



# The Iowa Policy Project

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## **Drainage districts: A tool to reduce nitrate pollution**

*In wake of Des Moines Water Works suit, new IPP report cites legal authority of drainage districts to enhance pollution control efforts*

IOWA CITY, Iowa (Oct. 10, 2017) — A solution for ag pollution in Iowa waters may rest with quasi-governmental authorities — drainage districts — that have authority to address water concerns even if they are not required to do so by law.

In a report for the nonpartisan Iowa Policy Project (IPP), researchers Sarah Garvin, Michael Burkart and David Osterberg noted the potential of drainage districts as a solution to the problem.

“It’s going to require managers of drainage districts to step up at a time their county supervisors cannot, even if they wanted to, and at a time the state Legislature has stood in the way of local authority on industrial agriculture,” said Osterberg, a former state legislator and lead environmental researcher for IPP.

“In this case, with drainage districts, the authority to take some steps already exists.”

The report comes only months after an Iowa Supreme Court ruling against the Des Moines Water Works’ attempt to sue three counties to its north over the failure of drainage districts to reduce nitrate pollution that has caused mounting cleanup costs for the utility.

Burkart, a former USDA researcher and Iowa State University professor in Geological and Atmospheric Sciences, pointed to the two key recommendations of the paper: that drainage districts use their statutory under law to mitigate pollution discharge from infrastructure under their control, and that they consider their obligation under that mandate that drainage “shall be presumed to be a public benefit and conducive to the public health, convenience and welfare.”

“Public health and welfare can and should be interpreted to mean keeping our waterways free of nitrate pollution,” the report stated.

In addition, Burkart noted the popularity of the voluntary approach of the state’s Nutrient Reduction Strategy, which limits regulation by local government on ag practices.

“This could be an opportunity to showcase voluntary efforts at the drainage district level in local demonstrations of best practices,” he said.

The paper suggested that a drainage district could organize and coordinate conservation measures in its district, or among several districts.

“This could improve the results of voluntary efforts that so far have not produced results anywhere close to their goals,” Osterberg added.

The issue is important not only in Iowa, but throughout the Mississippi River Basin watershed, as ag-sourced nitrate pollution threatens well water, aquifers and surface waters, and is the primary cause for the hypoxic zone, or “Dead Zone,” at the mouth of the Mississippi River.

The hypoxic zone this year was recorded at 8,776 square miles, its largest size since measurements started being recorded in 1985.

About two-thirds of Iowa land is used for row-crop agriculture — about 25 million acres for corn and soybeans. To produce that crop, much land is heavily tilled for drainage to remove excess water in areas, such as the Des Moines Lobe in north-central Iowa, that otherwise have poor drainage and crop potential.

“The systematic artificial drainage of the landscape has increased steadily since drainage districts were established more than a century ago,” Garvin said. “This effectively short-circuits the natural flow system of water and nutrients — specifically nitrogen — through the soil.”

The researchers noted that for the large share of the year outside the growing season, tilled cropland lacks vegetation to consume nitrate. Thus, nitrate leaches into groundwater that is quickly drained by tiles.

“Without tile drains, nitrate-contaminated water would be at least partially denitrified in aquifers. Instead, it is discharged at points to streams, creeks, ponds, lakes and rivers,” the researchers stated.

Historically drainage districts have not been held accountable for nutrient inputs into Iowa waterways, or liable for damages inflicted on property or pollution of ground and surface waters. Traditionally the courts have ruled that drainage districts are not required to use their statutory authority to implement pollution reduction measures or to mitigate damages to the environment.

This was most recently demonstrated in the 2017 Iowa Supreme Court ruling dismissing the Des Moines Waterworks (DMWW) case against three County Boards of Supervisors for nitrate contamination in the Raccoon and Des Moines Rivers emanating from upstream drainage districts.

The researchers pointed out that existing statutory authority, however, gives drainage districts the power to level fees and to use eminent domain. These powers can be used to clean up Iowa waters and the Mississippi River.

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