



CONGRESSIONAL BRIEFING: The Cost of Nitrate Removal from the Mississippi River

Overview:

According to a new study from the Northeast-Midwest Institute, nitrate pollution and the cost of removing excess nitrates from drinking water are increasing at water utilities in the Mississippi River Basin. After a year of research in which ten years of data are analyzed, the study shows that levels of nitrate in source water exceeding USEPA standards are occurring with increasing frequency, especially in the second half of the ten year period. The resulting increases in water treatment costs highlight the need to control for nitrate pollution, which the study found to be primarily a result of fertilizers used in agriculture.

Key Findings:

- Key findings of research based on data from three water utilities located in Des Moines, IA (two intakes); Decatur, IL; and Vermilion County, IL.
- The following are the key findings:
- Farm fertilizer was the largest contributor of nitrogen loading.
- Nitrogen reduction scenarios modeled after final and interim targets set by the Mississippi River/Gulf of Mexico Hypoxia Task Force suggested that cross-sector reductions would be most effective in reducing nitrogen loads in the source waters.
- Nitrate concentrations generally increased over the 10-year study period, resulting in an increase in the daily exceedances of the nitrate MCL.
- Daily exceedances were significantly higher during the second half of the study period. A 45 percent reduction in the intake nitrate concentrations would virtually eliminate exceedances, but even a modest 10% reduction would bring down exceedances by 20-33 percent.
- Capital expense is a significant component of the overall cost of nitrate treatment at the three utilities.
- Amortized capital cost of the treatment unit outweighed annual O&M costs, except in Des Moines.
- In years when influent nitrate levels were the highest, utilities spent 4-9 percent of their overall operating budget on nitrate treatment.
- Smaller utilities face an undue burden of nitrate pollution in drinking water sources.
- Conservation programs have the potential to limit some of these costs to utilities, although the extent of their impact will depend on a variety of factors specific to the watershed.



Policy Implications:

I. Immediate Policy Implications

There are a number of immediate policy implications from the report's findings. First, as Congress deliberates a new **Farm Bill**, it is paramount that the new bill strengthens and expands conservation programs that support nitrate pollution mitigation. Additionally, it should maintain the provisions from the recent House text in support of clean drinking water.

Second, as the Army Corps of Engineers and USEPA prepare to modify the **Clean Water Rule**, Congress should be mindful of the impact this will have on the already rising water treatment costs.

Third, the ongoing **U.S. and China trade dispute** is threatening key agricultural exports. One of the major commodities at risk is soybeans, which plays an important role in reducing nitrate runoff when used as a cover crop. Congress should work to mitigate this threat to the top U.S. agricultural export to support both the related jobs and conservation efforts.

II. General Policy Implications

Based on the results of the study, there are a number of general policy implications that can be gleaned from the findings. First, **changes in regulation can further increase the cost of drinking water treatment**. This is most evident in some of the proposed changes to regulations like the Clean Water Rule, but there is a broad range of regulations that impact drinking water costs. It is important to note that impact and that the increased costs are passed on to consumers in their utility bills. **The hardest hit consumers are in smaller, rural communities** due to the often prohibitive capital requirements of building a treatment plant.

Additionally, **certain conservation programs that lower nitrate levels can save taxpayers money**. A 45 percent reduction in intake nitrate levels would essentially eliminate exceedances and save communities from having to build multimillion dollar treatment plants. Conservation programs can help make this a reality by lowering nitrate runoff. **Facilitating better data collection** of the costs of nitrate removal can help policymakers determine exactly how much certain conservation programs lower these costs.

III. Legislative Solutions

To address the rising cost of nitrate removal from drinking water, Congress should consider a number of legislative solutions. Some options include:

- Provide capital support to small communities through tools like debt forgiveness, special grants, and interest-free loans
- Facilitate nitrate removal cost reporting to better calibrate future legislative solutions
- Explore the possibility of regulating agricultural discharges as point source
- Study nutrient trading in light of the enhanced cost reporting as a means for curbing nitrate pollution and work with preexisting regional nutrient trading systems to develop best practices.
- Increase support for existing agricultural technical assistance programs and related research
- Support nitrate pollution mitigation by prioritizing annual appropriations for relevant conservation programs and agencies that facilitate conservation work