



## AN ENVIRONMENTAL PUBLIC HEALTH TRACKING STORY

# IDENTIFYING NITRATE SOURCES TO IMPROVE FUTURE PLANNING

Rock County, Wisconsin

### THE PROBLEM

Rock County Health Department (RCHD) staff noticed a steady uptick in the amount of nitrate in private wells over the last 20 years. About one in three well samples analyzed by RCHD had unsafe nitrate levels in 2014. In their County Environmental Health Profile, the amount of nitrate in public water supplies was nearly two times higher than the Wisconsin average. The average amount of nitrate in private wells was higher than most of Wisconsin as well.

### WHAT ROCK COUNTY HEALTH DEPARTMENT DID

RCHD received funding and technical assistance from the Wisconsin Environmental Public Health Tracking Program to learn more about where nitrate might be coming from. RCHD staff met with partners at the Rock County Land Conservation Department and Planning Department to map potential nitrate sources, such as manure application, industrial waste, municipal waste, and wastewater sites. They also were able to map land cover, land use, irrigation systems, and crop data, as well as soil and geological characteristics.

### THE PUBLIC HEALTH IMPACT

Altogether, these mapped data layers help public health professionals and planning staff better understand sources of nitrate and how Rock County's topographical and geological features influence its travel to groundwater. RCHD staff and their partners will be able to use the maps to educate nitrate source contributors to help reduce the amount of nitrate making it into groundwater. The maps also have practical applications for well planning; they will help inform future well locations and depths to ensure well owners have access to clean, safe water.



Creating maps that show potential sources of nitrates and being able to compare those maps to known geological risk factors is a positive step in better understanding the cause and effect relationship with our groundwater nitrate issues in Rock County.

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