

Iowa Nutrient Reduction Strategy



Frequently Asked Questions

The Iowa Nutrient Reduction Strategy is focused on reducing nitrogen and phosphorus in Iowa waters. Farmers, landowners, municipalities, agencies, conservation organizations and everyday Iowans are collaborating to make changes to help meet nutrient reduction goals. Below are some frequently asked questions and answers regarding the Iowa Nutrient Reduction Strategy.



Q: My farm is covered with waterways, terraces, and buffer strips. So I am doing everything I can for the Iowa Nutrient Reduction Strategy, right?

A: It's a good start. Those practices focus on reducing soil erosion, which reduces phosphorus loss, but have little to no impact on nitrate loss. It will require a combination of in-field, edge-of-field, and land use changes to accomplish the strategy goals. While every conservation practice will not work on every acre, conservation practices that best fit the soil, cropping system and location on the landscape can be implemented on every acre.

To learn more about practices that can help reduce nutrient loss on your farm, download the Whole Farm Conservation Best Practices Manual available from Iowa Learning Farms, <https://store.extension.iastate.edu/Product/15823>, and visit your county NRCS office for additional technical support.



Q: Isn't what's good for soil health also good for water quality?

A: Water quality cannot be addressed with soil health practices alone. No-till and strip-till improve soil health and reduce soil erosion, keeping sediment and the attached phosphorus in the field. However, nitrogen is highly water soluble in the common nitrate form, allowing it to easily move through soils. Unless that nitrate is used by a growing plant or routed to an edge-of-field practice like a bioreactor, saturated buffer or wetland, it is carried to nearby water bodies via shallow groundwater and subsurface tile drainage.



Q: Isn't it the weather that drives nutrient loss, making it out of our control?

A: Not entirely. Increasing intensity of rainfall, especially in the spring and fall, is a contributing factor to nutrient loss. However, changes in cropping systems can better protect the soil and nutrients during those events. The corn and soybean rotation dominating the landscape has resulted in a very leaky system. There is a mismatch in timing between soil nitrate production from organic matter and when crops utilize nitrate. With the addition of a cover crop, excess nitrate in the soil can be taken up and held, reducing its vulnerability to loss. Diversifying land use to include more small grains, alfalfa, pasture, energy crops and perennial vegetation can also reduce the loss of nutrients.



Q: How can Iowa feed the world and take land out of production?

A: The greatest benefits from land use change are typically found on small marginal areas that are prone to flooding, have low soil organic matter or are difficult to access with current machinery. They often appear on yield monitors year after year as significantly lower than the areas around them. Input costs can be reduced and profitability increased by converting these underperforming areas from corn or soybean production to perennial vegetation, pasture or energy crops. Additional benefits, like creating pollinator habitat, help improve long term food production in Iowa.



Q: Isn't taking land out of production to implement conservation the landowner's decision and out of the tenant's control?

A: Yes to the first part and no to the second. Through the lease agreement, the landowner has the ability to determine how that land is managed. However, by talking with the landowner about the potential to adopt conservation practices, even those that may take land out of production, tenants may find willingness to help implement those practices either financially or through longer leasing terms. For help starting the conversation, visit: www.iowalearningfarms.org/talking-your-tenant



Q: Aren't cities the major source of nutrient pollution?

A: No. Point sources, like municipal wastewater treatment plants and industrial facilities, contribute 8% and 20% of Iowa's total nitrogen and phosphorus losses, respectively. These point sources are working to stop the nutrients at the source through permit policies that require updated technology and processes within the facilities. The remainder of the nutrient losses are attributed to agricultural land – fields and pastures which cover the majority of Iowa's landscape.



Q: With all the fertilizer that people in cities and golf courses apply, why should farmers change their practices when city people apply at much higher rates?

A: In Iowa, residential lawns and golf courses account for about 2% of the nitrogen and phosphorus applied, with the remainder applied for corn and soybean production. Applied at turf grass recommended rates of 87-120 lb/ac throughout the year, these nutrients are also used on a much smaller land area. Proper application timing and rates are important in both urban and agricultural landscapes to minimize nutrient losses.



Q: Is it true that Des Moines Water Works just dumps nitrate back into the river?

A: For more than 25 years, the Iowa DNR issued a permit to Des Moines Water Works to discharge waste from its Nitrate Removal Facility back into the Raccoon River. In 2017, working collaboratively with the Iowa DNR and the Metropolitan Wastewater Reclamation Authority, Des Moines Water Works made a \$2.5 million investment to plan and build a facility to receive the waste for controlled biological treatment. The facility produces biosolids for application on agricultural land in Polk and Jasper counties, both of which are within the Des Moines River Watershed. Operating the Nitrate Removal Facility costs about \$10,000 per day, with nearly \$3,000 associated with treating the waste to improve water quality for everyone downstream.

It's the only water the earth has. It's everyone's job to keep it clean.



This publication was produced by the Conservation Learning Group and is based upon the Iowa Nutrient Reduction Strategy, Solution to Pollution: It Starts on the Farm, Iowa Policy Project, September 2010, and Lawn Fertilization, ISU PM 1057, January, 2014.