2025 ANNUAL REPORT

NITRATE WATCH®

IZAAK WALTON LEAGUE OF AMERICA

nitratewatch.org

nitratewatch@iwla.org

CONTENTS

INTRODUCTION

2025 was a banner year for the Nitrate Watch program, with record-shattering kit requests and data reporting from volunteers united by a love of clean water and a concern about nitrate pollution.

Nitrate Watch is a crowd-sourced community science project of the Izaak Walton League of America. This program, launched in 2023, mobilizes volunteers to monitor and report nitrate levels in the waterways they care about and the drinking water they rely on.

THE GOALS OF NITRATE WATCH ARE...

- **Raise awareness** about the impacts of nitrate on the environment and human health.
- **Identify hotspots** of nitrate pollution.
- **Advocate for solutions** that reduce nutrient pollution.

This report will summarize Nitrate Watch participation and nitrate readings reported by volunteers in 2025. We'll also take a look ahead toward goals for the years to come.

For more information about nitrate pollution and the Nitrate Watch program, visit **nitratewatch.org**.

NITRATE WATCH®
IZAAK WALTON LEAGUE OF AMERICA

Questions about this report? Email nitratewatch@iwla.org.

THE TROUBLE WITH NITRATE

SOURCES

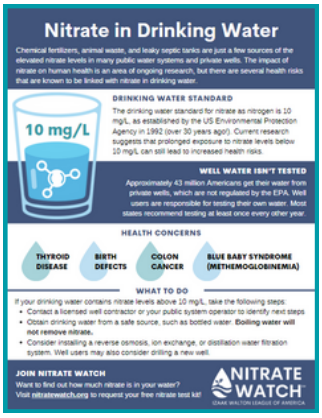
Nitrate is formed when nitrogen combines with oxygen in water. Nitrogen is an essential nutrient for plant growth, but human activities produce more nitrogen than natural systems can use.

Human-made sources include **fertilizers**, runoff from **animal feedlots**, and **sewage**. Nitrate dissolves in water and can easily be carried by rainwater and melting snow until it reaches surface water or groundwater. When there are elevated levels of nitrate in a water source, that's almost certainly because of human-made contaminants.

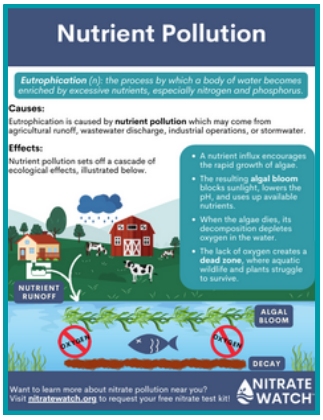
IMPACTS

Nitrate pollution has negative impacts on **human health**, the **environment**, and the **economy**. For a detailed look at each of these impacts, click on a fact sheet to learn more:

[Nitrate and Drinking Water]



[Nutrient Pollution 101]



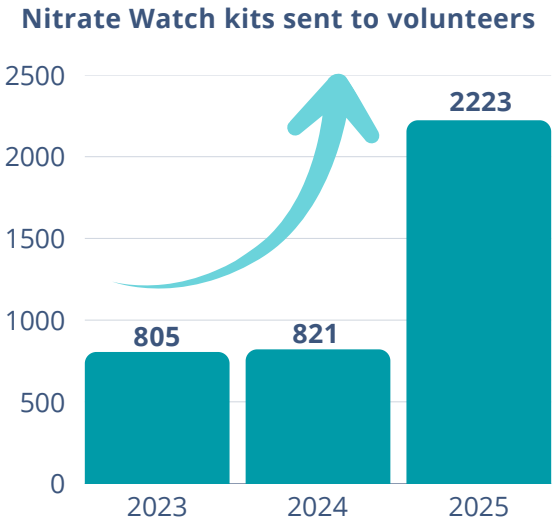
[Nitrate and Algae]

[Cost of Nitrate Pollution]

2025 BY THE NUMBERS

In 2025, the Nitrate Watch program saw a dramatic surge in participation. As the graph on this page shows, we sent **2,223 kits** to volunteers in 2025, which represents a roughly **270% increase** compared to the number of kits supplied in 2024. 2025 also saw a marked increased in Nitrate Watch data reporting and an uptick in news coverage of the program and its volunteers.

See below for a snapshot of key stats for Nitrate Watch in 2025.



6,681
nitrate readings reported

38
states reporting data

2,008
sample locations

9
new partner organizations engaged

2,223
kits sent to volunteers

23 news articles highlighting the Nitrate Watch program or featuring volunteer testimonials

OUR PARTNERS

We are grateful for our growing cohort of partner organizations, and are excited to have welcomed **nine new partners** in 2025 for a total of **28 official partners**. These organizations are reporting data, spreading the word about the Nitrate Watch program and advocating for reduced nitrate pollution in their local communities. Our partners often serve as an important hub of information and action, providing vital support to volunteers at the local and regional level.

NEW PARTNERS IN 2025

Arundel Rivers Federation · Carver County · Dan River Basin Association · Environmental Education Center at Fernbrook Farms · Milwaukee Riverkeeper · Nishnabotna Water Defenders · Summit Soil & Water Conservation District · Twin Cities Trout Unlimited · Wisconsin's Greenfire

In addition to official partner organizations, Nitrate Watch volunteers represent **758 participating organizations** across the country.

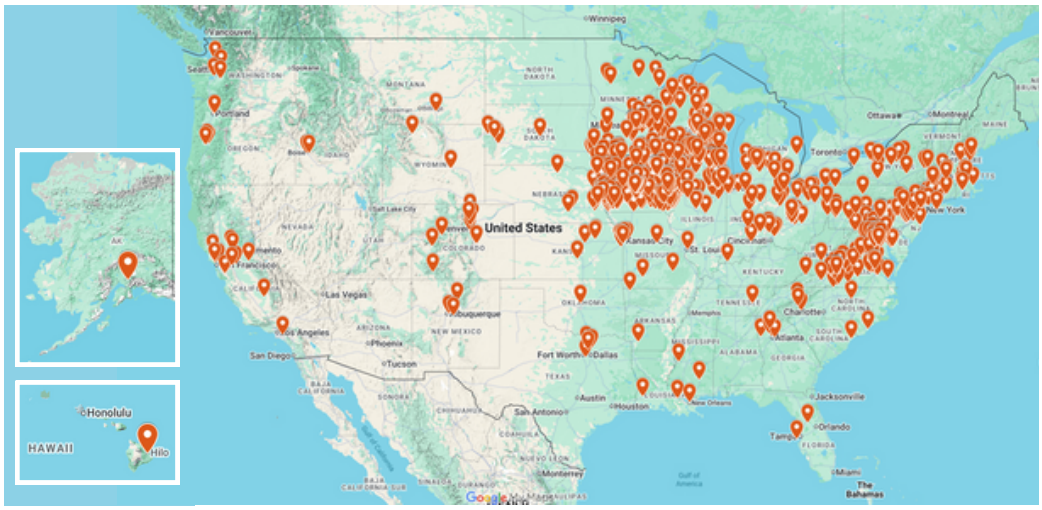
View an interactive map of partners and participating organizations.

Interested in becoming a Nitrate Watch partner organization?
*Email us at **nitratewatch@iwla.org**.*

OUR VOLUNTEERS

Nitrate Watch would not be possible without a cohort of motivated volunteers. By requesting a kit, monitoring their waterways, and reporting their data, Nitrate Watch volunteers are taking simple actions that add up to have an incredible impact. Whether they participate independently or as part of an organized effort, we are grateful for the work of these volunteer community scientists!

In 2025, we sent Nitrate Watch kits to **volunteers in 42 states** and the District of Columbia. The map to the right shows where those kits were sent.



When requesting a Nitrate Watch kit, volunteers are asked how they plan to make a difference about nitrate pollution in their community, beyond monitoring. Here are are few of their responses:

Asking legislators to fund better water quality monitoring and enforcement

Adding my voice to others concerned about nitrates in our water

I plan to upload my results and contact the local health department, environmental agencies, and news sources, if necessary

Sharing my results on social media

Changing agricultural practices on our farm

Educating students so they can continue the conversation at home and we can make changes in the community

Spreading the word and encouraging more people to test their water

Talking to legislators about the impact of nitrates

RESULTS

In the results section we will summarize nitrate data reported by volunteers in 2025. This includes nitrate readings reported by **Nitrate Watch** volunteers as well as volunteers who participate in **Save Our Streams Chemical monitoring**. In addition to summarizing nationwide findings, we'll zoom in and isolate the results for states that reported at least 300 nitrate readings in 2025.

The test strips included in each Nitrate Watch kit measure nitrate nitrogen, also written as nitrate-N or NO3-N. This is the measurement commonly used by water utilities and the U.S. Environmental Protection Agency when monitoring nitrate levels in drinking water. Throughout this report, "nitrate" may be used in lieu of "nitrate nitrogen" for brevity.

Nitrate Watch and Save Our Streams data is reported by volunteers on the Clean Water Hub water quality database. To view and/or download this data, visit **www.cleanwaterhub.org**.

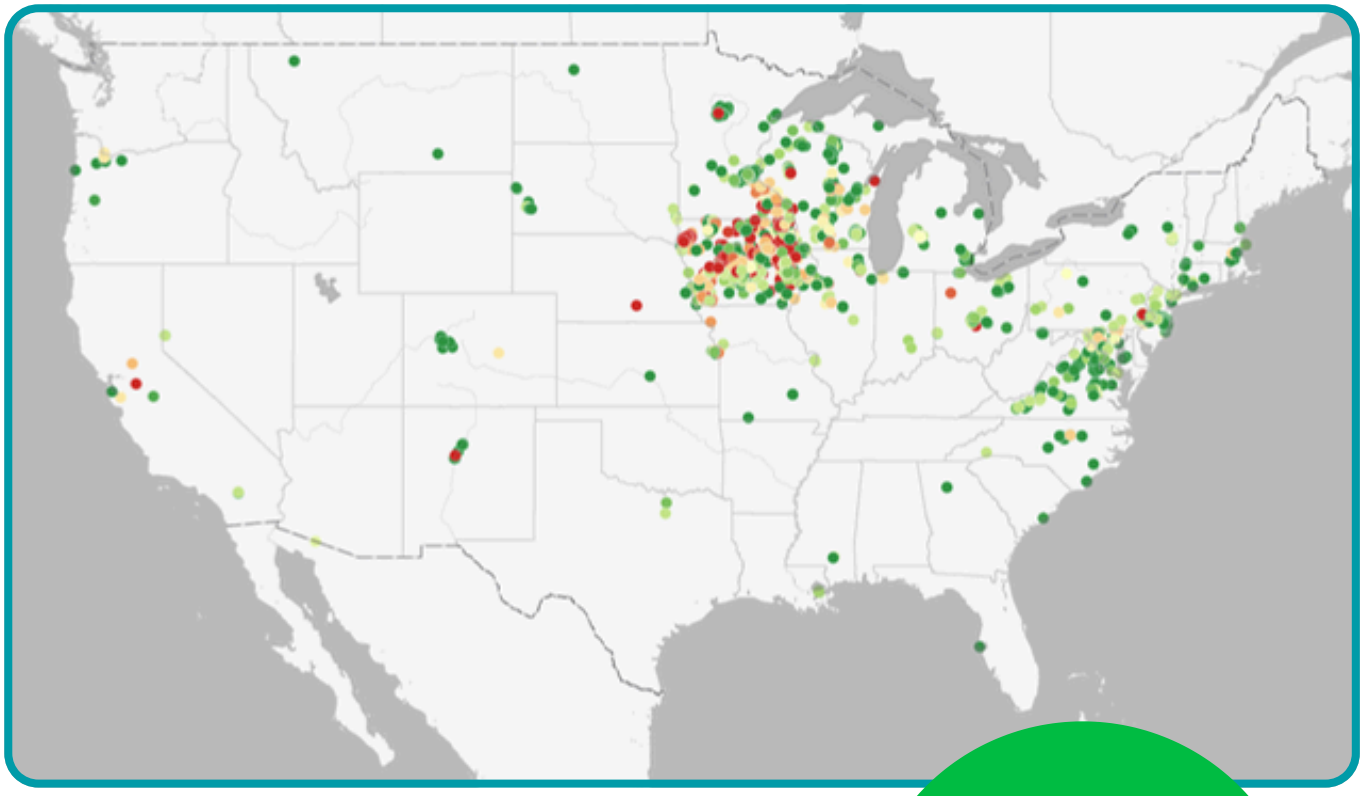
CLEAN WATER HUB
IZAAK WALTON LEAGUE OF AMERICA

SURFACE WATER & DRINKING WATER

The water sources monitored by Nitrate Watch volunteers fall into two categories:

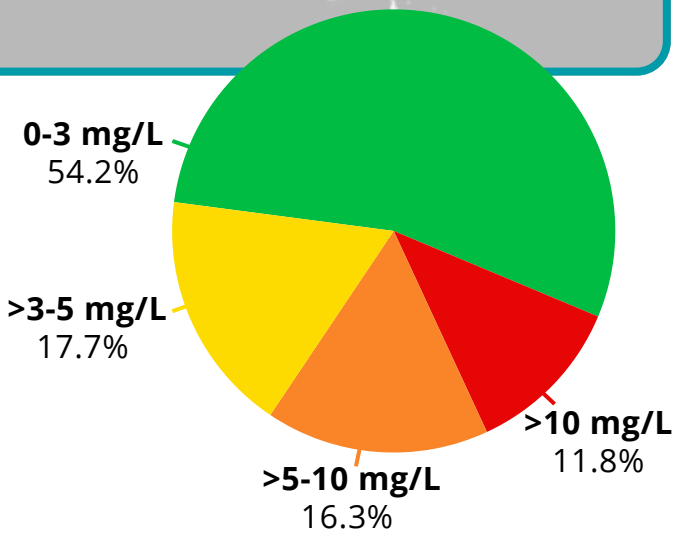
- **Surface Water** includes water from small streams/creeks, rivers, lakes, ponds/wetlands, and drainage/outlet pipes.
- **Drinking Water** includes water from private groundwater wells and public drinking water systems.

RESULTS
NATIONWIDE



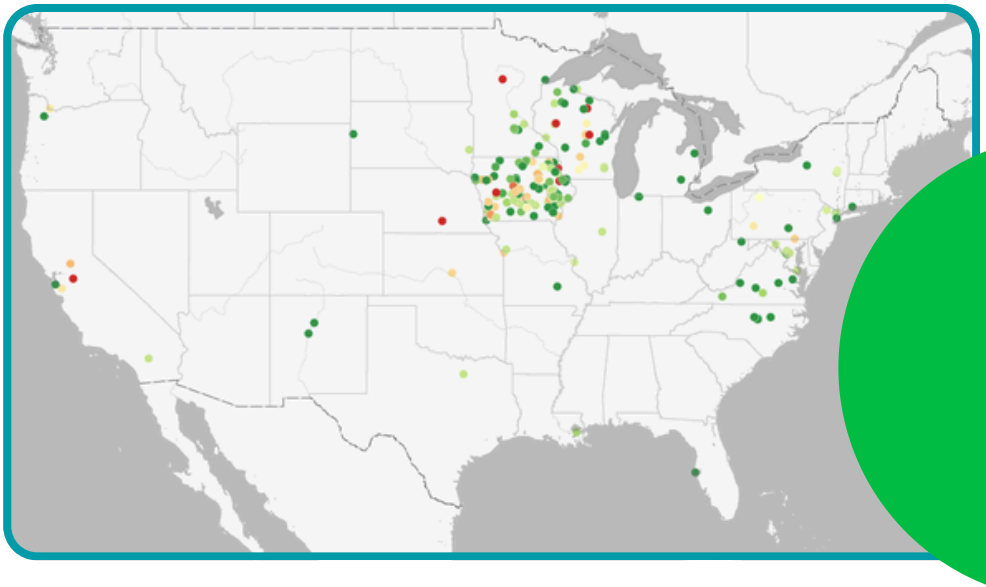
Total nitrate-N readings: **6681**

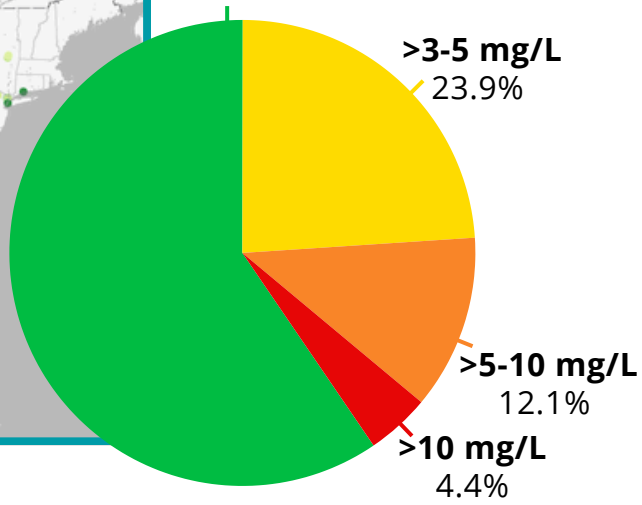
- 0-3 mg/L: **3623**
- >3-5 mg/L: **1181**
- >5-10 mg/L: **1090**
- >10 mg/L: **787**



RESULTS
NATIONWIDE

DRINKING WATER





The U.S. Environmental Protection Agency mandates that the maximum allowable nitrate-N concentration for drinking water is **10 mg/L**. Well water is not subject to this regulatory standard.

Total nitrate-N readings: **702**

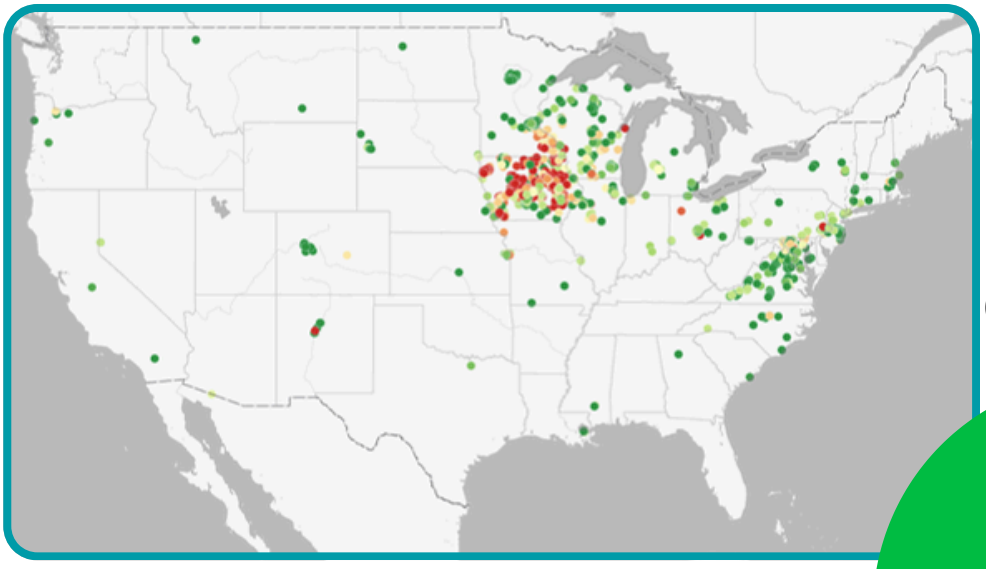
- 0-3 mg/L: **418**
- >3-5 mg/L: **168**
- >5-10 mg/L: **85**
- >10 mg/L: **31**

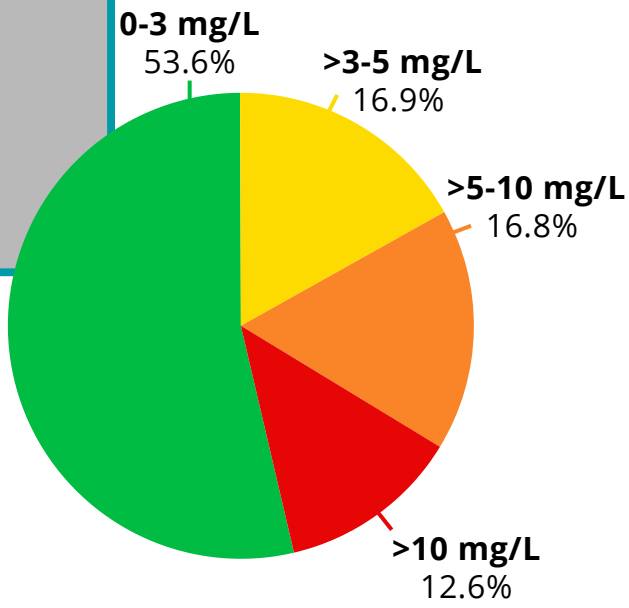
Research indicates that a drinking water standard of 10 mg/L may not be sufficiently protective of human health.
Adverse health effects have been observed with prolonged exposure to drinking water containing nitrate-N concentrations of 5 mg/L, or even less.

34.8% OF DRINKING WATER READINGS MEASURED 5 MG/L OR GREATER

RESULTS
NATIONWIDE

SURFACE WATER





There is no national standard for nitrate in surface water. In general, a natural range for nitrate-N in a stream is 0-3 mg/L. Surface water nitrate-N readings in excess of 3 mg/L can serve as an unofficial indicator that external inputs of nitrogen, such as agricultural runoff or sewage, are present.

Excess nitrate in surface water contributes to:

- algae blooms
- fish kills
- hypoxia/dead zones
- contaminated drinking water sources

Total nitrate-N readings: **5979**

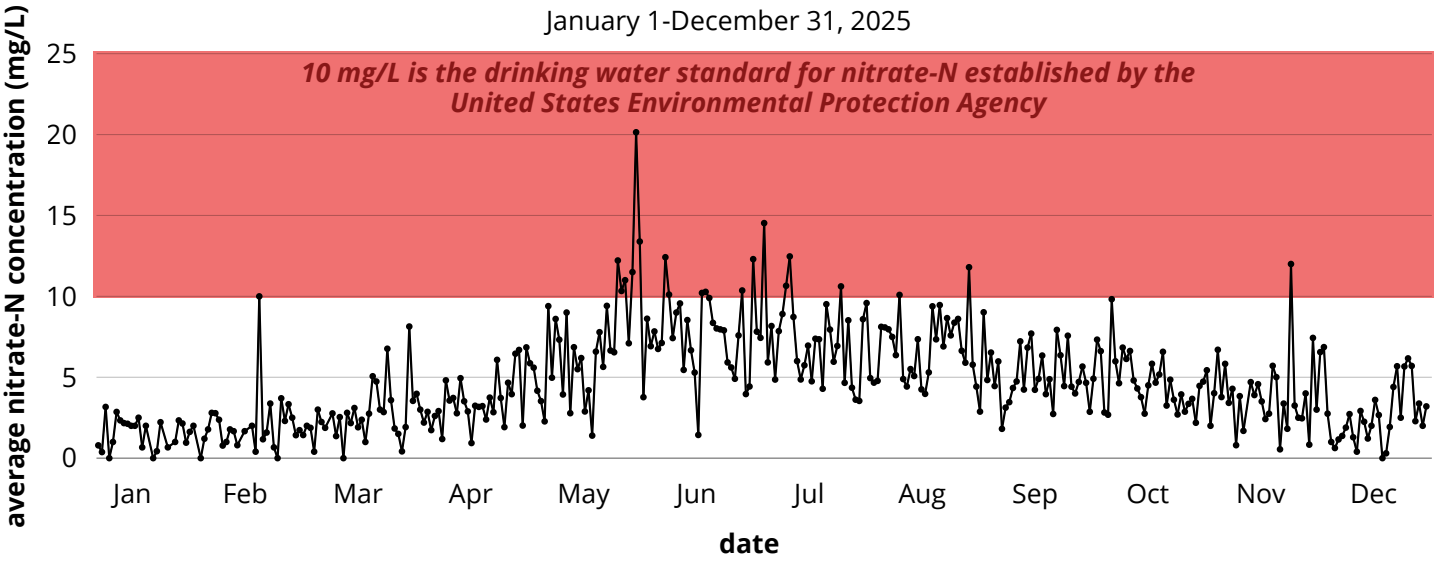
- 0-3 mg/L: **3205**
- >3-5 mg/L: **1013**
- >5-10 mg/L: **1005**
- >10 mg/L: **756**

RESULTS
NATIONWIDE

Nitrate concentrations in waterways tend to fluctuate throughout the year based on seasonal variation in weather and land-use practices. In areas downstream of agricultural activities, we often see nitrate levels peak in the spring and summer as a result of fertilizer application and increased rainfall. This is a phenomenon called the “spring flush.”

The graph below showcases the seasonal variation in nitrate-N levels reported to the Clean Water Hub in 2025. It plots the average nitrate-N concentrations reported in surface water sources (not drinking water) each day. Note how concentrations are elevated in the spring and summer - the spring flush.

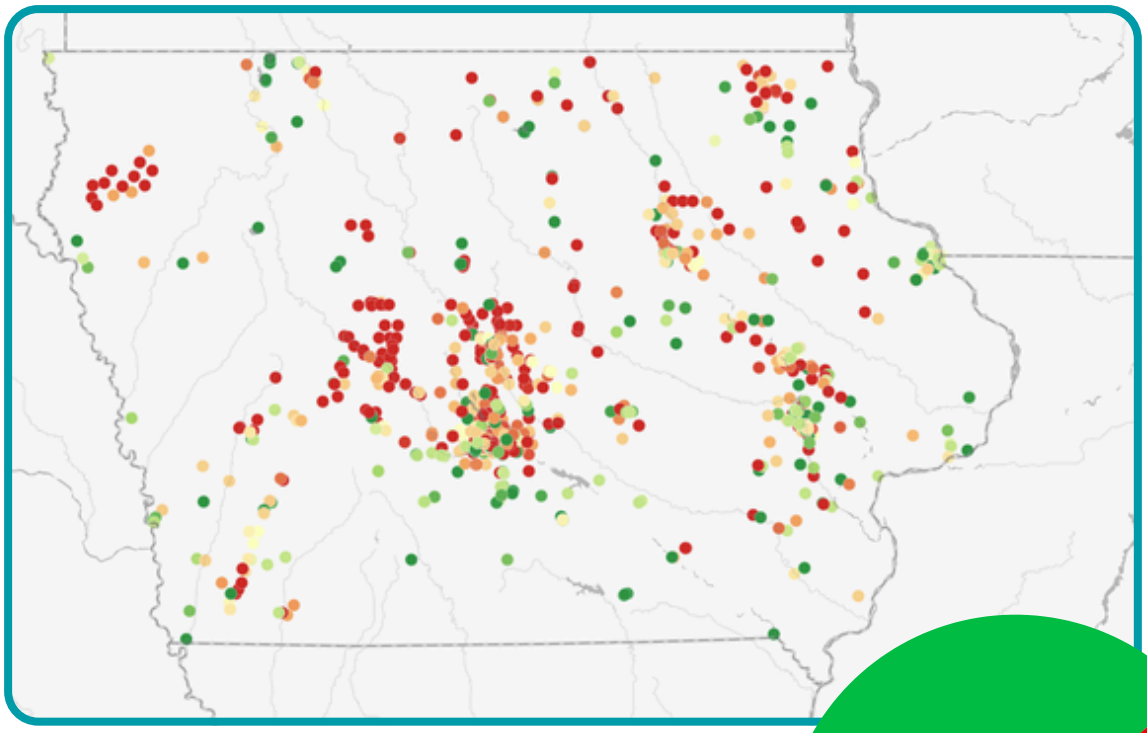
Average nitrate-N concentrations (mg/L) in surface water reported by Nitrate Watch volunteers nationwide



The red shaded portion of this graph represents nitrate-N concentrations at or above 10 mg/L. While there is no nationwide limit for nitrate in surface water, 10 mg/L -- the drinking water standard for nitrate -- is a meaningful benchmark, especially for waterways that are used as sources of drinking water. **The daily average nitrate-N concentrations reported by our volunteers were 10 mg/L or greater on 20 days in 2025.**

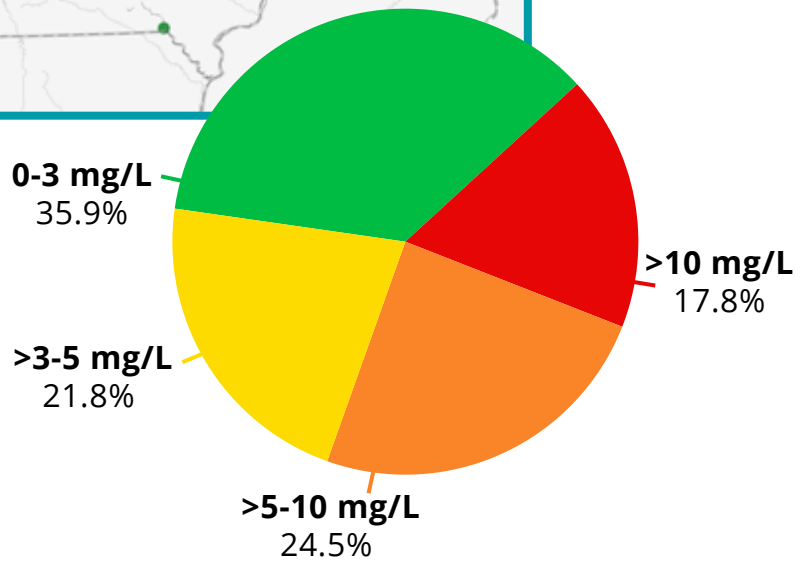
RESULTS

IOWA



Total nitrate-N readings: **4050**

- 0-3 mg/L: **1455**
- >3-5 mg/L: **884**
- >5-10 mg/L: **992**
- >10 mg/L: **719**



Regional Partners:

Iowa Environmental Council

Prairie Rivers of Iowa

Iowa Learning Farms

CCI

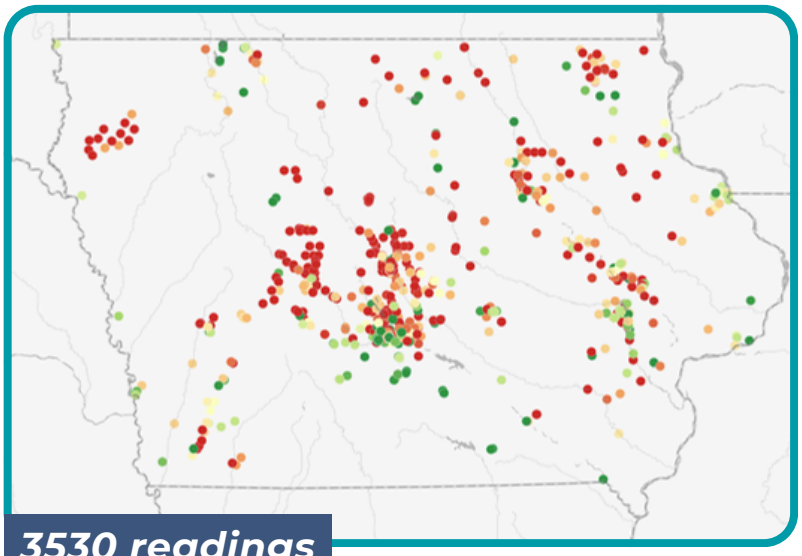
JFAN Jefferson County Farmers & Neighbors, Inc

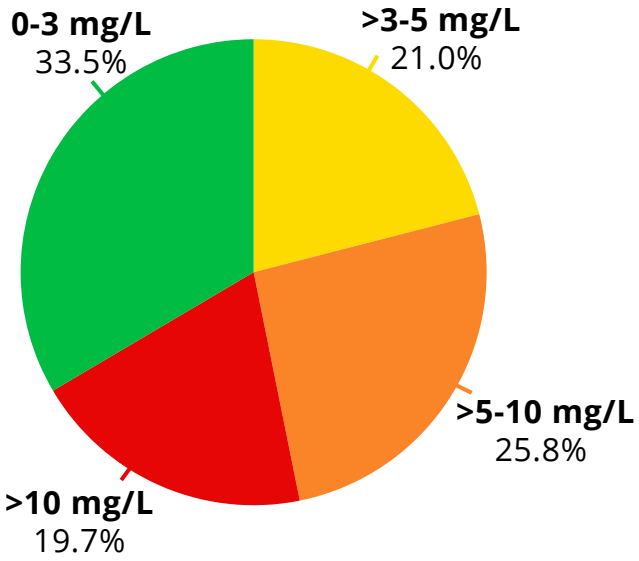
Partners of Scott County Watersheds

Nishnabotna Water Defenders

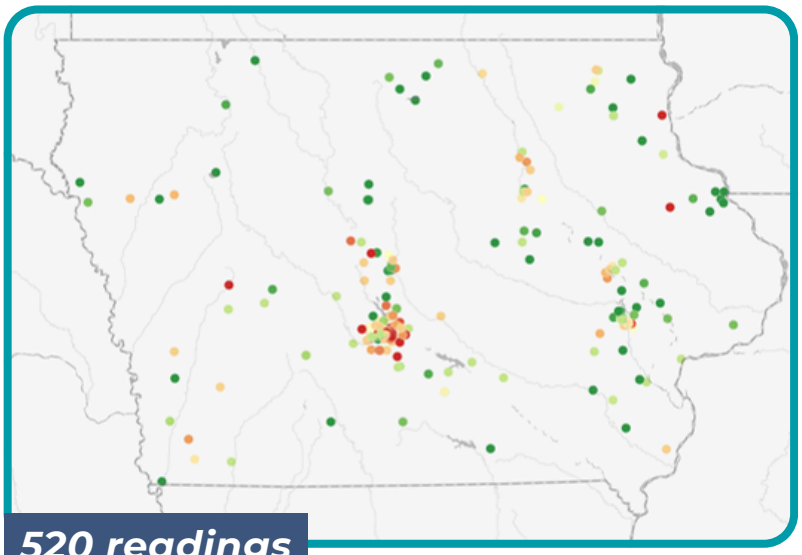
RESULTS
IOWA

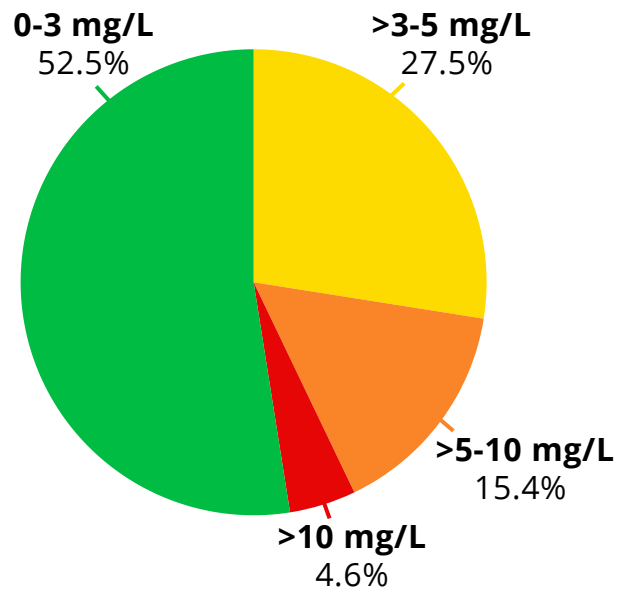
SURFACE WATER





DRINKING WATER

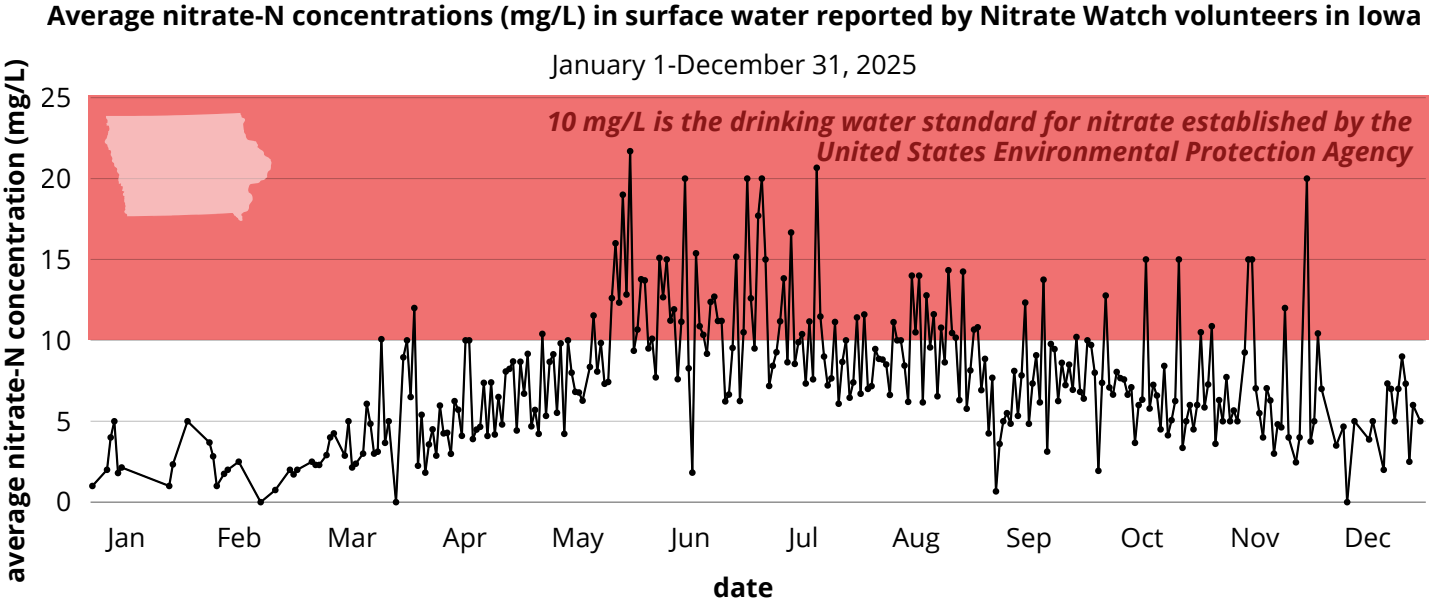




RESULTS
IOWA

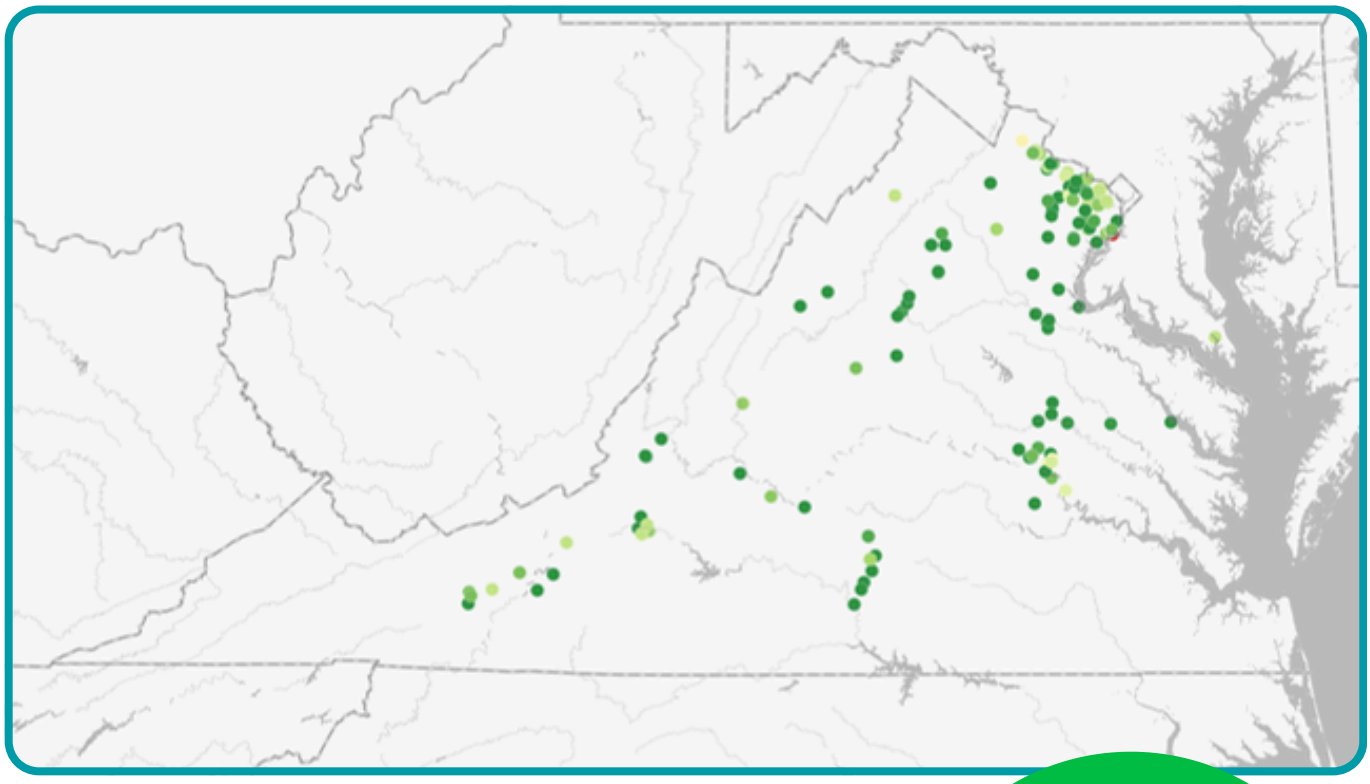
In 2025, an impressive 60.6% of all nitrate readings reported to the Clean Water Hub came from volunteers in Iowa. This is a result of newsworthy events and work by partner organizations that led to heightened awareness and engagement surrounding nitrate pollution in Iowa (learn more in the "**2025 in Focus**" section).

The graph below shows the average nitrate-N concentrations reported by Iowans in surface water sources each day in 2025.



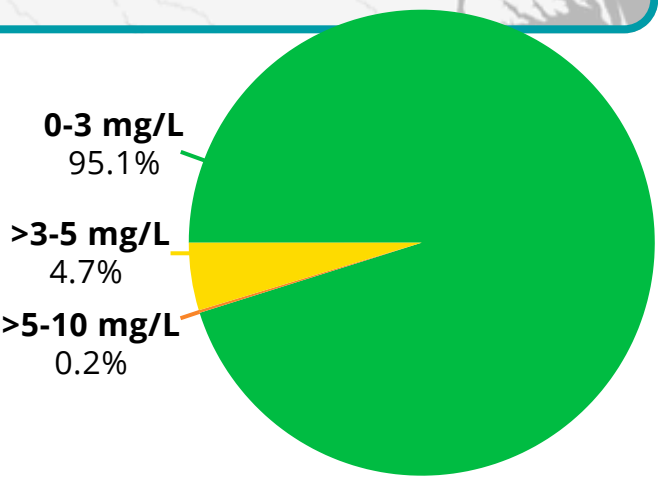
It is easy to see that, on average, nitrate readings were very high for much of the year in Iowa, well beyond the initial spring flush. In fact, the **daily average nitrate-N concentration reported by volunteers in Iowa was 10 mg/L or greater on 78 days in 2025.** That's over 20% of all days in 2025.

RESULTS
VIRGINIA



Total nitrate-N readings: **534**

0-3 mg/L:	**508**
>3-5 mg/L:	**25**
>5-10 mg/L:	**1**
>10 mg/L:	**0**

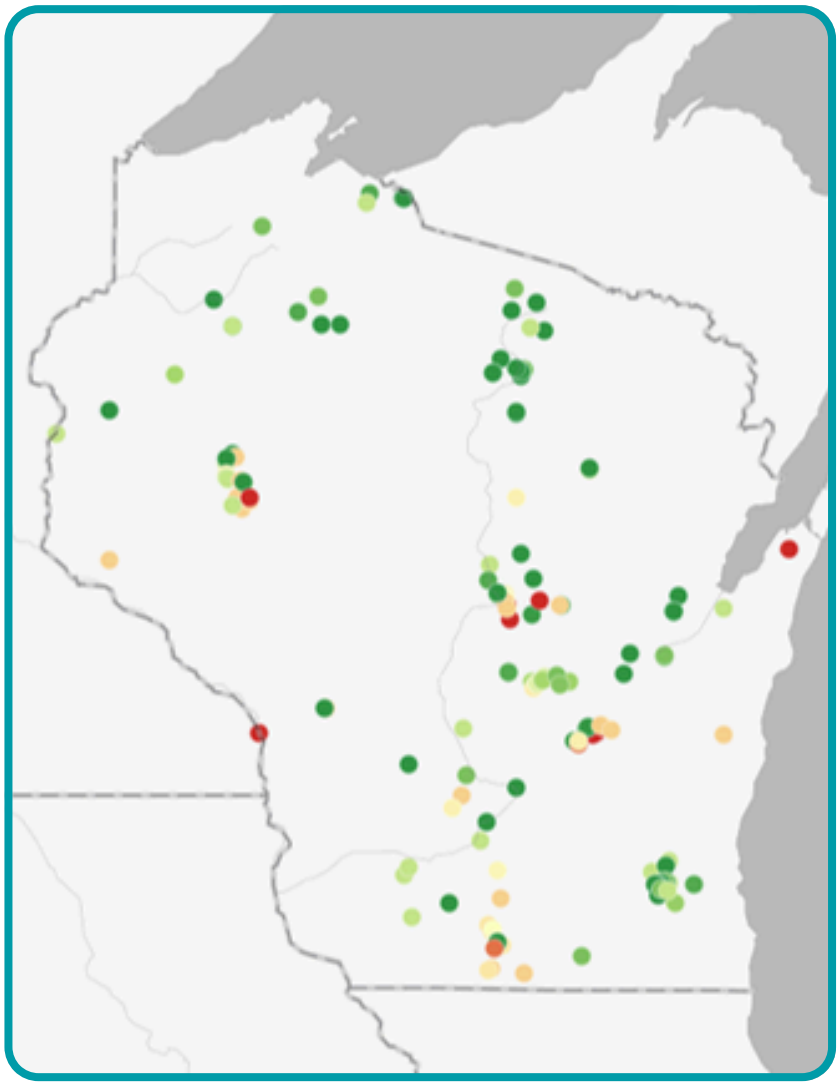


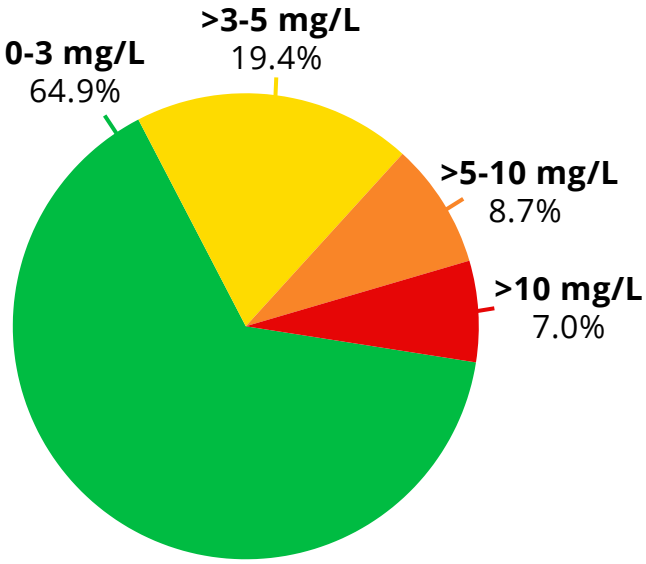
Regional Partners:

Loudoun Wildlife Conservancy
Established 1995

DAN RIVER BASIN ASSOCIATION

RESULTS
WISCONSIN





Total nitrate-N readings: **413**

- 0-3 mg/L: **268**
- >3-5 mg/L: **80**
- >5-10 mg/L: **36**
- >10 mg/L: **29**

Regional Partners:

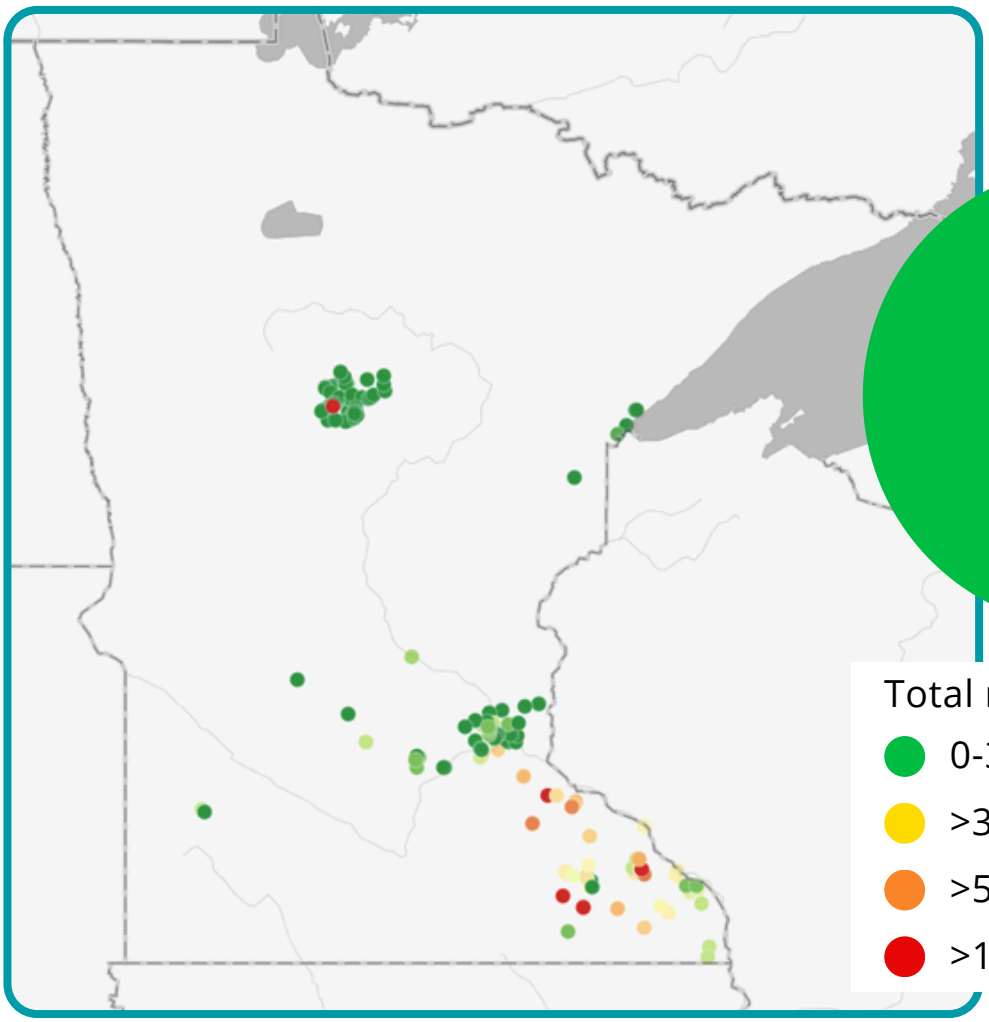
COLUMBIA COUNTY PUBLIC HEALTH
PREVENT•PROTECT•PROMOTE

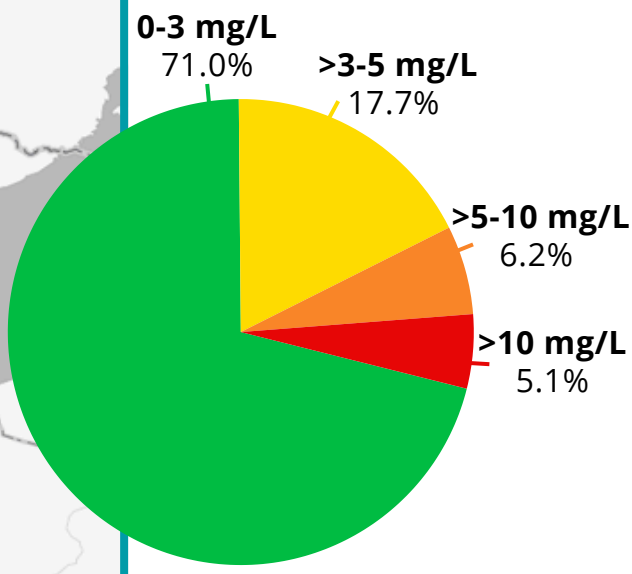
GREEN LAKE ASSOCIATION

MILWAUKEE RIVERKEEPER®

WISCONSIN'S greenfire
VOICES FOR CONSERVATION

RESULTS
MINNESOTA





Total nitrate-N readings: **389**

0-3 mg/L:	**276**
>3-5 mg/L:	**69**
>5-10 mg/L:	**24**
>10 mg/L:	**20**

Regional Partners:

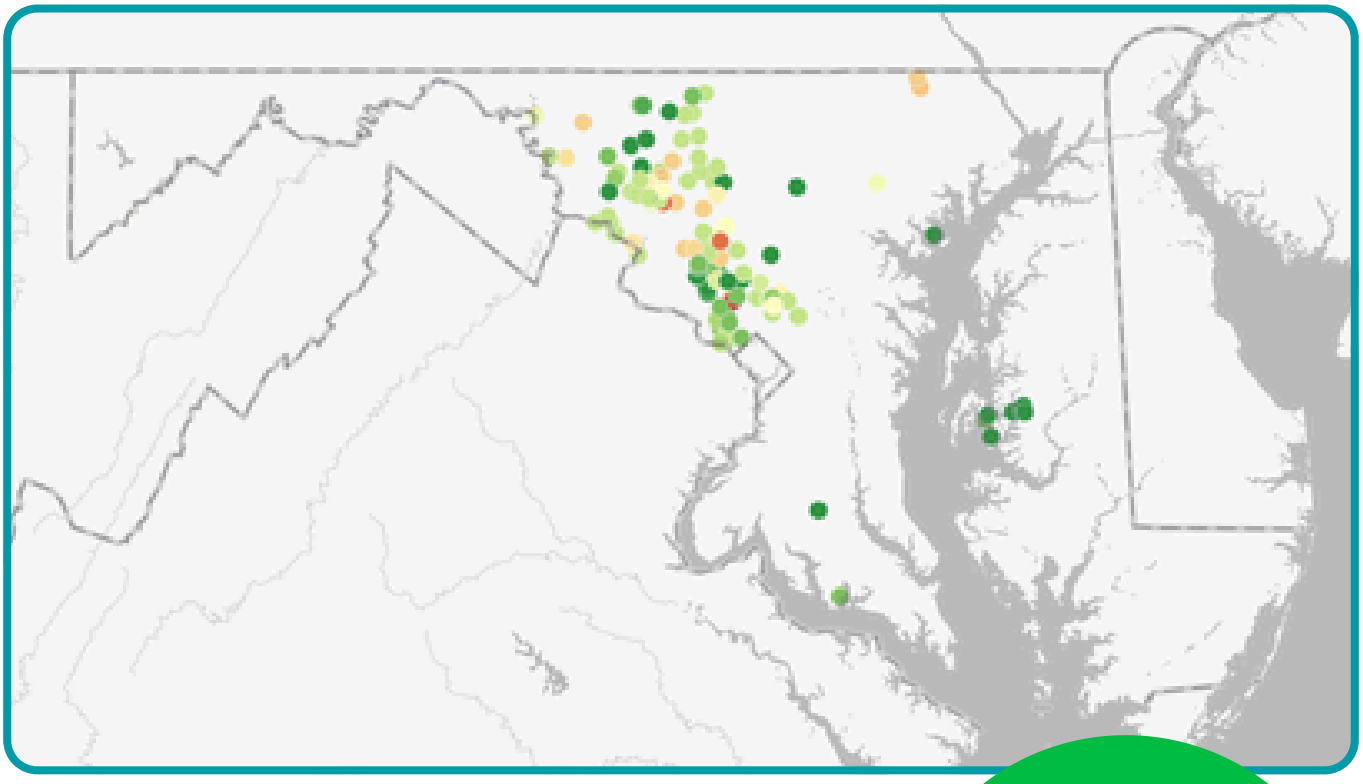
FRIENDS of the MINNESOTA VALLEY — The River. The Land. The Future.

FAITHFUL SHEPHERD CATHOLIC SCHOOL

CARVER COUNTY

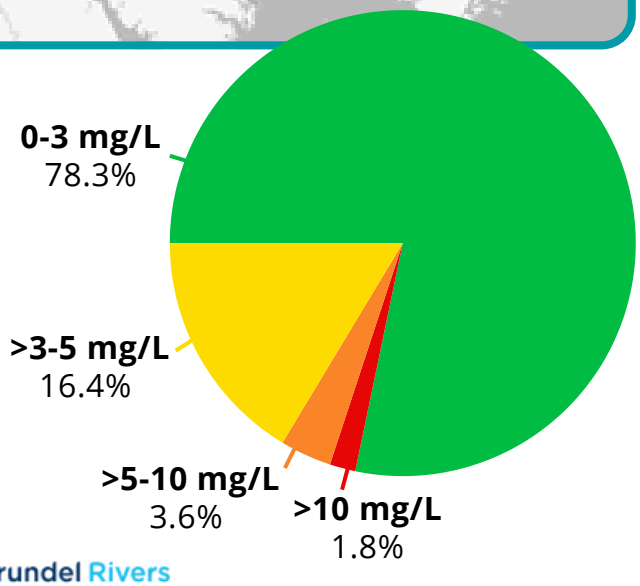
TWIN CITIES TROUT UNLIMITED

RESULTS
MARYLAND



Total nitrate-N readings: **336**

- 0-3 mg/L: **263**
- >3-5 mg/L: **55**
- >5-10 mg/L: **12**
- >10 mg/L: **6**



Regional Partners:

2025 IN FOCUS

NOTABLE HAPPENINGS IN NITRATE NEWS

In this section, we'll highlight the stories -- both good and bad -- that had an impact on nitrate pollution in waterways in 2025. Click the links in each story to learn more.

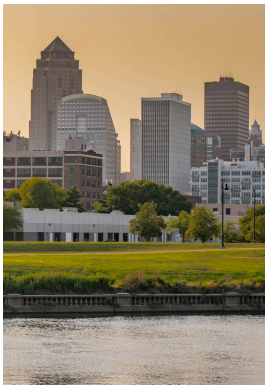
FEDERAL ACTIONS

In August, the U.S. Environmental Protection Agency (EPA) took the uncharacteristic action of **rescinding its previous decision to add seven stream segments to Iowa's impaired waters list**. These segments, including parts of the Des Moines, Raccoon, Cedar, Iowa and South Skunk Rivers, are known to have nitrate levels that frequently exceed 10 mg/L.

In November, the EPA proposed a revised definition of "waters of the United States" (WOTUS). This new WOTUS definition would dramatically reduce the number of wetlands and tributary streams that receive Clean Water Act protections. Wetlands provide myriad ecosystem services, including nutrient sequestration, flood control, and animal habitat. The Izaak Walton League, and many other organizations, **spoke out in opposition to this revised WOTUS definition**.

For years, there has been evidence that the **current drinking water standard for nitrate may not be protective of human health**. In June of 2023, the EPA restarted **an assessment of the health risks of nitrate/nitrite in water**. This assessment has made very little progress in the years since it was initiated. The League continues to monitor the status of the assessment.

THREATS TO WATER QUALITY



Agricultural runoff in central Iowa led to soaring nitrate pollution in the Raccoon and Des Moines rivers, the primary sources of drinking water for approximately 600,000 Iowans. To ensure that they could deliver drinking water to customers that did not exceed the regulatory nitrate standard, Central Iowa Water Works **instituted a ban on lawn watering**. This first-of-its-kind ban lasted for 50 days between June and July. The nitrate removal facility ran for 112 days in 2025.

The construction of data centers to accommodate a growing need for artificial intelligence computing is placing additional strain on the water supply in parts of the country. When data centers draw from groundwater that is already contaminated with nitrate, it can further concentrate that contamination, a **growing concern in eastern Oregon**. When data centers are constructed on sites that contain hazardous substances, like **a brownfield site in Frederick County Maryland**, there is fear of introducing new contaminants into groundwater.

PARTNER OUTREACH EFFORTS

Carver County Water Management Organization in Carver County Minnesota launched a direct mail campaign in July that provided information about nitrate pollution to residents in the Bevens and Silver Creek watersheds, which are known to have high nitrate levels. In their communication, they directed residents to the Nitrate Watch program, resulting in more than 50 kit requests from residents.

Wisconsin's Green Fire is a new Nitrate Watch partner with big plans. Their organization has launched a **Nitrate Watch page** on their website including educational resources and a co-branded Nitrate Watch kit request form. In just a few months, volunteers with the group have already reported data at more than 80 sites across Wisconsin.

PARTNER OUTREACH EFFORTS (CONTINUED)

The **Nishnabotna Water Defenders**, in partnership with the Nitrate Watch program, erected **billboards along the highway in southwest Iowa** in fall 2025. These billboards urging Iowans to "Know What You Drink" and "Monitor Nitrate in Your Water" were intended to raise awareness about the connection between what happens on the landscape and the water that reaches our tap. It is estimated that these billboards were seen by more than 160,000 passing motorists.

Denise O'Brien

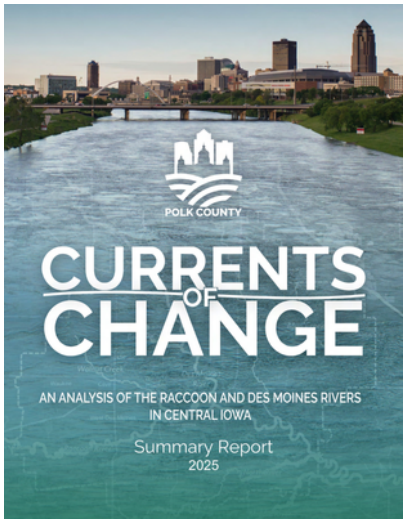
In March of 2024, the Nishnabotna River suffered a catastrophic fish kill caused by a fertilizer spill at a nearby agricultural operation. This event, the fifth largest documented fish kill in Iowa's history, devastated aquatic life for more than 50 miles downstream. It also catalyzed the formation of the Nishnabotna Water Defenders. The organization participates in Nitrate Watch and Save Our Streams, monitoring water quality in the Nishnabotna watershed year-round. They also continue to push for stronger environmental protections and accountability for threats to water quality.

Rachel Cramer, Iowa Public Radio

"As citizens, we deserve better than to have our waterways polluted," the Defenders state. "We aim to empower community members with data and drive action to protect clean water."

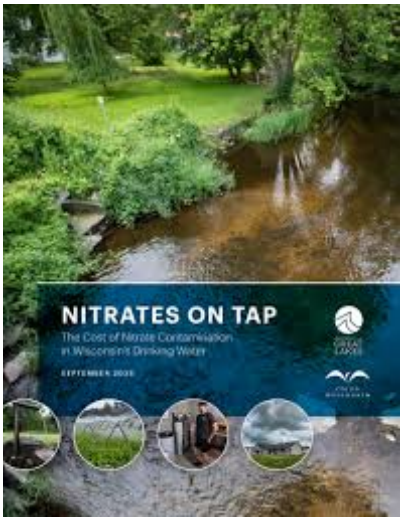
Learn more about the Nishnabotna Water Defenders in this blog from the Izaak Walton League.

REGIONAL WATER QUALITY REPORTS



In July, the Polk County Iowa Board of Supervisors released the **Central Iowa Source Water Research Assessment**. This report summarizes the contaminants present in Central Iowa's waterways, the sources of those contaminants, and suggested actions for water quality improvement. The release of this report was met with widespread interest from Iowans; nearly 900 attendees joined in person and online to hear a presentation of the findings.

The Minnesota Center for Environmental Advocacy released a report entitled **Replumbing Minnesota's Landscape** in July. The report outlines how modern agricultural drainage systems have fundamentally "replumbed" Minnesota's landscape by redirecting water quickly off fields and into streams and rivers. The report evaluates how these drainage systems impact erosion, flooding, and the transport of nutrients and sediment into waterways.



Released in September, **Nitrates on Tap** explores the impact of nitrate pollution on water treatment costs, private well users, and health outcomes in the state of Wisconsin. This report, produced by the Alliance for the Great Lakes and Clean Wisconsin, also identifies the sources of Wisconsin's nitrate pollution, 90% of which is linked to agriculture.

NITRATE WATCH IN THE NEWS

In 2025, Nitrate Watch received increased media attention, with numerous news articles highlighting the program and its impact. Many of these stories also featured powerful testimonials from volunteers sharing why they participate and why clean water matters in their communities.

See below for a few of our favorite articles and volunteer quotes shared in the news in 2025.

Citizen scientists take to Iowa's waters to monitor nitrate levels

Cami Koons - Iowa Capital Dispatch
April 11, 2025

"I used to love to jump into every stream and creek and pond and lake here in Iowa. Well over the last number of years, you start seeing the water and see what's in it … I don't have any interest in doing that."

– Rich Gradoville

Cami Koons, Iowa Capital Dispatch

Ag fertilizer runoff likely will force more drinking water restrictions

Kevin Hardy - Stateline
July 10, 2025

"I feel like I'm meticulously documenting the death of my home and nobody else gives a rip."

– Birgitta Meade

In the wake of a near-total fish kill, southwest Iowans wade into water testing

Rachel Cramer - Iowa Public Radio
November 5, 2025

"People are still really upset today. Because of that, people have found ways to take sampling into their own hands."

– Samantha Williams

Rachel Cramer, Iowa Public Radio

LOOKING AHEAD

It has been exciting to welcome so many new volunteers to the Nitrate Watch program in 2025. We look forward to building off the momentum of this big year as we launch into 2026. As we look downstream and make plans for the year ahead, we intend to focus on...

- **Coordinating the first ever Nitrate Pollution Awareness Week, an event aimed at raising awareness about nitrate pollution, encouraging monitoring, and inspiring advocacy**
- **Forging relationships with new partner organizations and strengthening existing partnerships**
- **Creating tools and providing education to support clean water advocacy**
- **Helping volunteers share their stories and connect with decisionmakers**
- **Encouraging more monitoring of drinking water, especially from private wells**

THANK YOU

We are deeply grateful for the volunteers and donors that support Nitrate Watch, contribute valuable data, and share the program with others

We'd also like to extend a huge 'thank you' to the following organizations for their financial support of Nitrate Watch in 2025:

- Aegon Transamerica Foundation
- Change Happens Foundation
- Chesapeake Bay Restoration Fund
- Horne Family Foundation
- Iowa Department of Natural Resources REAP Conservation Education Program
- Izaak Walton League of America Endowment
- Raines Family Fund
- Wings2Water

Thanks to these funders and the generosity of individual donors, the Nitrate Watch program was able to provide free supplies to every volunteer who requested a test kit in 2025 (even with record-breaking request numbers)!

If you are interested in making a donation to support Nitrate Watch, please visit **www.iwla.org/nitratesponsor**.

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