FAQs: NUTRIENT POLLUTION/NONPOINT SOURCES

INTRODUCTION This factsheet provides basic information for nonpoint sources regarding nutrient pollution, Wyoming's efforts to address nutrient pollution, and what these efforts mean for nonpoint sources in Wyoming.

WHAT IS NUTRIENT POLLUTION? Nutrient pollution is an overabundance of nitrogen and phosphorus in Wyoming's surface waters that can lead to excessive plant growth, harmful cyanobacterial blooms (HCBs), fish kills, and overall degradation of water quality. Nutrient pollution can therefore impact public and private entities dependent on surface waters for drinking water, tourism, recreation, and agriculture.

WHAT IS NONPOINT SOURCE POLLUTION? Nonpoint source pollution refers to pollution from a broad range of sources that do not require a discharge permit. Nonpoint source pollution often comes from large, diffuse areas and typically occurs when surface water runoff (from rainfall and snowmelt, as well as irrigation) travels over or percolates through the ground and picks up contaminants caused by human activities. These contaminants are deposited into streams, lakes, rivers, and ground water. Nonpoint source pollution can also be caused when stream and river channels become unstable, resulting in erosion and sedimentation. Nonpoint sources of pollution cause the majority of Wyoming's—and the nation's—surface water quality impairments.

WHAT ARE THE PRIMARY CAUSES OF NUTRIENT POLLUTION? The primary nonpoint sources of nutrients are excess fertilizer from agricultural lands, residential areas, golf courses, and municipal parks; animal waste from pets and livestock; wastewater from septic systems; and stormwater. The primary point sources of nutrients are wastewater from treatment plants and industry; larger municipal stormwater systems; and emissions from fuel-burning power plants.

WHAT IS THE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) DOING TO ADDRESS NUTRIENT POLLUTION? DEQ and the Wyoming Nutrient Work Group developed the Wyoming Nutrient Strategy to address nutrient pollution in Wyoming. The strategy identifies priorities for:

- developing nutrient criteria;
- reducing nutrients from point and nonpoint sources in priority watersheds; and
- increasing public awareness about nutrient pollution, including development of a plan to respond to HCBs.

HOW WILL DEQ REDUCE NUTRIENT POLLUTION FROM NONPOINT SOURCES? In Wyoming, nonpoint sources of pollution are addressed through voluntary and incentive-based methods. DEQ will work with local conservation districts and other stakeholders in a watershed to develop a watershed plan that identifies the causes of nonpoint source pollution, potential management measures that can be implemented to mitigate those sources, education and outreach activities, and a water quality monitoring plan. The DEQ will then work with stakeholders to find technical and financial resources to implement proposed action items in the plan.

WHAT KINDS OF MANAGEMENT MEASURES CAN REDUCE NUTRIENT POLLUTION FROM NONPOINT SOURCES?

No two watersheds are the same; therefore, nonpoint sources of pollution and the management measures needed to address them will vary. However, common management measures include agricultural conservation practices (e.g., nutrient management, irrigation water management, cover crops, field buffers, conservation tillage, and livestock/grazing management); municipal stormwater best management practices (e.g., wetlands, residential fertilizer education programs, pet waste programs); and replacing failed septic systems. Cost-share programs are offered where possible to help landowners with implementation of management measures. Grants and low-interest loan programs are available to assist municipalities with project implementation.

WHAT ARE SOME POTENTIAL SOURCES OF FINANCIAL ASSISTANCE FOR NONPOINT SOURCE POLLUTION REDUCTION?

There are a number of sources of financial assistance for nonpoint source pollution reduction in Wyoming. The major funding sources include, but are not limited to:

- Clean Water Act Section 319 and 205(j) grants through DEQ
- Farm Bill funding for conservation practices through NRCS
- Water quality grants through the Wyoming Department of Agriculture
- Small Water Project funding through Wyoming Water Development
- Conservation funding through Wyoming Wildlife Natural Resource Trust
- Low-interest loans through Clean Water State Revolving fund
- Water and Waste Disposal Loan and Grant Program through the United States Department of Agriculture

WHAT PARTNERS ARE TYPICALLY INVOLVED IN NONPOINT SOURCE POLLUTION REDUCTION PROJECTS?

Partnerships and local leadership are key for successful nonpoint source pollution reduction projects. Landowner participation is important in both the watershed planning and implementation phases. Wyoming's conservation districts typically take the lead in developing and implementing a watershed plan. State agencies for water resources (e.g., DEQ, State Engineers Office, Wyoming Water Development Office, Wyoming Game and Fish Department, Wyoming Department of Agriculture) are important participants, as are federal land management agencies in the watershed (e.g., USFS and BLM). Tribes, non-profit organizations (e.g., Trout Unlimited, The Nature Conservancy), and other special districts (e.g., irrigation districts) are also important participants.

HOW CAN POINT SOURCES AND NONPOINT WORK TOGETHER TO ADDRESS NUTRIENT POLLUTION? Point sources are facilities whose discharge to surface water is regulated under a Wyoming Pollutant Discharge Elimination System (WYPDES) permit (e.g., wastewater treatment plants). Both point sources and nonpoint sources can contribute to nutrient pollution in a watershed, so it is important to evaluate contributions from both to determine where mitigation efforts will be most effective. The DEQ encourages point sources to participate in and support nonpoint source watershed planning and implementation efforts since in some watersheds, nonpoint source nutrient reductions efforts may be more cost-effective than conventional infrastructure upgrades to point sources. For example, a public utility may implement stormwater improvement projects or sponsor implementation of conservation practices on nearby agricultural fields.

WHERE IS DEQ WORKING TO PROACTIVELY REDUCE NUTRIENTS? DEQ and the Wyoming Nutrient Work Group developed a prioritization system to identify waters for nutrient reduction, with the highest priority given to those waters where nutrient pollution poses the greatest risk to public health. Boysen Reservoir was selected due to its importance for recreation and drinking water and the potential health risks posed by recurring cyanobacterial blooms in the reservoir.

WHAT IS DEQ DOING TO PROACTIVELY REDUCE NUTRIENTS IN BOYSEN RESERVOIR? DEQ is working with stakeholders, including both point and nonpoint sources of nutrient pollution, in the Boysen Reservoir watershed to begin a multi-year planning effort (e.g., Boysen Initiative) that will yield:

- a sampling and analysis plan to identify sources and loads of nutrients in the watershed;
- an approach for identifying concentrations and reductions of nitrogen and phosphorus for Boysen Reservoir that will prevent unsafe densities of cyanobacteria for recreation and drinking water;
- a watershed plan for addressing nonpoint sources of nutrients in the watershed; and
- discharger specific plans for point sources in the watershed.

WHAT WILL NONPOINT SOURCES IN THE BOYSEN WATERSHED BE ASKED TO DO AS PART OF THE INITIATIVE? Participate in voluntary planning, monitoring, and implementation efforts! Because it is anticipated that nonpoint sources are a significant source of nutrient pollution to Boysen Reservoir, the DEQ encourages participation by all stakeholders in the upstream watersheds. Agricultural producers in particular are encouraged to learn about cost-share opportunities for conservation practices that can benefit their operation while also improving water quality. Nonpoint source pollution reduction in the watershed will be a long-term effort; working proactively now will help protect Boysen Reservoir for all Wyoming citizens.

WHO DO I CONTACT WITH QUESTIONS?
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