

NORTH DAKOTA'S

Nutrient Reduction Strategy

What Is Nutrient Pollution?

Nutrient pollution is caused by the overabundance of phosphorus and nitrogen in the aquatic environment. Excessive nitrogen and phosphorus in water can cause health problems in people, fish and animals, and damage our lakes, rivers, reservoirs, streams and wetlands.

Excessive phosphorus and nitrogen may also result in increased costs to treat water for human consumption from surface water supplies.



Why Does North Dakota Need to Address Nutrient Pollution Now?

The enrichment of lakes, reservoirs, rivers and wetlands with excess nutrients is consistently one of the nation's top causes of water resource impairment. Many of North Dakota's waterbodies are also affected by nutrient pollution. More than 24% of the State's lakes, reservoirs, and ponds are listed as impaired. Of those, the majority are impaired due to excessive nutrients. Further, it is estimated that 41% of perennial streams in the state are impaired due to excessive phosphorus and 11% due to excessive nitrogen.



Leading sources of nutrients to North Dakota's lakes, reservoirs, rivers and streams

- Industrial and municipal point sources
- Storm water runoff
- Failing septic systems
- Erosion and runoff from cropland
- Runoff from animal feeding operations
- Hydrologic modification, including wetland drainage and stream channelization

The United States Environmental Agency (EPA) has explicitly outlined that the management of nutrient pollution is best addressed at the state and local level. In EPA's March 16, 2011 memo, "Working Effectively in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions," EPA stated they have begun to work collaboratively with states and stakeholders to help them develop effective statewide strategies for reducing nutrient loadings while they continue developing numeric criteria for these pollutants. This memo calls upon states to identify and prioritize watersheds where nitrogen and phosphorus loadings are significant and to set loading reduction goals based on best available information.

Due to the serious effects of nutrient pollution, many feel that more action should be taken to reduce nutrient loadings into our nation's waterways. In



some states, nutrient pollution issues have resulted in law suits and political unrest. To avoid these problems, North Dakota has already begun developing nutrient criteria and embarking on a new effort to develop a statewide nutrient reduction strategy.

Developing the Strategy

The Nutrient Reduction Strategy will function as a starting point for a multi-year, multi-faceted effort to reduce nutrient pollution in North Dakota's surface waters. The document will also provide clear and meaningful guidance for the development of nutrient criteria within North Dakota. Furthermore, the strategy will be flexible in nature and allow for revisions and updating as needed.

Ultimately, our goal will be to find a cost-effective approach to reduce the delivery of nutrients via point source effluents and nonpoint source runoff. As the State moves closer to solidifying the Nutrient Reduction Strategy, we anticipate that agency officials, working closely with stakeholders, will develop a strategy for to address nutrient pollution which is technically and scientifically defensible, can be reasonably implemented within state and local laws, and includes measures to safeguard public health and reduce economic impacts.

The development of nutrient criteria by the State of North Dakota is driven by four fundamental considerations:

1. Protective of the State's water resources and their designated beneficial uses
2. Tailored to the unique physiographic characteristics, climate and water resources of this northern plains (prairie) state
3. Technically and scientifically defensible
4. Based on conceptual ecosystem models that reflect cause and effect relationships for resource impairment and the loss of beneficial uses

As the primary water quality agency in the state, the NDDH has taken the lead in this effort, but recognizes it is up to all of us to develop and, more importantly, implement the state's strategy. To develop the strategy the NDDH will convene a diversified group of stakeholders that will be responsible for drafting the core elements of the strategy. Once these elements of the strategy are developed, a larger stakeholder group will be brought together in a series of facilitated workshops to provide additional input and direction to the strategy. Keeping stakeholders and state partners involved in the process of continually updating the nutrient reduction strategy for the State will be essential to the success of the project.

Achieving Water Quality Goals

The development of North Dakota's Nutrient Reduction Strategy will help the state target and prioritize watersheds and best management practices (BMPs) to achieve cost effective water quality improvements. By using the best available technology and expertise of various stakeholders, the State will implement water quality monitoring programs that will track our progress towards our nutrient reduction goals. Nutrient issues did not become a problem overnight and they will not disappear quickly. It will take everyone working together to restore North Dakota's waters and protect our water resources for future generations.



Willow Lake located in Divide County



The Western Meadowlark, North Dakota's state bird

For More Information

- North Dakota Department of Health, Water Quality: www.ndhealth.gov/wq
- State of North Dakota Nutrient Criteria Development Plan: www.ndhealth.gov/WQ/SW/Z7_Publications/NorthDakota_Nutrient_Strategy-Final_20070518.pdf
- State of North Dakota's Nutrient Criteria Lentic Systems Plan: www.ndhealth.gov/WQ/SW/Z7_Publications/ND_Lentic_System_Plan_11-2008.pdf
- Development of Nutrient Criteria for Lake and Reservoirs for North Dakota and Plain States in Region 8: www.ndhealth.gov/WQ/SW/Z6_WQ_Standards/Nutrient_Management/Final_Report_CompilationofMemos.pdf
- U.S. EPA's approach to State Nutrient Strategies see the March, 2011 memo from EPA's Deputy Assistant Administrator for Water, Nancy Stoner: http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/memo_nitrogen_framework.pdf
- U.S. EPA, Nutrient Pollution: www.epa.gov/nutrientpollution/