Minnesota's Nutrient Reduction Strategy

Developing a progress report

Assessing our efforts and mid-course adjustment needs

Nutrients are important for all living things; however, too many nutrients in the water can produce problems like algae growth, low levels of dissolved oxygen, toxicity to aquatic life, and unhealthy drinking water. Excessive nutrients can diminish water quality both within Minnesota and in downstream waters, including Lake Winnipeg, the Gulf of Mexico, and Lake Superior.

To address this issue, Minnesota finalized a statewide nutrient reduction strategy (NRS) in 2014. The NRS set specific goals for reducing nitrogen and phosphorus, and outlined the associated changes needed in our rural and urban areas to meet those goals. Read the full nutrient reduction strategy at https://www.pca.state.mn.us/water/nutrient-reduction-strategy.

As we approach the halfway point toward our 2025 targets, we are taking a close look at our progress toward our benchmarks. In 2019, several organizations will work together to compile data from a variety of state programs and information sources and evaluate progress on our land, in our cities, and in our waters.

Benchmarks

The 2014 NRS set milestones, or interim goals, so that we can track our progress along the way (see table below). For example, the nitrogen milestone for the Mississippi River is a 20% reduction by 2025, while the target date for reaching the total 45% reduction is 2040.

Timeline for reaching milestones and goals

Major basin	Pollutant	2015 to 2025	2025 to 2040
Mississippi River (Also includes Cedar, Des Moines, and Missouri Rivers)	Phosphorus	12% of baseline loads (33% reduced prior to NRS)	Work on remaining reduction needs to meet in-state lake and river water quality standards
	Nitrogen	20% reduction	Achieve 45% total reduction from baseline
Red River (Lake Winnipeg Basin)	Phosphorus	10% reduction	Achieve final reductions identified through joint efforts with Manitoba (studies show 50% total reductions needed)
	Nitrogen	13% reduction	
Lake Superior	Phosphorus	Maintain protection goals, no net increase	
	Nitrogen		
Statewide groundwater/ source water	Nitrogen	Meet the goals of the 1989 Groundwater Protection Act	

Benchmarks (cont.)

Using meaningful benchmarks provides an opportunity to assess our efforts, identify which strategies are working and which need adjustments, and to adapt to changing circumstances, new research, and evolving best management practices.

Because climate variability, lag times, and other complexities make it challenging to draw short-term conclusions about the effects of our efforts in the water, the 2014 NRS also included benchmarks for Best Management Practice (BMP) adoption. A state-level example scenario for achieving the 2025 milestone targets included the following combination of practice implementation:

- Expanding cropland field erosion control on 4.9 million acres.
- Increasing living cover with cover crops and perennials on over 2.2 million acres.
- Maximizing fertilizer efficiency for corn (especially when following legumes or manure spreading) on 11.9 million acres.
- Constructing drainage water retention and treatment practices affecting 0.6 million cropland acres.
- Improving urban wastewater treatment to annually reduce 52 metric tons of phosphorus and 1933 metric tons of nitrogen delivered to state lines.
- Making progress toward full regulatory compliance for urban stormwater runoff, feedlots and septic systems.

Questions we will answer

The report, expected by the end of 2019, will outline successes as well as shortcomings, and identify issues needing further attention. By making any needed adjustments to our approaches prior to 2025, we will be more likely to meet our milestones and longer-term goals.

Some of the key questions we will address include:

- What are the nitrogen and phosphorus trends in Minnesota waters during recent periods?
- Is Minnesota adequately reducing the amounts of nitrogen and phosphorus entering the Mississippi River to do its fair share to improve the Gulf of Mexico?
- Is Minnesota making sufficient progress to reduce its share of nutrients flowing into the Red River and Lake Winnipeg?
- Is Minnesota keeping the nutrient flows into Lake Superior at low levels?
- What successes and struggles have we encountered with getting the necessary high levels of BMP adoption in urban and rural areas?
- Are there mid-course adjustments needed to achieve our goals?

More information

If you have questions, contact leads from these partner organizations:

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