

Local Governments and Nutrient Pollution: What do the Clean Water Act and Safe Drinking Water Act Require?

This fact sheet was prepared by the National Sea Grant Law Center as part of the Agricultural and Food Law Consortium.



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Local governments have to comply with the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA) when they provide drinking water and discharge wastewater and stormwater. Thus, local governments have to meet the effluent limits in their CWA permits and follow certain procedures for regulated contaminants under the SDWA. This fact sheet provides a quick overview of those requirements in regards to nutrient pollution.

Clean Water Act	Safe Drinking Water Act
<p>Main federal law to restore and maintain the chemical, physical, and biological integrity of U.S. waters.</p> <p>Permits are required to discharge a pollutant from a point source into a navigable water (also known as a “water of the United States”).</p> <p>Local governments often need to obtain permits for wastewater and stormwater discharges. Permits issued by Environmental Protection Agency (EPA) or state agency with delegated authority.</p>	<p>Main federal law that ensures the quality of Americans’ drinking water.</p> <p>Local governments operating Public Water Systems (PWS) must comply with the requirements of the Act. PWS are systems with at least 15 service connections or serve at least 25 people for at least 60 days a year.</p> <p>EPA sets standards for the monitoring and treatment of water for regulated contaminants.</p>
Regulatory Overview	Regulatory Overview
<p>Wastewater:</p> <p>Since wastewater can be a significant source of nutrients, permit limits and wastewater treatment requirements can substantially reduce the amount of nutrient pollution from wastewater treatment facilities.</p> <ul style="list-style-type: none"> • 34% of the U.S.’s major individual wastewater treatment facilities have numeric nitrogen (N) and/or phosphorus (P) limits. • 63% have N and/or P monitoring requirements. <p>Stormwater:</p> <p>The CWA requires jurisdictions with large populations to obtain NPDES MS4 (municipal separate storm sewer system) permits for their stormwater discharges.</p> <ul style="list-style-type: none"> • The MS4 permit will limit the amount of certain pollutants that can be discharged, including nutrients. 	<p>Under the SDWA, the EPA adopts regulations for contaminants in drinking water that can adversely affect health and that are known or could occur in public water supplies.</p> <p>The actionable level for regulated contaminants is known as the Maximum Contaminant Level (MCL).</p> <ul style="list-style-type: none"> • The SDWA also directs the EPA to adopt Maximum Contaminant Level Goals (MCLG). • The MCLG is not actionable – it is aspirational. • Thus, the MCL can be higher than the MCLG, as it may not be feasible to meet the MCLG. <p>For each contaminant, the PWS will have to monitor drinking water to ensure that the MCL is not exceeded and take certain steps if and when that occurs.</p>
Issues with Nutrients	Issues with Nutrients
<p>With wastewater, conventional secondary biological treatment processes (which use biological treatment processes) may not substantially remove N and P.</p> <ul style="list-style-type: none"> • Advanced treatment technologies may have to be used. EPA is planning to study this issue. <p>With stormwater, local governments can be on the hook for the nutrients collected in runoff and discharged as stormwater.</p> <ul style="list-style-type: none"> • For instance, they may have to install BMPs along roads to help stop the flow of nutrients to ensure they stay within permit limits. 	<p>N is a regulated contaminant under the SDWA. P is not.</p> <p>Nitrate Actionable Levels:</p> <ul style="list-style-type: none"> • MCLG/MCL for nitrate - 10 mg/l • MCLG/MCL for total nitrate and nitrite - 10 mg/l <p>Unlike lead, nitrates and nitrites cannot be removed from drinking water with filters. Rather, processes like ion exchange or reverse osmosis have to be used.</p>

Case Study on the intersection between the CWA and SDWA: Des Moines Water Works

Des Moines Water Works (DMWW) used the nitrogen provisions of the SDWA as its reason to bring a citizen enforcement action against three Iowa counties for the discharge of nitrate pollution into the Raccoon River. DMWW is a regional water utility who obtains its raw water source from the Raccoon River, and under the SDWA, it is obligated to meet the nitrate MCL.

What was the issue?

DMWW claims a major source of nitrate pollution in the Raccoon River is the subsurface drainage system infrastructure operated by the county drainage districts. Because the system transports nitrate pollution to open ditches and streams which then conveys pollution to the Raccoon River, the DMWW alleges the drainage districts are point sources under the CWA, and thus, require NPDES permits to discharge pollutants into the River. The drainage districts argued the runoff was exempt from the CWA.

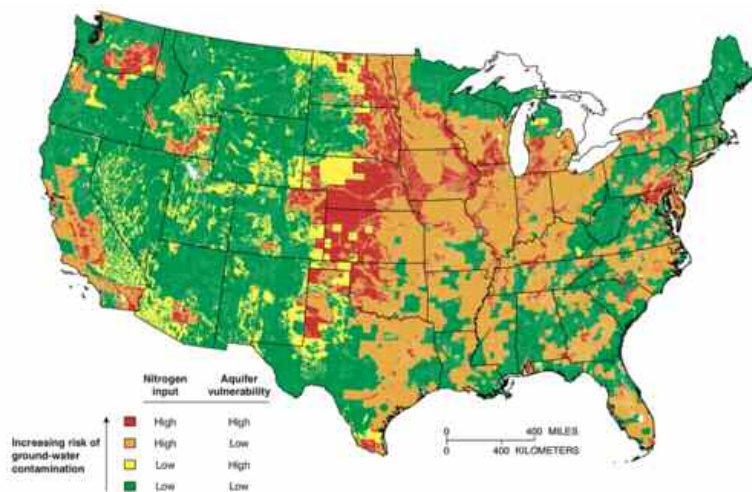
Why does the DMWW care?

DMWW claimed nitrate continues to threaten its water supply and its ability to deliver safe drinking water despite its implementation of control strategies and the construction of a \$4.5 million nitrate removal facility with an approximate daily cost between \$4,000 to \$7,000. In the future, DMWW claims it expects to expend between \$76 million to \$183 million to increase its nitrate removal ability and capacity.

How was the case decided?

Ultimately, the case was dismissed based on the Iowa Supreme Court's determination that the drainage districts were immune from liability. Thus, the court never reached the merits of DMWW's claims. However, the case is an indicator of how the costs for utilities to meet the SDWA's nitrogen limits may be a continuing driver of new ways to think about regulating agricultural runoff.

Areas at risk of nitrate contamination to shallow ground water



<https://pubs.usgs.gov/circ/circ1225/pdf/nutrients.pdf>

For more information:

EPA Municipal Wastewater Website: <https://www.epa.gov/npdes/municipal-wastewater>

EPA Municipal Stormwater Website: <https://www.epa.gov/npdes/stormwater-discharges-municipal-sources>

EPA SDWA Website: <https://www.epa.gov/sdwa>

CRS Report on SDWA: <https://fas.org/sgp/crs/misc/RL31243.pdf>

Nitrates in Drinking Water:

Drinking or swimming in nutrient polluted water can cause rashes, stomach illness, respiratory problems, and neurological impacts. Most importantly, infants can become seriously ill or die from drinking water with high levels of nitrate, which is known as blue baby syndrome.

In 2015, 183 PWSs exceeded nitrate levels. Treating water to remain below the nitrate MCL can be very costly, and many towns are needing to install upgrades.

Because agriculture is one of the largest sources of nitrogen pollution, individuals living in surrounding areas often have nitrate polluted drinking water.