

# WATERWAYS

A Quarterly Publication of the Iowa Drainage District Association

Volume 2, 2010

## New Farmers DD loses state appeal

The New Farmers Drainage District has lost its appeal to state regulatory officials. The case revolved around weed spraying that took place in a drainage ditch in Monona County. The state Department of Natural Resources contends that the spraying created conditions which led to a fish kill. The case was heard by an administrative law judge in January of 2009. The judge ending up siding with the state.

The next step in the legal process was that the case would go before the Environmental Protection Commission and Natural Resources Commission. Those commissions then rule on the case. Both of those hearings took place this summer. The hearing before the Natural Resources Commission was on June 10th and before the Environmental Protection Commission on June 15. Both commissions voted to uphold the state action.

Both the weed spraying company and the drainage district have appealed the case. It will now go to district court in Monona County. Craig Levien, the attorney representing both parties, in his "petition for judicial review" argued that the grounds for the final rulings were;

- 1) In violation of statutory procedures;
- 2) Beyond the authority delegated to the agency by any provision of law or in violation of any provision of law;
- 3) Based upon an erroneous interpretation of a provision of law whose interpretation has not clearly been vested by a provision of law in the discretion of the agency;
- 4) Based upon a procedure or decision making process prohibited by law or was taken without following the prescribed procedure or decision making process;
- 5) The product of decision making undertaken by persons who were improperly constituted as a decision making body, were motivated by an improper purpose or were subject to disqualification;

6) Based upon a determination of fact clearly vested by a provision of law in the discretion of the agency that is not supported by substantial evidence in the record before the court when the record is viewed as a whole;

7) The product of reasoning that is so illogical as to render it wholly irrational;

8) The product of a decision making process in which the agency did not consider a relevant and important matter relating to the propriety or desirability of the action in question that a rational decision maker in similar circumstances would have considered prior to taking that action;

9) Based upon an irrational, illogical or wholly unjustifiable application of law to fact that has clearly been vested by a provision of law in the discretion of the agency

10) Unreasonable, arbitrary and capricious or characterized by an abuse of discretion.

IDDA, through its mutual protection fund, has provided financial assistance to the New Farmers Drainage District. Additionally, an attorney has been contacted to see what other steps we might take to be of assistance to the district. A trial date has not yet been set.

*Mark your calendars:*

The IDDA annual conference will be on Friday, December 3 in Ft. Dodge, Iowa.

Waterways is a quarterly publication of the Iowa Drainage District Association. Comments can be directed to the association at:

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## In Memoriam

### Jim Hudson, 1925 – 2010



Jim Hudson, noted drainage attorney, passed away on August 16 at the Pocahontas Community Hospital. He was 84 years old.

Simply put, Jim was known as “Mr. Drainage”. In 1953, he was appointed by then Governor Leo Hoegh to a committee to review and rewrite the state’s drainage law. Much of what is

in drainage law today is as a result of Jim’s work.

Don Etler, a drainage engineer from Kuehl and Payer Algona was a long time friend and associate of Jim’s. Don said of him: “He was a mentor and friend, and a wonderful father figure. He was an ethically strong man who cared greatly about drainage district landowners—and for the equal application of the law to all. Drainage districts have lost their greatest advocate. I suspect that we still do not fully understand how much we were blessed by the efforts and commitment of this small town attorney who 50+ years ago chose to work with our life’s struggles. Over the course of Jim’s long career he represented us admirably both in the political arena and in court.”

Jim was instrumental in the founding of the Iowa Drainage District Association and has acted as a friend and advisor to IDDA over the years. John Torbert, executive director of IDDA said; “It is impossible to quantify the impact he had on drainage business in the state of Iowa. He loved what he did and always had time for you. We have lost a great friend and supporter.”



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# How one Minnesota farmer is battling the Gulf “dead zone”

Windom, Minnesota—Within moments of meeting Tony Thompson, you can tell he sees the world from a different tilt.

His frayed shirt pocket is stuffed so full of notes that it’s ripping at the seams. Hairy eyebrows spring off his face like grasshopper antennae. There’s a purple prairie clover stuck in the dash of his van, a bird book below the radio.

He says bizarre, eco-minded things like “I want to be a chloroplast.”

So maybe it should come as no surprise that this wild-haired, icy-eyed farmer in southwest Minnesota is among the first people at this latitude to make an important intellectual leap:

He sees people who live and work near the Gulf of Mexico as his neighbors—even though they’re 1,200 miles away.

Further, he’s changing the way he farms in order to protect them.

Scientists have recorded one of the largest “dead zones” in the Gulf’s history this year. This oxygen-sapped area—currently about the size of New Jersey—is caused in large part by fertilizer that funnels into the ocean from Midwestern farms, since more than 40 percent of the land in the United States drains into the Gulf.

The fertilizer kicks off a chain reaction of biological processes that, in the end, drains the water of oxygen and kills fish, shrimp and other marine creatures that can’t swim away.

This year, the BP oil spill may make matters worse. The coast is already strapped for cash, and some scientists fear cumulative effects of the environmental stress.

Thompson, 54, whose family built a house on this farmland in 1878, doesn’t want to contribute to any of this.

“I’d much rather eat wild Gulf shrimp than farmed shrimp, and I know that my efforts may seem insignificant, but I think we can have sustainable fishing in the Gulf and corn production in the Mississippi [River] watershed,” he said.

“I think we should all be saying, ‘We must have both.’”

But, as he well knows, cleaning up the Gulf from the Midwest will require continental changes.

## **Suicidal shrimp**

As summer approaches and the Louisiana air gets hot and wet, Dean Blanchard says, he can tell that the dead zone is forming because shrimp leap onto the beach.

“They pretty much commit suicide,” he says.

Blanchard, who owns a large-scale seafood wholesaling business in Grand Isle, Louisiana, says he never saw that phenomenon until six or seven years ago.

Scientists first recorded an oxygen-dead zone in the Gulf in 1972. Since then, the size of this underwater coffin has fluctuated, but it is growing. In 2009, the dead zone smothered an area of about 3,000 square miles. This year, it is more than twice as big -- and is the fifth largest on record, according to the National Oceanic and Atmospheric Administration, which monitors the area.

The longer the phenomenon persists, the weaker the Gulf ecosystem becomes, said Rob Magnien, director of the Center for Sponsored Coastal Ocean Research at NOAA.

“If the area grows large enough, the consequence is, at some point, we’ll reach a tipping point where some of our major commercial and recreational species [of fish, shrimp and oysters] would be severely affected,” he said.

No one knows for sure when the Gulf will cross that threshold, but the wait may not be long, Magnien said. Early testing indicates that the ocean ecosystem is already under intense stress: It takes less fertilizer pollution today, for example, to produce a large dead zone in the Gulf than it did several years ago.

That’s a sign that the dead zone will continue to grow unless fertilizer levels are cut drastically.

In the meantime, people in the Gulf seafood industry, like Blanchard, say they have to work around the dead zone each summer. Blanchard says he loses up to \$250,000 of his \$35 million total revenue per year because of the phenomenon.

And shrimpers may not be able to avoid the zone forever.

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“They avoid the dead zone areas and are able to catch shrimp in other areas, but at some point, the zone is going to grow to a size where they can’t reach the shrimp anymore or they simply have insufficient habitat to maintain a robust population,” Magnien said.

Blanchard says the Gulf has become “the cesspool of the nation” because “everything comes down to us.”

“If you s--- in the river, then you s--- down here,” he said. “They send us all the garbage; it comes down the river to us.”

### Neighbors by water

Thompson, the Minnesota farmer, has never been to Louisiana.

And Blanchard, the Louisiana seafood businessman, has never been to Minnesota. “It’s too cold up there,” he said.

But their paths crossed last summer, when Thompson was organizing a community event at his 3,000-acre property, Willow Lake Farm.

He wanted his Minnesota neighbors to meet a person who was affected by their fertilizer use and water management.

“We’re all in this together,” he said.

He also wanted to eat some delicious Louisiana shrimp. So, out of the blue, he called Blanchard and invited him to visit.

Blanchard didn’t attend. But he did send his shrimp north for the event, and Thompson used that food as an entree into talk about the dead zone.

Blanchard is not angry at farmers in the Midwest, he said. But he is furious about the situation.

“I’m mad at the government, that they don’t make them use different kinds of [chemicals on their farms]. Somebody’s got to be smart enough in this country to invent something that can do the job they need up there -- and not ruin the Gulf,” he said.

“The government ought to have a team of scientists working on that. How bad are they going to let it get before somebody stops it?”

The government has started to look for solutions but hasn’t made a notable dent in the problem.

The entire Mississippi River watershed must reduce its output of two key fertilizer pollutants—nitrogen and phosphorus—by 45 percent to get the dead zone down to a manageable size, says a 2008 report from the U.S. Environmental Protection Agency.

If those cuts happened, the dead zone still would be nearly twice the size of Rhode Island.

### A new way of farming

Thompson was driving a tractor across his parents’ farm in 1989 when he cracked.

Maybe it was the heat. Maybe it was the deafening roar of the engine.

Mostly it was because he felt the way he was farming—tilling over the soil—was destroying the environment.

“I just hated it,” he said. “It seemed impossibly destructive.”

That night, he scratched this entry in his personal journal: “Never grow up to be a farmer.”

But time passed. And Thompson realized that it was just this method of farming that he hated. His intense frustration helped mold his view that the land, water and air are inextricably tied and that the actions of one farmer can be felt thousands of miles away.

He vowed to become a different kind of farmer.

With the help of an environmentally minded neighbor and his brother, Thompson etched out his vision on a large sheet of butcher paper, which he spread out on a kitchen table.

He didn’t want to till the land anymore, which he saw as a contributor to erosion and phosphorus runoff. He would apply “the softest touch on the land” possible, he said.

After struggling to explain this idea to bankers, Thompson finally got a loan to fund his vision. He put it into practice first on a small section of the family property, which he leased from his dad.

The changes worked. Yields went up. And, in Thompson’s view, the local environment became healthier, too. Missing critters like the meadow jumping mouse returned to the farm. The water became clearer. All of this eased his conscience.



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He started to love the farm again.

“Here, I know all of my neighbors,” he said. “This is where I make my living. This is where my ancestors made their living. I’m not interested in fouling my nest.”

### **‘A long way away’**

For many, fouling the Gulf’s nest is another story.

It’s relatively easy to convince farmers to adopt environmentally friendly practices if they can see the effects nearby, said Gary Sands, an associate professor of bioproducts and biosystems engineering at the University of Minnesota, who teaches farmers about the environment.

But it’s hard to sell changes that deal with the Gulf’s dead zone.

“They agree there is a problem, but they’re just so separate -- so far away -- from what’s going on in the Gulf,” he said of the farmers.

Scientists largely have figured out what farmers need to do to lessen their impact on the dead zone, said David Mulla, a founding fellow and soil scientist at the University of Minnesota’s Institute on the Environment.

To be effective in tackling the Gulf’s problems, however, Mulla said, the new techniques have to be applied across the entire Midwest.

Right now, however, only voluntary pilot projects exist. And at best, with widespread adoption of these techniques, he said, the U.S. would reach its targets for shrinking the dead zone in 25 years.

Still, Mulla said, the efforts of one can make a difference.

He’s seen that happen before.

When the state started pushing farmers to leave some of their land wild along the banks of streams to act as a buffer, no one seemed interested in taking valuable land out of production.

Then one farmer broke.

“Eventually, we got one farmer who agreed to do it, and—[snap]—just like that, everyone followed.”

### **Farm filter**

Walk to the bottom of a field of alfalfa on Thompson’s farm, and you can see the start of Mulla’s one-farmer theory in action.

The green field, bursting with purple flowers this time of year, slopes toward a small body of water called Fish Lake, where Thompson grew up swimming and where he can’t help but snorkel from time to time, he says.

He planted alfalfa here specifically to buffer that lake from nutrients. Alfalfa is a “very greedy plant,” he says, so it sucks up most of the water and fertilizer before it can get away.

But he’s going further than that.

Just before the field gives way to a thatch of oak trees and then the water, a small metal box is stuck in the ground.

It’s not much to look at, but that box -- and another like it -- is the visible component of an underground “bioreactor.” It eats nitrates out of the water before they hit the lake.

Water is piped through a subterranean block of woodchips that’s roughly the size of a blue whale. This slows the water down long enough for bacteria to start a process called nitrification, in which liquid nitrates from the fertilized water turn to harmless gas.

From there, the water trickles into Fish Lake and the Watonwan, Minnesota and Mississippi rivers before spilling into the salty Gulf.

On that journey, it slithers past Minneapolis, Minnesota; St. Louis, Missouri; Memphis, Tennessee; and finally New Orleans, Louisiana. You might think that, on such a long and winding journey, pollutants would somehow make their way out of the river, but scientists say that when liquid nitrates jump onto this one-way conveyor belt, they don’t look back until they’ve made it all the way to the ocean.

Thompson installed the woodchip bioreactor two years ago at a cost of \$6,600, and most of that was paid through a university grant, he said. Another nitrogen-reduction project on a different field cost him \$70,000. He paid that sum, he said, because that groundwater control system stands to increase his farm’s productivity, too.

Both of those systems are rather effective, Mulla

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said. The drainage system removes up to half of the ocean-harming nutrients; his bioreactor is capable of pulling 50 to 80 percent all of the nitrates out of the water under optimal conditions, said Sands, also from the University of Minnesota.

Thompson also says he monitors his fertilizer applications down “to the gnat’s eyelash” in order to reduce the amount of nitrate that enters the watershed.

“We don’t want to waste any nitrogen,” he said.

Thompson says it’s his responsibility to “send the

best water possible downstream.” He doesn’t have the money to do everything he would like. But he’s optimistic about the situation improving in the long term.

“My job is to be a farmer, and I’m very committed to being the best farmer I can be,” he said. “I know to be a farmer I’m going to make a mess, and there are going to be mistakes, but my job is just to do a better job than I did last year.”

He hopes the idea spreads, one farmer at a time.

—Source: Authored by John D. Sutter, CNN Tech

## Iowans head to Mississippi delta to share ideas on battling hypoxia

With the steady purr of a diesel engine in the background, Bowen Flowers, explained his Mississippi Delta rice farm to a group of corn and soybean farmers from Iowa.

As the rice crop is planted, the farm’s big pumps move water from a nearby lake to his fields. Then, when it comes time to harvest, the pumps pull the water off the field and return it to the lake.

The process, called a tailwater recovery system (TRS), conserves valuable water for the farm in Roundaway, Miss. More importantly, it keeps nutrients from flowing down the Mississippi River to the Gulf of Mexico.

The Iowans, led by Iowa Secretary of Agriculture Bill Northey, toured Flower’s rice farms and other farms in late May as part of an Iowa-Mississippi farmer-to-farmer exchange. The exchange, the first of its kind, is designed to build understanding and expand conservation practices in both states as they work to address the hypoxia, or low oxygen, issue in the Gulf of Mexico.

The Mississippi farmers made a reciprocal trip to Iowa in early July.

Trey Cooke, executive director of Delta Farmers Advocating Resource Management (Delta Farm) and Delta Wildlife visited Iowa last fall during a tour for the national Gulf of Hypoxia task force. The task force spent the day touring Iowa farms and looking at wetlands, buffer strips and other practices designed to

reduce nutrient runoff that contributes to hypoxia in the Gulf.

“Everyone in the Mississippi River basin is part of the potential problem and any potential solution” Cooke said as he helped to host the Iowa agriculture officials in his home state. “When it comes to nutrients and hypoxia with the Gulf of Mexico, agriculture is a contributor. We all contribute,” Cooke said. “It’s our duty as producers, whether from Iowa, Mississippi or anywhere else in the Mississippi River basin, to do the best job we can and be the best stewards we can of those natural resources.”

The visit by the Iowa farmers, Cooke said, is a good way to put two progressive states together to identify strengths and weaknesses of conservation methods in each state. The exchange can further strengthen individual efforts that benefit each other when trying to address the hypoxia in the Gulf of Mexico, he said.

“Iowa and Mississippi are arguably the two most progressive and proactive states in addressing this particular environmental issue,” Cooke said. “That synergy has been identified by the EPA at the national level and by the Gulf of Mexico program. They are seeing voluntary on the farm in Iowa and Mississippi.”

### Voluntary Efforts

For Northey, the voluntary actions and state-to-state cooperation send a strong message that the states in the Mississippi River basin are working toward a solution to hypoxia in the Gulf.

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“Part of what’s at stake is whether we have a mandatory system where the EPA or someone else from the outside comes in and tells us you must do X, Y, and Z,, whether they have the science to prove that it fixes things or not, Northey said during the visit. “We want to do a better job taking care of the water in the streams in Iowa and the water that leaves the state. We don’t know exactly what needs to happen but we know we need to get nitrogen and phosphorus out of our water.”

The primary goal of the farmer-to-farmer exchange is developing relationships between the agricultural leaders in both states. Those relationships can help promote the sharing of information and technologies that will help address the hypoxic area in the Gulf the leaders said.

### **Building Relationships**

“We’ve built genuine relationships at the farmer-to farmer level, at the agency-to-agency level and the farmer-to-agency level on both sides,” said Dean Lemke, chief of the Water Resources Bureau at IDALS.

“These collaborative relationships create the ground work for future progress environmentally and to further agricultural food production.”

Lemke said that he hoped the visit to Mississippi would spur Iowans to have even more discussions within their agricultural community on how to work together to achieve environmental goals. “I hope that what emerges from this is a broader dialogue in Iowa starting with the agriculture groups and ultimately to engage the creativity and innovation of Iowa farmers,” Lemke said. “That’s where progress will be made.”

Iowa has already made a lot of environmental improvements in the past and Iowa’s water is better than it has ever been in his 38-year career, Lemke noted. “This will help us recognize all the accomplishments we’ve already made in agriculture here in Iowa and to build on it.”

The Mississippi tour ended with a day-long excursion in the waters of the Gulf to see first-hand the beauty and economic benefits it brings to the area. “To see the Gulf of Mexico and its resources and to understand why it’s important to Mississippi and important to the nation as well, it helps us to recognize our interconnectedness,” Lemke said.

IDDA President Harlan Hansen was one of the Iowa representatives that made the trip to Mississippi.

*Source: Iowa Farm Bureau Spokesman*

## Leopold leaves DNR

Rich Leopold, director of the Iowa Department of Natural Resource (DNR) has resigned his job. He will become the Midwest Assistant Regional Director for science applications for the U.S. Fish and Wildlife Service in Minnesota. Leopold has been director of DNR since 2007 when he was appointed to the post by Governor Culver.

In his new position, Leopold will be responsible for activities in eight states – including Iowa. He will be developing and executing various science activities including adaptive resource management, landscape conservation and climate change.

Patricia Boddy, who has been deputy DNR director for two years, has been appointed by Governor Culver as the agencies’ interim director. Prior to her employment with DNR, she served as director of the Polk County Conservation Board.

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### *Unattributed Wisdom*

“Never meddle in the affairs of a dragon for you are crunchy and good with ketchup.”

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# Executive Director Notes

It is hard to believe that fall is almost here but with the warm days and cooler nights, you can tell that we have started the inexorable “slide” toward winter.

One of the requirements of my job of course is that I attend a lot of meetings. One thing that has become very clear to me over the course of the last six months or so is that there is no doubt in my mind that it is going to be harder and harder in the future to conduct drainage business. So far, the practice of drainage has been able to get by without a huge amount of state and federal legislation and regulation. The trends, however, are going in the other direction. I predict that coming years will see increasing attempts, particularly in the regulatory arena, to put new rules and requirements on production farming and drainage of land. IDDA will try and keep that from happening but it feels sometimes that we are fighting losing battles with

well funded forces on the other side of the issue.

Elsewhere in this issue, it is noted that Rich Leopold, director of the DNR, has resigned his position to take a position in Minnesota. The DNR directorship has got to be one of the most thankless jobs in state government. As a regulatory agency, anything it does is bound to tick someone off. Although IDDA did not agree with Mr. Leopold on many issues, I will say that he did actively reach out to us and would listen to what we had to say. When any state agency head leaves, two things potentially happen – things gets worse or things get better. (Of course, someone’s “worse” may be someone’s “better.”) We shall see what future directions the DNR will take.

If you want more details on why I am so concerned about drainage rights in the regulatory climate we are in, attend our annual conference. We have excellent speakers and presentations to talk about these issues.

*John Torbert*



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