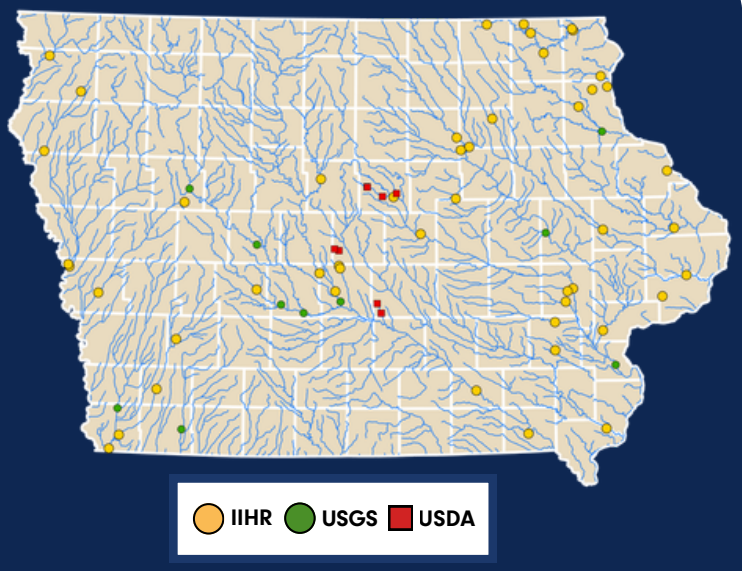
SUPPORT IOWA WATER QUALITY MONITORING

Without adequate funding, most water quality monitors will be removed from Iowa's rivers and streams.



At its peak, the Iowa Water Quality Sensor network reported data from 70 nitrate sensors and 25 other water quality instruments.

EXISTING NETWORK

Sensors are currently monitored by IIHR, the U.S. Geological Survey, and the U.S. Department of Agriculture. Each organization uses sensor data to provide critical, publicly accessible information to landowners, researchers, and state agencies.

The IIHR developed the Iowa Water Quality Information System (IWQIS), which visually communicates data from all water quality sensors in Iowa, providing Iowans with comprehensive, transparent, and reliable data to support decision-making. The USGS and USDA sensors are independent of IIHR, but their data is still displayed on the IWQIS website.

52 IIHR–Hydroscience & Engineering

10 U.S. Geological Survey

8 U.S. Department of Agriculture (Agriculture Research Service)

OVERVIEW

IIHR–Hydroscience and Engineering (IIHR) at the University of Iowa manages a network of water quality monitoring sensors that track real-time nitrate concentrations, as well as other parameters such as pH, dissolved oxygen, discharge rates, and temperature.

These sensors provide information used by state officials to track progress made by the Nutrient Reduction Strategy, an ongoing strategy to reduce nitrate runoff into Iowa's waterways and the Gulf.

GOALS

IIHR is requesting $600,000 in necessary annual funding to maintain the water quality monitoring network. In order to restore the system to its previous extent and ensure equitable distribution of devices, state funds should be re-appropriated to this advanced, highly innovative statewide effort.

CHALLENGES

In 2023, the Iowa Legislature approved appropriation bill SF558 that cut $500,000 from the Iowa Nutrient Research Center budget, which supported the IIHR water quality sensors. The money was reappropriated to the Iowa Department of Agriculture and Land Stewardship for conservation practices.

Since the budget bill was passed, the water quality monitoring program has operated with insufficient funds. These world-class, innovative monitors have gone without updates or repairs, and some have been removed from Iowa's waterbodies entirely.

FUNDING HISTORY OF IOWA'S WATER SENSORS

TIMELINE

2008

Carver Foundation grant supports the development and deployment of IIHR's first few water quality sensors.

The Iowa Flood Center extends efforts beyond floodwater issues into water quality concerns, funded partially by the Rebuild Iowa Infrastructure Fund.

2012

The Iowa Nutrient Research Center (INRC) is established at Iowa State University, and IIHR receives $500,000 annually to expand and maintain its water quality monitoring program.

2013

The initial water quality sensors are purchased and funded through the Iowa Nutrient Research Center, in order to inform the Iowa Nutrient Reduction Strategy.

2015

The Iowa Legislature approves a budget bill that cut $500,000 from the Iowa Nutrient Research Center, which supports the IIHR water sensors. The funds are reappropriated.

2023

IIHR secures funding from the Walton Family Foundation, providing bridge funds to keep the sensor network active through June 2026.

2024

To provide additional bridge funds, the Polk County Board of Supervisors approved $200,000 to help maintain the network. This funding comes on the heels of the landmark Central Iowa Source Water Resource Assessment.

2025

FUNDING NEEDS

Sixty sensors monitored by IIHR require ongoing maintenance, upgrades, and expansion in order to remain effective tools for the state. Each sensor and its necessary electronic equipment cost up to $35,000 to build and install. During the winter season, the sensors are returned to IIHR and the manufacturer to be recalibrated. The annual upkeep costs roughly $8,750 per sensor.

Given the lack of availability of federal and foundation funding and increases in instrumentation costs, IIHR will be unable to continue to operate its network and information system at its current extent beyond the summer of 2026 while our state's nitrate load and public health concerns continue to rise.

The state should reappropriate $500,000 in existing funds from the Iowa Department of Land Stewardship to IIHR and contribute an additional $100,000 to restore the network to its peak extent and account for inflation. In addition, IIHR needs a one-time payment of $500,000 to replace outdated equipment and infrastructure. Iowans deserve access to water quality information needed to support clean water initiatives and a high quality of life.