern technology have tended to degrade the soil, such as excess nitrogen application. Best management practices can vary quite a bit from place to place, and can be site specific."

Farmers: Forming Cooperative Ventures

"In the future, people are going to have choices to buy on the basis of how food is produced, such as whether it's organic or not. One of the problems we have in agriculture is division between commodity groups, between production practices."

"We know that we're going to have to be creative and inventive in the future in cutting costs and developing new markets and innovative ways of using our products for us to survive against the over-capitilization that's occurring in our industry."

"One of the problems we face in agriculture is that we produce something and then go out and say 'please buy it.' In my area, we've got a big crop mix, but the two dominant ones are corn and soybeans. And we are constantly looking for alternatives that we can grow, to diversify because of economic reasons. Looking to long-term sustainability, we also want to avoid the potential for diseases that could impact any one of these crops."

"We're trying to do value-added, or vertical integration, on our own, where farmers get together and invest in the next step, such as ethanol. We don't have ethanol plants in Minnesota, we have corn-processing plants. When we take the ethanol out of the corn, we have the protein, we have the germ, we have the fiber on the corn kernel, and we break that kernel apart and run the starch in and get something."

"What we want is to sell value, but with the agriculture is going now, with consolidation on such a large scale, it's going to be tough to put together. It's going to take farmer cooperatives getting strong enough to withstand some tough times and for people to go the long haul. The grain are controlled by a very small number of large multi-national companies, but they're not connected to the consumer, either. That's what our goal is – to better connect to the market and to grow what people want."

“Towards that end – of finding out what we can grow that people want, rather than growing what we want and then encouraging them to buy it – we in Minnesota are working on an alliance called Farm Connect. Our goal is to have 2000 farmers as members, and to grow a vast array of agricultural products, both crops and livestock, and work with processors.”

“Farm Connect is an umbrella. Rather than dividing everybody, we’re trying to get everybody together. We believe there’s a market out there and it’s not just a niche. Once you’ve made a connection to the market in the meat and grains, those won’t be niches anymore because I think there’s a large desire out there for those kinds of products.”

“In Farm Connect, when you get the farmers together, they’re no longer competitors, but are in this together. Some might be more efficient, but they’re involved too, because if I have trouble, their investment has trouble. We still have our own farms, we still have our pride, but working together is the only way we’re going to compete with the trends that are going on.”

Shrimpers: Finding New Approaches

“I’m seeing some parallels in the shrimp industry. We have a problem getting rid of shrimp hulls. But there are some new technologies that can develop hospital sutures for surgery that dissolve later. We could get some profits for that, and solve an environmental problem (disposal of hulls) at the same time. Our industry works a little differently, since we have shrimp barons and the small fishermen. But we’ll have to work on that.”

“In the last legislative session (1999), the shrimpers themselves proposed an increase in their license fee for promotion of fresh shrimp products. We’re trying to bring the fishermen together to work on their problems. It’s hard to do because they’re like cowboys – they’re so independent.”

“We have some experience with solutions without finger-pointing, such as the Barataria-Terrebonne National Estuary Program. Everybody is at the table, thinking together and working together, recognizing that it’s economics as well as environmental issues that we need to address and find solutions to.”

“We started a community roundtable in my region of southern Louisiana. It revolves around economics and the future of Louisiana’s economy. It’s a pretty diverse group, people who work for a living, trying to find ways to support each other on different issues that affect their livelihoods.”

Concluding Points

“What we’re talking about is building community, because community is where this project started from - finding community-based solutions, and using community-based process.”

“We can bring a lot of things to the table: broad-based stakeholder advocacy, experience in resolving conflicts, especially resource conflicts, and an ongoing process of learning and sharing.”

“One of the great frustrations for us is that the American people do not understand our food system.”

“We are a country built on the Jeffersonian ethic, and until very recently, we as a nation and society had great regard for our farms and communities. That has slipped away in a very short time period, short enough that we can get it back.”

Notes

1) *Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico* (www.epa.gov/msbasin/actionplan.htm).

2) “Down in the Dead Zone,” *Newsweek*, October 19, 1999.

3) MRBA’s meetings were preceded by several meetings of Midwest farmers with the Gulf of Mexico Program, and by outreach from environmental organizations to farm groups and publications (see, “The Dead Zone”, *Top Producer*, February 1997.)

4) Mississippi River Basin Alliance, 708 North First St., Suite 238, Minneapolis, MN 55401; 612-334-9460/340-1632(f); (www.mrba.org).

Appendix One: *Trends in Food, Farming, and Rural Communities* – Mark Ritchie, Executive Director, Institute for Agriculture & Trade Policy, Minneapolis, Minnesota

(Remarks at MRBA Stakeholder Meeting on March 25, 2000, Bloomington, MN)

I’m really grateful to be able to speak to you all in an informal manner today about some trends that are underway in the areas of farming, fishing, the environment, and trade. I’m a firm believer that trends are not destiny. So, some things that are going on today don’t need to continue unless we want them to. We have to figure out how we’re going to deal with those trends in the larger society, because they fit in the realm of politics, currency, interest rates, and trade rules.

I broke this talk into several areas: food systems, farming systems, rural communities, and society at large. It's been pointed out at this meeting that in food systems we're producing more than food. We're also making fiber, medical products, and fuel like ethanol. But in that food system there's a concentration issue.

On the input side, there's a shrinking number of people that you can buy from, whether you're buying petroleum, credit, seeds, machinery, or boats. There's concentration in who we buy from and real concentration in who we sell to. In fact, it turns out that a lot of the big players in the fish industry are also big players in the agriculture industry. Concentration in retail is a big factor. We have to be aware of that when we're talking about clusters, vertically integrated systems, chains, etc.

There are also trends on the consumer side of the food industry. People are concerned about food safety, and are looking to brands as a kind of guarantor. People are looking at labels, all kinds of labels, because they're trying to get information. They don't have direct connections to the food source, and they're looking for surrogates for that. In fact, the fastest growing sector of labeling has been regional, for people wanting to buy local and market local.

We also see a real change in terms of where people are getting their food. A recent study showed 48% of meals being eaten away from home. All those meals away from home are done through institutions of some kind. Those are involved in a very complicated process of distribution, and it's now happening in the context of globalization. A lot of the rules we farm and fish under are being set offshore, and they're not being set by people who are elected or who you could contact.

There's now a lot of rule-making at the global level that affects day to day life for individual farmers and fishers, and on top of that is the impact on prices. In the old days, you could kind of picture what your supply and demand situation was because you were in some kind of national context, but today, when we have shortages of fish, trees, or some other commodity, the price doesn't automatically go up because access to competing supplies, or just other global supplies, is basically deregulated.

How does this translate into impacts on individual farmers? When I was growing up in central Iowa, if there was bad weather and some people lost their crops, prices normally went up. But now you can have some pretty disastrous situations, when farmers have a bad season, and the prices don't move much because there's access to other crops globally.

Some of the decisions being made globally about how you will fish and farm are the opposite of the kind of thinking we've had in the past. Best management practices are never conceived by farmers as a globally-applied one-size-fits-all. It's about the best management practices on your farm, your hillside. So there are some real contradictions between the globalization model and what we know about ecology and environment, and also what we know about economics and customers.

Some central issues in globalization are pretty complex. Intellectual Property Rights is a fancy term for patents, but to control ownership of things like genes. Genetics and seeds are big issues, but the transgenic work going on with fish is gigantic, though perhaps less well-known. There are a lot of implications in the areas of ethics, science, and religion. So, these things will affect people dramatically in the food industry.

There are also a lot of issues in terms of the impacts of uncontrolled, unlimited imports. You may have a lot of rules you live under in this country, but I can tell you that the U.S. government is not interested in making sure that the imports that you have to compete against are produced with similar rules. In fact, there's a bias in the rule-making process against enforcing the same rules.

The problem with the procurement system being so tightly in the hands of a few companies and retailers is that, at some point in the process, they're going to move so heavily into contract production (ag's moved that way pretty far already) that those contracts are going to stipulate the rules under which people are going to fish and farm and everything else. This whole change is going to come about very rapidly, and without much input from the actual producers, unless we decide to politically confront that system.

What's concerning me about what you're saying in these meetings is that smaller people are losing access to the decision-making process, and it's to the point where the powers that be don't even care what we think. At the same time, however, we do have a lot of political clout left.

Farmers are making choices about their land in terms of recreation, social services, working landscapes, multi-functional agriculture – they're thinking broadly. Working off the farm, trying to market some things directly, getting into co-ops to some get value-added benefits – these multiple strategies are happening because we're in a survival mode. (At the same time, there are problems with that, because as every person in this room knows, what it takes to do a really good job is attention to that job, and when you work two or three jobs, even with all the benefits of diversification, that can be a problem.)

People are thinking about the future in new ways because they're being forced to, both financially and environmentally. Climate change is going to be a major driver in this. When the climate starts to get goofy, and we get new diseases and pests and have different climatic factors, people who farm and fish face some pretty serious problems. By way of a solution, farmers are looking at how to get paid for sequestering in the soil some of the carbon that's being put up in the air.

The Minnesota Cornrowers Association had a vision of a new way of thinking about their crop and they built an ethanol industry here. There's a theory that we're moving towards a carbohydrate, as opposed to a hydrocarbon, economy. One problem with hydrocarbons is the climate issue. Long before we run out of oil and gas, we're going to have to address what's happening in the atmosphere. The thing about carbohydrates is

that we can produce a lot of them up here, using the sun. One of the things I've really come to appreciate about the Minnesota Corngrowers is how much they've spent time and money on professional leadership development within their organization for their people.

Up in Seattle, they're doing something called Community-Supported Fishing. They took the model from Community-Sponsored Agriculture, which is where consumers buy directly from a producer. Consumers buy directly off the boat, in an organized way. It's a procurement system, getting local purchasing people to say they're going to buy directly from producers.

There's a growing recognition among rural people, working people, primary production industries – agriculture, fishing, forestry – of how much there is in common, and in what they might be able to do in common. This “Dead Zone” issue is in fact an opportunity. To peel the parts away and say, “Wait a minute, there's a whole bunch of things we have in common, and by God, maybe we ought to be working together.” We could really solve this and other problems together.

Appendix Two: The Mississippi River, Hypoxia, and Louisiana's Coastal Land Loss Crisis

**Dr. Len Bahr, Executive Assistant for Coastal Activities
Office of the Governor, Louisiana**

Presentation & Discussion, Thibodaux, La., February 25, 2000

Dr. Bahr: I want to thank the director of the Mississippi River Basin Alliance for putting this meeting together. This is exactly the way we want meetings done in the future. I want to talk very informally, and please interrupt me with questions as they come to you.

First of all, let me point out that I've worked for three governors, and that my current boss [Governor Foster] is a businessman, but is also a very serious farmer with a lot of sugar cane, and he is an avid saltwater fisherman. He is also the first governor that I'm aware of who is from the coastal zone in Louisiana. So, he can see the whole spectrum of issues like this. He lives close to the coast and has seen in his lifetime tremendous change there. He's also very interested in the water quality issues of the Mississippi River.

My position is basically that of Coastal Advisor to the governor. I come from an academic background, and taught in Coastal Science at Louisiana State University for about ten years. I left the university when Louisiana had a very serious recession in the 1980s, which was just about the time that hypoxia [in the Gulf] was being documented, primarily by Louisiana scientists. When I started working in state government in the 1980s, I inherited the job of Coastal Advisor to the governor, which had been recently created because of the state's recognition that we have catastrophic conversion of marshes and swamps, barrier ridges and islands along the coast to shallow open water, and that it is happening at a rate that was seen to be such a problem that the state undertook its own restoration program.

My job was created to oversee and coordinate that. It was appropriately put in the governor's office. Like all states we have a number of resource agencies, such as a wildlife agency, a Department of Environmental Quality, which is responsible for water quality issues, and a Natural Resources Department that is overseeing all the oil leasing activities, which were by that time recognized as having been responsible for a lot of the coastal problem. So it was realized that the undertaking of a serious restoration program would require authority that no single agency had, and if one agency were selected to run the program they would very quickly run afoul of the others. I don't think any other state has a job that's analogous to mine, because no other state is going away as quickly as we are.

One of our senior [U.S.] Senators sponsored the Breaux Act, which was signed in 1990 and created the federal partners for our state restoration program, and for about ten years now has been giving us forty million dollars a year that we match with state money. It was created to deal with what we have been saying is a national problem, but had not gotten a whole lot of national recognition. Parallel with that, as I said, some Louisiana scientists documented the hypoxia situation, so we had two parallel problems that were being documented and studied through the 80s and 90s. Until fairly recently, I was becoming increasingly frustrated that they were being perceived as separate and unconnected, and as a scientist this didn't make any sense to me.

So, let me quickly show you some slide images. This is a reconstruction based on an 1839 map of the state, and although the green area represents a lot of different kinds of wetlands, it's basically all swamp and marsh in the coastal area. This is the southeastern part of the coast, the active delta, all created by the river over the last six thousand years. New Orleans is right between the Mississippi River and Lake Pontchartrain. The next image is 1870, and you can see things are beginning to open up somewhat, though there was not a serious problem, and at that time no large navigation channels had been built. There was no comprehensive levee construction on the river, so in the spring floods the river would typically leave its banks, forming crevasses, and nourish all that green area at least every few years with sediments and nutrients and freshwater.

Now we see 1930, three years after the 1927 flood that led to a creation of a program called the Mississippi River Tributaries Program. This was a major national public works project created as a result of this devastating flood that was unprecedented, at least in recent history. It led to a number of changes which we are still feeling the results of. The Corps of Engineers took major responsibility for changing the running of the lower river, and one of the things they did was to control it so that it would continue to flow in the eastern direction of the modern river, as opposed to the more western flow of the Atchafalaya, the other main stem of the river. They created a levee system that is almost complete reaching up the river. They started to control the flow of the Atchafalaya River. Bayou Lafourche, which was an active tributary for the river, carried about fifteen percent of the flow. In 1904, in one of the biggest mistakes our state ever made, we sealed it off at Donaldsonville, and that former tributary became pretty much a drainage ditch.

Now, this image is 1993, which is kind of a base we're using to project into the future. The next slides show what we expect to happen if we don't take effective action. The barrier shorelines fall apart; the bays open up – all because of saltwater moving in from the ocean and affecting the fresh marshes in the area. What this map doesn't show is that there are about ten major navigation channels, artificial channels that directly link the Gulf with cities and towns, and they just funnel saltwater right into the system. There's a major one called the Mississippi River Gulf Outlet, created in 1962, that was another huge mistake the state signed onto.

We are the poster child of vulnerability to hurricanes and sea-level rise. This next slide is a simulation of Hurricane Andrew in 1992, which was about to hit New Orleans and luckily veered at the last minute to the west and came up into the Atchafalaya area, so we were spared a catastrophe. This is a simulation of what would happen if a hurricane of Andrew's strength went through this route. Lake Pontchartrain and Lake Maurepas would become one huge system. The levees that protect New Orleans would be breached and Jefferson Parish and the whole Barataria Basin flooded. It's a devastating scenario.

This next slide shows the difference between the lower Mississippi River stem and the Atchafalaya. The river, because of the levee system, acts like a direct pipeline for water that's rich in sediments and nutrients, piping it right past the marshes that need nourishment, right into deep Gulf water, where the hypoxia situation is set up.

On the Atchafalaya, there's no levees that keep river water from going out and nourishing the marshes that surround it. The Atchafalaya delta is the only significant delta growing in the whole North American continent, and it's growing fairly rapidly despite some efforts to keep that from happening. The Corps piled a lot of spoil banks to keep its lower navigation channel open and slowed the delta development significantly. An artificial channel, called Wax Lake Outlet, was created to provide relief for the big flood we know is in the future sometime, the flood that's bigger than 1927.

As part of our restoration program, we are creating river diversion projects at various sites. This slide shows one, the Carnaervon Project, that diverts river water through a controlled structure in the levee. This water is going into an area that was originally marsh, then was a failed agricultural experiment in the 20s, which resulted in a huge, open square lake. It's now the receiving body for this river water, which is having a very significant benefit. Our restoration program calls for developing a whole series of projects like Carnaervon.

Now, how does all this link to the Gulf hypoxia issue? As I mentioned, I was being frustrated by a number of things. First, the problem of hypoxia was being discussed in a vacuum, without any sense of this huge coastal problem we're facing. We're facing a serious national problem with hypoxia, and one with land loss, and they were being discussed as if they weren't connected. I argue as a scientist that they are absolutely connected in a lot of ways, not only in an ecological sense, but in also in a political sense. For example, if to be successful at coastal restoration we're going to have to divert a lot

of river water, there are a lot of people, my boss included, who are very concerned about the quality of the river water. They are reluctant to sign on to a diversion, because of concerns about whether it will cause algal blooms, fish kills, and other bad things.

It's my position that if we're going to be successful at restoration, we have to be able to diver river water, and water quality, of course, is an issue. Now from a biological, ecological sense, our marshes and swamps are starving for nutrition, for nutrients and sediments that they have been cut off from. So, there is a strong interest now in quantifying the extent to which they could act as a sieve for excess nitrates in the river. So that instead of piping them right out into the Gulf, we could distribute it into the shallow coastal system. Not all of it, but a significant part during the spring when the river is high, that would nourish our swamps and marshes and also strip some of the nitrates from the water.

Now, there are lots of questions about that: how much capacity does the coast of Louisiana have to do this? We don't know, so recently we invited a group of key coastal scientists from around the country to a retreat, and sat down for a day and a half and discussed it, and it was a very informative meeting. It was agreed that not only will nitrates support marsh growth, but that some of our swamps that are dying would even grow five times faster if they got adequate nutrition. There's a potential for the plants to suck up some of the nitrates, and for some of the nitrates to be denitrified through bacterial processes. Another process that has been very important in the past is that this coast is a delta that is constantly sinking. Prior to the levee system the sinking sediment was being replaced by new sediment. Getting that to happen again would help us keep up with sea-level rise, and keep burying the organic matter underneath.

So, we had a system for taking up nutrients, for denitrifying nutrients and burying them. It was a very efficient system that we're trying to recreate. But we don't know what the capacity is to do that, and we're probably twenty years away from a really effective, broad river diversion program, and in the meantime hypoxia continues. I think we've achieved recognition on the part of the [Gulf Hypoxia] Task Force that the solution to this hypoxia problem is going to have to be system wide, from top to bottom of this whole system. It's going to have to be shared by all the people who depend on water quality and who affect water quality. We in Louisiana can play a part, and the state is strongly committed to do whatever we can. We have not only embarked on the restoration program, but are working to treat flood water and municipal sewage more effectively before that water goes into the river. We expect and hope that all the states within the basin share that commitment.

It's very clear to us from a political sense that pointing fingers is not the way to go. Something that concerned me at an early hypoxia meeting in New Orleans was that there were some who said, "Well, you guys upstream are causing the problem, there's nothing we can do about it, we're the poor victims and we can't affect water quality." I disagree with that. We can make a difference. It's going to take us some time, however, and it's going to take a lot of money that the state can't afford to completely fund. We're going to have to depend on a national program and national political support. We're not going to

get that support if we pose this problem as a fight between our fishermen and the farmers upstream. We're not going to win that battle and we know it.

A meeting like this one is, it seems to me, the way to go for everyone –for you all to come down here and see what we're up against, and then we can travel up there and see what your problems are. The view of the state of Louisiana is that we are absolutely committed to stewardship of the river. We depend on it, we know you all depend on it too, and we will work together and develop a pragmatic solution to this.

Are there any questions?

Farmer: Is there a potential for creating something like some kind of plant, a cattail maybe, that can take up the nitrogen, and also be a product for human consumption while it cleans up hypoxia? So, we could do both of them at the same time?

Bahr: The trouble is, our coastal system is a food factory that creates fish, so we don't eat the plants there directly, we eat the fish that they produce. But we depend on the marsh for more than just fish and the habitat for birds and other critters. We depend on it for hurricane buffering. It's very effective at absorbing a hurricane surge. It is also such a fragile coast. I wish everyone in this room could fly over it. Until you do that you can't appreciate how massive it is, how advanced the state of deterioration is, and vulnerable the communities along Bayou Lafourche are to storm energy from the Gulf. I don't think an agricultural project would be advisable for the coast because the soils are so fragile.

But, we're very open to ideas, and my office is something of a clearinghouse for ideas. We're facing not only hypoxia and erosion, but also the potential effects of climate change, which farmers are also facing, such as severe droughts interspersed with very high flooding conditions.

Daigle: Dr. John Day at LSU is looking at using areas where you're doing diversions, building wetlands, and bringing in nutrients, as places where you could have really fast growing trees, such as cypress. You'd be sequestering carbon, too, but you could also potentially be harvesting them.

Davis: I can comment on that. When you fly out of New Orleans, look out the window. You'll probably see some place in the marsh that looks like crop furrows. Those are old cypress cuts where they drug the logs out. Many of these areas that used to be cypress forests are now degrading marshes. They have never recovered from when almost everything in this state was cut. Timber was the resource we extracted here before we found oil. I can't say that we did it in the most sensitive way. We have almost no virgin cypress forest left, but because of the intrusion of saltwater, we have almost no cypress regeneration. We did have things that could produce value and could again, if the system would work.

A couple of points from Len's slides bear illumination as well, because they point to the total river connection. Obviously, we need nutrients and we need fresh water. People are

concerned about the water that we may be bringing into their communities and resources. But it's not the same water we cut off before. Since the end of the Second World War, we have about doubled nutrient levels and halved sediment levels in the river. For sediments, the big factor was the lock and dam system on the Missouri River. The Missouri was the major sediment contributor. The sediment that was a management problem there was to us a building block.

So, I've had this conversation with various ag folks, and some said, "Well, you need sediments so you're basically asking us to be poor soil managers." No – we're really just saying that we should view what's going into the river as a resource to be managed. If there's not enough we should make a better use of it, if there's too much, we should try to balance it. But it's not the same system that built the coast, so we have to develop our understanding of what the problems are and what the opportunities are.

The marsh soils are fragile. Natural propagation happens quickly – it is a dynamic productive system. Before we did anything to change the system you had deterioration in some parts of the coast. That's natural. We want it to be real clear that when we talk about restoring the coast, we're not talking about putting it back the way it was. We're talking about restoring some functional integrity to it, and using those processes that built the coast.

This problem has everything to do with economics. When you look at the projections of land loss, you can see essentially places like New Orleans become problematic. There was an article in the on-line version of Business Week questioning whether New Orleans was the Atlantis of the 21st century. From the Ag industry's standpoint, growing your product is one thing, getting it to market is another. This is where the barges come, and this is the trans-shipment point. If you lose the viability of your lower river port system, you have a new economic and delivery market challenge. I'm not saying you won't find a solution to it, but you need to know that that's one of the things that's on the table. So, this is not merely about marshes and fishermen, this is about the integrity of a river system that serves us all.

Speaker: As a follow-up to both your ideas, maybe you could brief us on how systematic the solution being developed by the [Gulf hypoxia] Task Force seems to be relative to the entire basin, including the Missouri and Ohio rivers?

Bahr: The fifth of the reports prepared for the Council on Environmental Quality (CENR) focused on solutions. It was headed by a man I've known for a long time and have great respect for, Bill Mitsch, and I was very impressed with the scope of their proposed solution. It involved the whole river system, including the lower part, the active delta, as the place for final reduction of excess nitrates before they get into the Gulf of Mexico. It involves a shared effort, with some voluntary reduction in [fertilizer] application, and looking at the timing of applications. It involved the use of reconstructed wetlands and buffer strips to line the parts of the river that are most directly in line of run-off from row crops.

I think they looked at maybe reducing the intensity of the amount of land that's drained by the tiling system, but it was definitely an approach that would be shared by everyone, using the best management practices, and it looked to me like it was very holistic and made sense.

Davis: I would agree. I think they are trying to build a decent foundation. Keep in mind this is not a job they went looking for. With the Dead Zone issue, we tried to deal with it in a little more low-key scientific way and got nowhere. So, this effort was designed to really focus on the problems in the Gulf of Mexico. The federal government became convinced that there was in fact a real dilemma. The Gulf is a major national resource, the fisheries here are very significant, so they felt they had to act.

Our experience with this kind of thing is that it will produce value, but not necessarily solutions. They will always bump heads with constituent groups who won't accept certain solutions, at least not without the appropriate justification. I think that's why meetings like this one are so important. The good news is that the Dead Zone has become a political problem that's being pushed toward some kind of resolution. But I don't think they will be able to come up with solutions without all of us.

Speaker: Do you see the balance shifting a little more to local, state grassroots kind of a voice, as opposed to just the government groups?

Davis: Oh, I see a tremendous improvement in the extent to which the perspectives have broadened since it started. There are still some scientific questions, but we have made a lot of progress. In the Chesapeake Bay situation, some action was taken before they could absolutely document everything, because it was generally recognized that the Chesapeake Bay was seriously degraded. There was a multi-state cooperative effort that hasn't been totally successful, but has worked. People took action before the horse was completely stolen.

Tim Sullivan: I think there's been a really important change in the tone of the Nutrient Management Task Force. When it came in, there was largely a state of denial. I'd say in the last few months the dynamic has turned around, and I don't go anywhere anymore where people say hypoxia is not a problem, we're not connected with this, etc., except in some very fringe places. So, to my mind this is one of the most potent things about moving this process forward.

WEBSITES FOR PARTICIPATING AGENCIES AND ORGANIZATIONS

Farming Organizations

American Sugar Cane League

www.amscl.org

The Institute for Agriculture and Trade Policy, Minnesota

www.iatp.org

Louisiana State University Agricultural Center

www.lsuagcenter.com

Louisiana Cooperative Extension Service, Louisiana State University Agricultural Center

www.lsuagcenter.com/nav/extension/extension.asp

Minnesota Corn Growers Association

www.mncorn.org

National Corn Growers Association

www.ncga.com

FISHING ORGANIZATIONS

Louisiana Seafood Promotion and Marketing Board

www.louisianaseafood.com

GOVERNMENT ORGANIZATIONS

Barataria-Terrebonne National Estuary Program, Louisiana

www.btneep.org

Department of Natural Resources, State of Minnesota

www.dnr.state.mn.us

Governor's Office of Coastal Activities, State of Louisiana

www.goca.state.la.us

Natural Resources Conservation Service, United States Department of Agriculture

www.nrcs.usda.gov

National Oceanic and Atmospheric Administration, U.S. Department of Commerce

www.noaa.gov

ENVIRONMENTAL ORGANIZATIONS

Coalition to Restore Coastal Louisiana

www.crcl.org

Mississippi River Basin Alliance

www.mrba.org

Facilitator:

Wilson & White, P.C., Vermont

www.wilsonwhite.com