

# The Slow Reality of the Nutrient Reduction Strategy



## Iowa's Inadequate Solution to Nutrient Pollution

Iowa has been taking the long view – the very long view – when it comes to addressing nutrient pollution in our state's waters.

Iowa and neighboring states in the Mississippi River basin have known since the 1970s that nutrient pollution (excess nitrogen and phosphorus) from Midwest farm fields causes a hypoxic “Dead Zone” in the Gulf of Mexico.<sup>1</sup>

The Dead Zone—an area of water that covers thousands of square miles in the Gulf of Mexico not viable for sea life due to decaying algae blooms that use up available oxygen—continues to cause significant ecological and economic damage to Gulf coast states. The path toward addressing this problem has been long and winding.

In 1997, the U.S. Environmental Protection Agency organized states along the Mississippi River into the Gulf Hypoxia Task Force (GHTF). The GHTF developed an action plan in 2001, conducted a re-assessment in 2006, and published an updated action plan in 2008. The 2008 action plan called for a 45 percent reduction of the Dead Zone by 2035 and asked states to develop their own nutrient reduction strategies. From this effort, the Iowa Nutrient Reduction Strategy (NRS) was born.



## Iowa's Nutrient Reduction Strategy

Iowa adopted its NRS in 2013 to reduce nitrogen and phosphorus loading in Iowa's waterways. The strategy calls for mandatory, regulated pollution discharge limits on point sources, such as wastewater treatment plants, factories, and public water systems. For nonpoint sources of nutrient pollution—primarily agricultural operations—the plan outlines an entirely voluntary suite of practices that can be implemented to reduce nutrient pollution.

According to the 2017-2018 NRS Annual Progress Report, \$512 million was spent in Iowa on “NRS-related efforts” including Conservation Reserve Program rent payments.<sup>2</sup> Of that total, less than \$17 million was spent on NRS-focused programs.<sup>3</sup> In 2018, the Iowa legislature passed SF 512, which allocates \$282 million to water quality initiative (WQI) projects over the next 12 years. Even if this funding is added to the current NRS-focused program funding, it is still a small amount compared to the scale of the nutrient pollution problem.

The NRS estimates the annual costs of implementing the strategy to be between \$77 million and \$1.2 billion per year.<sup>4</sup> Additionally, the process by which WQI projects are chosen lacks a targeted approach to guarantee taxpayers get the most nutrient reduction for their buck.

Not only is state spending on nutrient reduction efforts below what the NRS estimates is necessary to achieve results, it is also unclear whether the projects the state decides to fund are the most efficient use of resources.

### It's Not Just Pollution, It's Health

Reducing nutrient pollution isn't just about protecting the Gulf of Mexico—it also protects Iowans' health and quality of life. Harmful algae blooms (HABs) that produce cyanotoxins have been on the rise in Iowa lakes.<sup>5</sup> Cyanotoxins can cause severe illness to people and pets, and HABs can cause fish kills, prevent boating and other activities, and cause odors that keep visitors away.

The presence of nitrate in drinking water, found at elevated levels in drinking water sources across Iowa, has also been linked to severe negative health outcomes such as blue baby syndrome and an increased risk for bladder, ovarian, and thyroid cancers.<sup>6</sup>

Addressing nutrient pollution has the potential to improve the lives of millions in Iowa, in the U.S., and around the world.

### Inadequacy of Reporting

The Iowa Department of Agriculture and Land Stewardship (IDALS), the Iowa Department of Natural Resources (IDNR), and Iowa State University College of Agriculture and Life Sciences jointly publish an annual progress report on the NRS. While Iowa's coalition reports more frequently than most other states, the reports provide little water quality data from state-funded WQI projects and the implementation data they do contain lack context and clarity. Therefore, it is difficult to determine the state of Iowa's actual progress toward nutrient pollution reduction from these reports.

- Water quality data collected as part of NRS work is largely unavailable to the public.<sup>7</sup> The progress reports primarily measure success based on implementation rates of the suggested voluntary practices. That data does not translate into actual reduction of nutrients in Iowa's waters.
- The progress reports do not contain data or figures showing the amount of nutrient reduction in a format that could be easily interpreted by the average reader.

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Because the NRS is the state's solution to nutrient pollution, and is partially funded by Iowa taxpayers, data and clarity in reporting actual nutrient reduction should be a key feature of the progress reports. The reporting should also represent progress in relation to the scale of the problem (e.g. reporting practices as a percentage of total acres in Iowa instead of acres of practices added).

### Little to Show

Despite the science-based practices outlined in the strategy and the insistence by the state that the NRS is working, Iowans have little to show in terms of significant water quality improvements.

- Even using implementation rates as measures of success, the NRS falls short. Since 2013, less than one million acres have been treated by the three practices outlined in scenario one—just three percent of the 26.3 million acres of cropland in Iowa.
- A recent study from the University of Iowa revealed that Iowa's nitrogen load to the Gulf of Mexico has increased by nearly 50% since 2003.<sup>8</sup> The adoption of the NRS in 2013 appears to have had no impact on that trend.

### Voluntary and Optional

NRS proponents have frequently described the non-point source portion of the Strategy as “voluntary, but not optional”.<sup>9</sup> However, it appears from the overall implementation rates that nonpoint source operators have taken “voluntary” to mean that they have the option not to participate.

Because the NRS does not include enforcement provisions or other consequences for a nonpoint source's failure to participate, participation for a landowner is in fact voluntary **and** optional.

IEC's analysis of adoption rates of Nutrient Reduction Strategy practices from 2013-2017 reveals that adoption and implementation of practices are slowing. Since 2013:



- The increase in the rate of implementation of cover crops has slowed drastically. At the current rate of implementation, it will be 2110 by the time the state reaches the NRS Scenario 1 goal of 12.6 million acres of cover crops.
- The rate of acres treated by wetlands was increasing prior to 2013, but dropped significantly and has slowed each year since NRS adoption. At the current rate of implementation, it will take 913 years to reach the NRS Scenario 1 goal for acres treated by wetlands.
- Bioreactor construction has remained flat since 2011. At the current rate of implementation, it will take more than 30,000 years to treat the number of acres set out as the Scenario 1 goal by the NRS.

One explanation for slowing implementation rates is that early-adopters or those with an interest in conservation have already taken initial steps, and more farmers are unlikely to sign up without additional significant incentives or mandatory requirements.

No matter the cause, the health of Iowa waterways, the health of Iowans, and the future health of the Gulf require the state to ensure it delivers on its commitment to reducing nutrient pollution. The data show that the current strategy is not delivering on this commitment at the necessary scale.

### Mandatory Participation in a Flexible Framework

The Iowa Environmental Council agrees that the nonpoint regulatory scheme must be flexible and properly tailored, but not optional. Every agricultural operation is different, and landowners should be able to choose from the suite of practices listed in the NRS which options would best suit their land and business.

**However, implementing nutrient reduction practices cannot be optional.**





Requiring basic standards of care to reduce nutrient pollution would level the playing field among agricultural producers. Basic standards of care encompass a suite of practices, such as grassed waterways, saturated buffers on tilled land, no-till, and cover crops. Currently, landowners who wish to do the right thing and properly manage their nitrogen and phosphorus are at a competitive disadvantage to those that prioritize production over conservation and literally send their costs of pollution downstream.<sup>10</sup>

A system of requirements and incentives for all producers would more equally distribute the costs and benefits of pollution control. The system would also address the inequality of downstream users paying to remove nitrates from their drinking water.

The Council understands the financial realities of adopting conservation practices and seeks to work together with interested parties to find solutions that work for individual landowners and tenants that allow them to manage their operations profitably, while also providing solutions to their share of the nutrient pollution equation. Required implementation of conservation practices should be targeted and come with robust incentive programs to assist farmers with meeting such requirements.

IEC calls on policy makers, agribusiness, conservationists, the DNR, IDALS, and the Water Resources Coordinating Council to adopt a new approach to nonpoint participation that allows individuals to select the conservation practice(s) that works best for their land, their goals, and their financial abilities, but requires all landowners participate in the statewide effort to improve Iowa's water quality.

### End Notes

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# PROGRESS TOWARD NUTRIENT REDUCTION STRATEGY GOALS



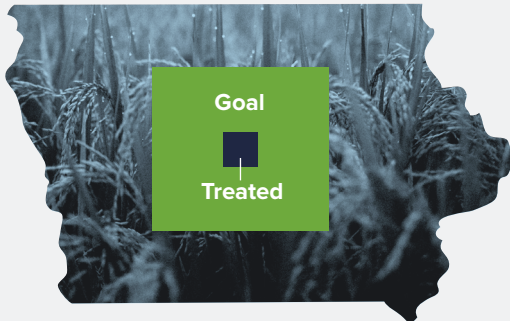
The Iowa Nutrient Reduction Strategy (NRS) is a plan to reduce nutrient pollution in Iowa's water. The plan was adopted by the state in 2013 and provides a framework for reducing pollution using a variety of scenarios to meet reduction goals.

The framework includes point sources (e.g. industries, wastewater treatment plants) and nonpoint sources (e.g. agriculture). **The NRS is completely voluntary for nonpoint sources.** This analysis depicts Scenario 1 as identified in the NRS.

## COVER CROPS

NRS Scenario 1 Goal: **12.6 million acres**  
2017 Achieved: **760,000 acres**

**WE STILL NEED: 11,840,000 ACRES**



At current pace  
it will take

**93 YEARS**

to reach this goal for  
cover crops.

## WETLANDS

NRS Scenario 1 Goal: **7.7 million acres treated**  
2017 Achieved: **104,000 acres treated**

**WE STILL NEED: 7,596,000 ACRES TREATED**



At current pace  
it will take

**913 YEARS**

to reach this goal  
for wetlands.

## BIOREACTORS

NRS Scenario 1 Goal: **6 million acres treated**  
2017 Achieved: **1,250 acres treated**

**WE STILL NEED: 5,998,750 ACRES TREATED**



At current pace  
it will take

**31,103 YEARS**

to reach this goal  
for bioreactors.

# NUTRIENT REDUCTION STRATEGY PROGRESS: COVER CROPS



## COVER CROPS

Cover crops are crops planted between cash crop seasons to keep a living cover on the landscape.

**NRS Scenario 1 Goal: 12.6 million acres**  
**2017 Achieved: 760,000 acres**  
**WE STILL NEED: 11,840,000 ACRES**

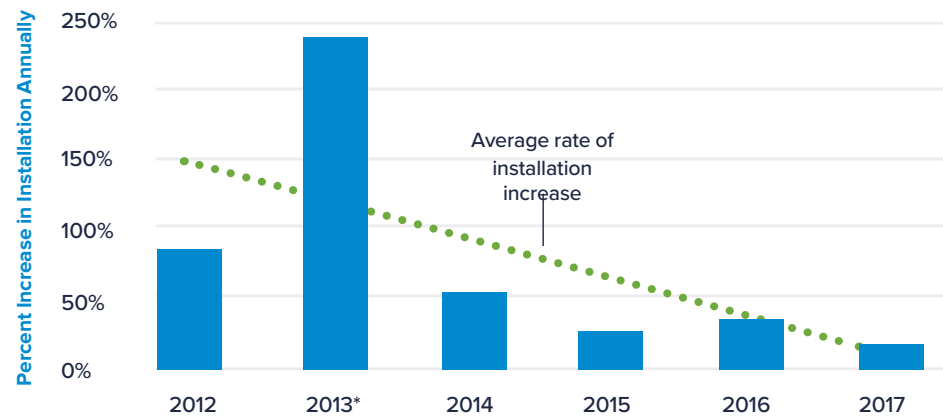


At current pace  
it will take

# 93 YEARS

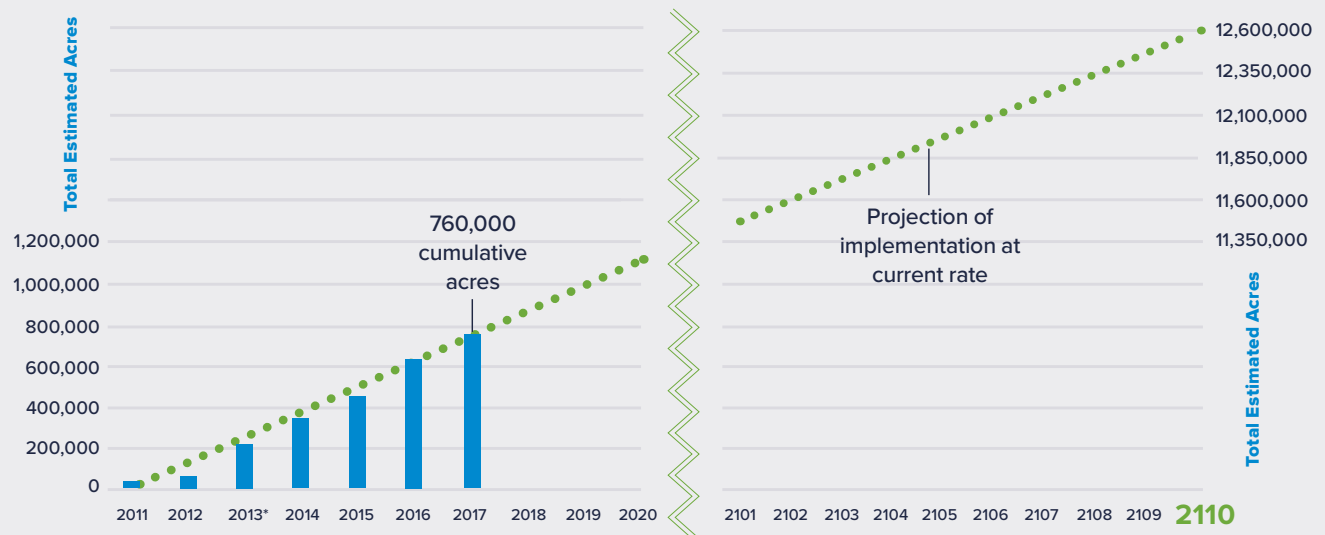
to reach this goal for  
cover crops.

## Cover Crop Installation Rate Increase



*The rate of cover crop installation has decreased since NRS adoption in 2013\*.*

## Projected Timeline to Reach Scenario 1 Cover Crop Goal





# NUTRIENT REDUCTION STRATEGY PROGRESS: WETLANDS



## WETLANDS

Wetlands improve water quality on tile-drained land. The Iowa Conservation Reserve Enhancement Program (CREP) provides landowner incentives to install wetlands.

**NRS Scenario 1 Goal: 7.7 million acres treated**  
**2017 Achieved: 104,000 acres treated**

**WE STILL NEED: 7,596,000 ACRES TREATED**

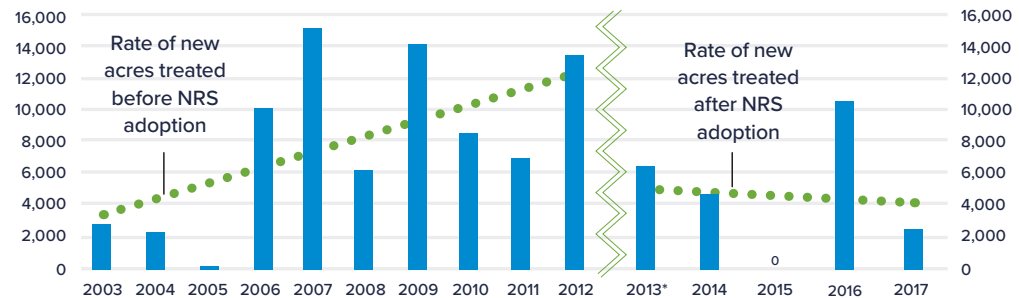


At current pace  
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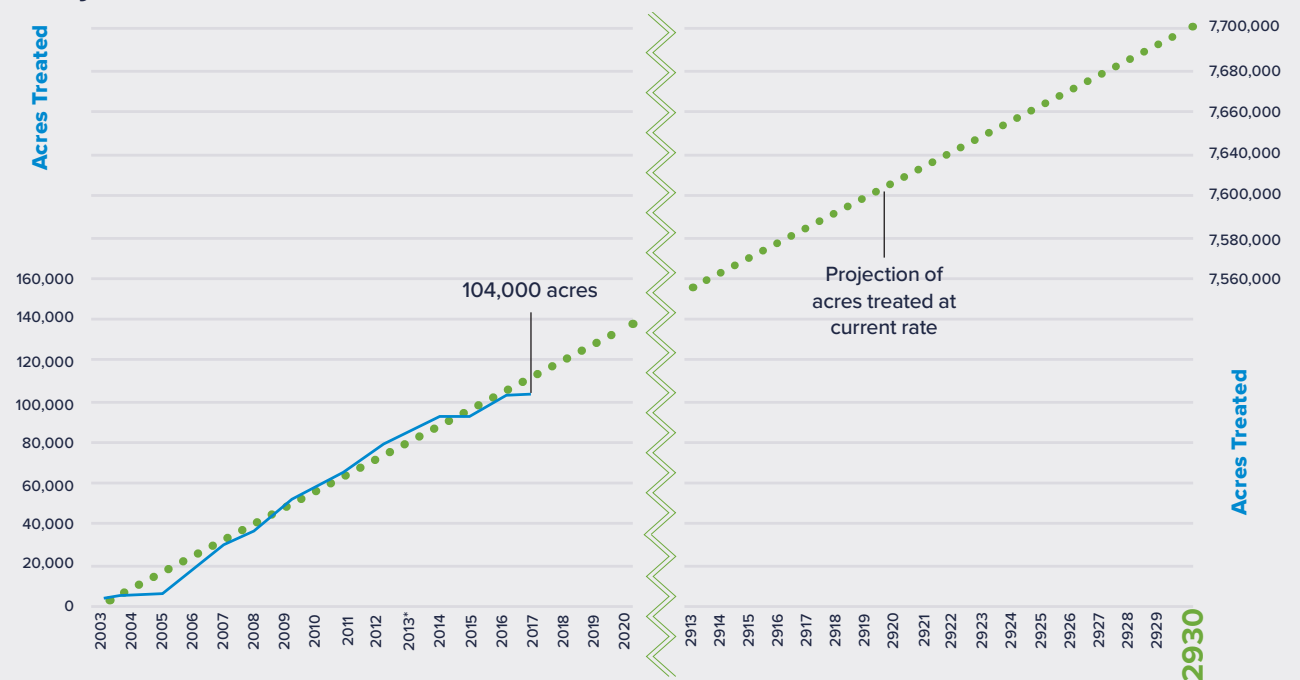
to reach this goal  
for wetlands.

## New Acres Treated by Wetlands



*The rate of new acres treated each year has slowed since the NRS was adopted in 2013\*.*

## Projected Timeline to Reach Scenario 1 Wetlands Goal



# NUTRIENT REDUCTION STRATEGY PROGRESS: BIOREACTORS



## BIOREACTORS

Tile-drained water is redirected to an underground bed of wood chips where nitrate is removed naturally by microorganisms.

**NRS Scenario 1 Goal: 6 million acres treated**  
**2017 Achieved: 1,250 acres treated**

**WE STILL NEED: 5,998,750 ACRES TREATED**



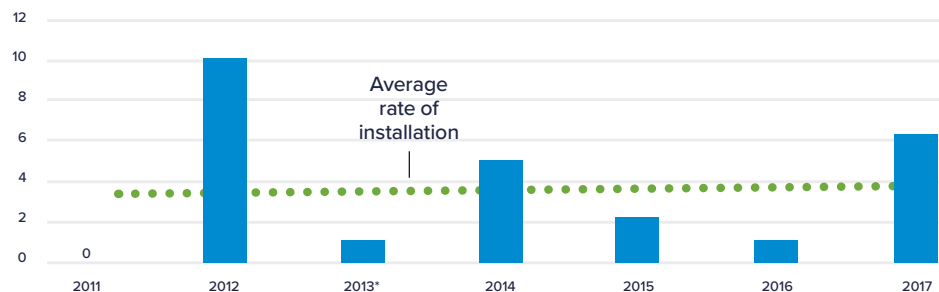
At current pace  
it will take

# 31,103 YEARS

to reach this goal  
for bioreactors.



## New Bioreactors Constructed



*The rate of bioreactor installation is flat.*

## Projected Timeline to Reach Scenario 1 Bioreactor Goal

