

## PolicyPennings by Daryll E. Ray &amp; Harwood D. Schaffer

## Iowa's strategy to reduce agricultural runoff of nitrogen and phosphorus

During the last week in August attention to the issue of water quality and the need to reduce the levels of nitrogen and phosphorus from entering US waterways moved from Ohio and the Chesapeake Bay to Iowa and its contribution to the dead zone in the Gulf of Mexico. On Monday, August 25, 2014, the Iowa Soybean Association, the Iowa Corn Growers Association, and the Iowa Pork Producers Association announced the formation of the Iowa Agricultural Water Alliance (<http://tinyurl.com/nsbyhwg>).

According to their website, “the Iowa Agriculture Water Alliance is a nonprofit organization committed to advancing the success of the Iowa Nutrient Reduction Strategy by increasing farmer awareness of the initiative and their adoption of science-based practices proven to have quantifiable environmental benefits.”

The Iowa Nutrient Reduction Strategy (<http://tinyurl.com/khflofq>) was developed as Iowa's response to the 2008 Gulf Hypoxia Plan that called for the states bordering the Mississippi River to reduce the amount of nitrogen and phosphorus reaching the gulf by at least 45 percent. The strategy was prepared by the Iowa Department of Agriculture and Land Stewardship, the Iowa Department of Natural Resources, and Iowa State University College of Agriculture and Life Sciences and released in May 2013.

The Strategy is not limited to agriculture but includes elements to deal with both point and nonpoint sources of pollution. In Iowa the point sources of nitrogen and phosphorus include 102 major municipal wastewater treatment plants and 28 industrial facilities. These facilities are required to obtain a discharge permit before they can release polluted water into Iowa's waters.

“For the first time, discharge permits issued to these 130 facilities will require implementation of technically and economically feasible process changes for nutrient removal. These changes are designed to achieve targeted reductions of at least two-thirds in the amount of nitrogen and a three-fourths reduction in the amount of phosphorus from levels currently discharged by these facilities.

“If successful, this strategy will reduce by at least 11,000 tons per year the amount of nitrogen and 2,170 tons per year the amount of phosphorus discharged annually by municipal facilities alone. These figures represent a 4 percent reduction in nitrogen and a 16 percent reduction in phosphorus in the estimated statewide amounts of nitrogen and phosphorus discharged to Iowa waters from both point and nonpoint sources.”

Doing the math, that means if the goal is a 45 per-

cent reduction, then agriculture, as the major nonpoint source, has to bear the lion's share of the nitrogen and phosphorus reduction goals—41 percent for nitrogen and 29 percent for phosphorus, respectively.

Why does agriculture end up bearing responsibility for such a large share of the nitrogen and phosphorus goals? To paraphrase a statement attributed to bank robber Willie Sutton, “because that is where the nitrogen and phosphorus are.” Depending on municipal systems alone, the state could not reach the 45 percent reduction goal for both nitrogen and phosphorus. Agriculture has to be a part of the solution.

Similarly, agriculture will not be able to meet its portion of the goal if very many farmers—or those whose farm release large amounts of nitrogen and phosphorus—decide to continue doing business as usual, the remaining farmers will not be able to meet the targets.

The report says, “possible nutrient reduction practices identified fall into three categories—nitrogen and phosphorus management, erosion control and land use, and edge-of-field. Management practices involve such things as application rate, timing, and method, plus the use of cover crops, and living mulches.

“Land use practices include such things as perennial energy crops, extended rotations, tillage methods, grazed pastures, land retirement and terraces. Edge-of-field practices involve drainage water management, wetlands, bioreactors, buffers and sediment control.”

The Iowa Water Management Association was developed by the three agricultural groups as an alternative to regulation by state and national agencies. The chair of this group is Kirk Leeds, CEO of the Iowa Soybean Association.

In a DTN column, “Ag Groups Form Alliance to Champion State Nutrient Strategy,” Chris Clayton writes, “Leeds acknowledged more effort is needed to educate farmers. Despite conservation practices now in place, current farming practices won't effectively reduce nutrient loads by the volumes needed.... Leeds added that farmers also need to be aware that consumers and the public are watching and want to see results.”

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