

# GAO Highlights

Highlights of [GAO-18-84](#), a report to the Honorable Sheldon Whitehouse, U.S. Senate

## Why GAO Did This Study

Nutrient pollution—caused by excess nitrogen and phosphorus entering water bodies—poses significant risks to the nation’s water quality. Nutrients can enter water bodies from point sources and nonpoint sources. The Clean Water Act establishes the basic structure for regulating discharges of pollutants, including excess nutrients. Under the act, authorized states—assisted and overseen by EPA—set limits on nutrients impairing a water body and limits on point source discharges. EPA encourages states to use nutrient credit trading to address nutrient pollution. According to EPA, trading allows a point source to meet nutrient discharge limits by buying pollutant credits from a source that has reduced its discharges more than required.

GAO was asked to examine nutrient credit trading programs. This report describes (1) the extent to which nutrient credit trading programs have been used and what the outcomes of the programs have been, (2) how states and EPA oversee nutrient credit trading programs, and (3) what key factors stakeholders view as affecting participation in nutrient credit trading. GAO reviewed EPA documents and interviewed EPA officials to gather information on trading programs. GAO then selected a nongeneralizable sample of three programs with the most trades in 2014 (based on the most recent available data); reviewed program documents; and interviewed EPA, state, and program officials and other stakeholders about the programs.

View [GAO-18-84](#). For more information, contact J. Alfredo Gómez at (202) 512-3841 or [gomezj@gao.gov](mailto:gomezj@gao.gov).

October 2017

## WATER POLLUTION

# Some States Have Trading Programs to Help Address Nutrient Pollution, but Use Has Been Limited

## What GAO Found

In 2014, 11 states had 19 nutrient credit trading programs, and trading provided flexibility for some point sources, such as wastewater treatment plants, to meet nutrient discharge limits, according to Environmental Protection Agency (EPA) data and officials. The majority of nutrient credit trading during 2014 occurred in three state programs—programs in Connecticut, Pennsylvania, and Virginia. A review of trading data from these programs showed that most point sources participating in the three state programs did not purchase credits in 2014 to meet their discharge limits, which are established in National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act. For the point sources that did purchase credits in 2014, state officials in the three states told GAO that the total amount in pounds of nutrients that point sources purchased as credits was generally small. Nevertheless, state officials explained that nutrient credit trading was useful because it allowed point sources to manage risk, reduce the cost of compliance, and better manage the timing of upgrades of nutrient removal technology.

States oversee nutrient credit trading programs, and EPA helps ensure that programs are consistent with the act. States oversee nutrient credit trading programs by approving and verifying the generation of credits to ensure that credits represent real reductions in nutrient pollution. A state’s approval and verification process varies depending on whether the credit generator is a point or nonpoint source, such as runoff from agricultural and urban areas. For point sources, the states GAO reviewed followed a process for verifying credits that is based on the existing oversight process for NPDES permits. Because nonpoint sources do not have NPDES permits, states use a separate process to approve and verify that nonpoint sources’ pollution reduction activities have generated credits for trading. When questions or concerns arise, EPA uses its oversight authority to ensure that trades and trading programs are fully consistent with the act. EPA officials told GAO that they conduct oversight primarily through the regional offices, which (1) review NPDES permits, (2) review and comment on state regulatory frameworks for trading, (3) conduct periodic on-site inspections, and (4) provide national-level guidance and training to state programs and stakeholders.

According to stakeholders, two key factors have affected participation in nutrient credit trading—the presence of discharge limits for nutrients and the challenges of measuring the results of nonpoint sources’ nutrient reduction activities. Officials from the three states GAO reviewed and other stakeholders cited the importance of discharge limits for nutrients as a driver to create demand for trading. Without such a driver, point sources have little incentive to purchase nutrient credits. The challenges of measuring nutrient reductions by nonpoint sources create uncertainties about the value of credits generated by nonpoint sources. In part, because of these uncertainties, the states GAO reviewed either did not allow nonpoint sources to trade or created special rules for nonpoint sources. State officials and stakeholders also told GAO that even if a program allows nonpoint sources to trade, point sources often prefer to trade with other point sources because they have similar permit and monitoring requirements.