

September 8, 2017

To: Minnesota Legislative Water Commission
From: Rebecca Flood, Assistant Commissioner, Minnesota Pollution Control Agency
Re: Follow-up to questions at the Aug. 15 presentation on wastewater treatment in Minnesota

Thank you for the opportunity to present on August 15th regarding wastewater treatment and our work to develop effluent limits and permits to protect Minnesota's water resources. We appreciate that the Legislative Water Commission is focusing on issues that affect our municipal wastewater treatment plants throughout the state. The following information is provided as a supplement to our testimony, in response to 2 specific questions during the hearing. If you should have any further questions, please let me know.

Question 1. What are the reductions in all sources of phosphorus to the Minnesota River?

Nutrient reductions are needed in order to ensure healthy waterways that do not have excessive algae. The major sources of phosphorus vary depending on weather and water conditions. During periods of high precipitation and run-off, nonpoint sources such as erosion and agriculture contribute the most phosphorus to the system.

During times of less precipitation, when rivers and streams are at low flow, point sources such as wastewater treatment facilities contribute the most phosphorus to the system. Low flow is also when we tend to see nuisance algae conditions. The MPCA's permitting program is designed to reduce these contributions, and, as an example, wastewater treatment facilities have made tremendous progress reducing the amount of phosphorus they discharge to the Minnesota River and its tributaries. A total of 274 municipal and industrial facilities remove pollutants from sewage and discharge treated wastewater to a stream or river in the basin. The wastewater contains phosphorus, a nutrient that helps algae grow. From 2000 to 2016, wastewater facilities discharging to the Minnesota River basin have reduced their phosphorus loads from about 652,000 to 228,000 pounds, a decrease of 424,000 pounds or 65%.

Despite this progress, more needs to be done for a healthier Minnesota River, and reductions need to occur across all conditions. The entire river, from its headwaters at Big Stone Lake to its confluence with the Mississippi River in the Twin Cities, does not fully support the water quality standard for aquatic life. Nutrient levels are too high throughout the river. They are higher here than the rest of Minnesota.

Substantial reductions are needed from non-point sources. The primary sources of phosphorus in the Minnesota River are from livestock operations and farming activities. Erosion control is also part of the solution because certain forms of phosphorus attach to sediment, meaning sediment is carrying phosphorus into the water where the nutrient can fuel algal blooms.

Question 2. During heavy rains, communities can dump raw sewage into the river? Do you have a list of releases, where they occur and how often?

Because stormwater can flow into sewer manholes, or high groundwater can seep into cracked sewage pipes (called inflow and infiltration), some facilities are overwhelmed during heavy rains. To prevent sewage backups into homes and businesses, wastewater treatment plants will release wastewater that has not been treated. These releases are a violation of their NPDES/SDS permits. Under permit conditions, they must report the releases, work to stop them, recover as much as possible, monitor for pollutants, and report the results of monitoring. Please see the attached excel spreadsheet of releases.