2024 ANNUAL REPORT

NITRATE WATCH℠

IZAAK WALTON LEAGUE OF AMERICA

INTRODUCTION

In 2024, the Nitrate Watch program continued to support volunteers located throughout the country, united by a common concern – nitrate pollution. Nitrate Watch is a crowd-sourced community science project of the Izaak Walton League of America. This program, launched in February 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.

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

This report will summarize the results and participation that Nitrate Watch has seen in 2024 and take a look ahead toward goals for the years to come.

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

THE TROUBLE WITH NITRATE

SOURCES

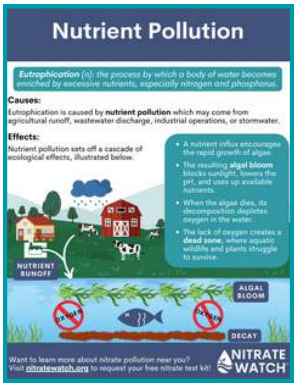
Nitrate is formed when nitrogen combines with oxygen in water. Nitrogen is an essential nutrient for plant growth, but human activities produce more nitrogen than natural systems can use.

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 & Drinking Water]



[Nutrient Pollution 101]

[Nitrate and Algae]

[Cost of Nitrate Pollution]

2024 BY THE NUMBERS

This year, we sent **1,060 kits** to volunteers and partners received an impressive **5,427 nitrate readings** from volunteers. We prioritized forging relationships with new partner organizations, educating volunteers about the connection between soil health and water quality, and providing opportunities to advocate for Farm Bill policies that would reduce nutrient runoff. In 2024, hundreds of advocates pressed their lawmakers for legislation to improve water quality by promoting soil health and wetlands conservation.

See below for a snapshot of key stats for Nitrate Watch in 2024.

5,427
nitrate readings reported

10
new partner organizations engaged

35
states reporting data

1,339
sample locations

4
webinars from the experts

6 short-form videos exploring the relationship between soil health and water quality

OUR PARTNERS

We are grateful for our cohort of partner organizations, and are excited to have welcomed **10 new partners** in 2024. These organizations are spreading the word about the Nitrate Watch program, reporting data, and advocating for reduced nitrate pollution in their local communities. In many cases, our partners serve as an important hub of information and action, providing vital support to volunteers at the local level.

In addition to our official partners, Nitrate Watch volunteers represent **480 organizations** across the country.

NITRATE WATCH PARTNERS:

****new in 2024***

- Antietam-Conococheague Watershed Alliance*****
- Columbia County Division of Health*****
- Faithful Shepherd Catholic School
- Farmington River Watershed Association
- Friends of the Lower Olentangy Watershed*****
- Friends of the Minnesota Valley*****
- Friends of the Rouge
- Green Lake Association*****
- Iowa Citizens for Community Improvement
- Iowa Environmental Council
- Iowa Learning Farms
- Jefferson County Farmers & Neighbors*****
- Little Falls Watershed Alliance
- Loudoun Wildlife Conservancy
- Lower Grand River Organization of Watersheds*****
- Partners of Scott County Watersheds*****
- Prairie Rivers of Iowa
- Rogue River Watershed Partners*****
- The Field Trip Academy*****

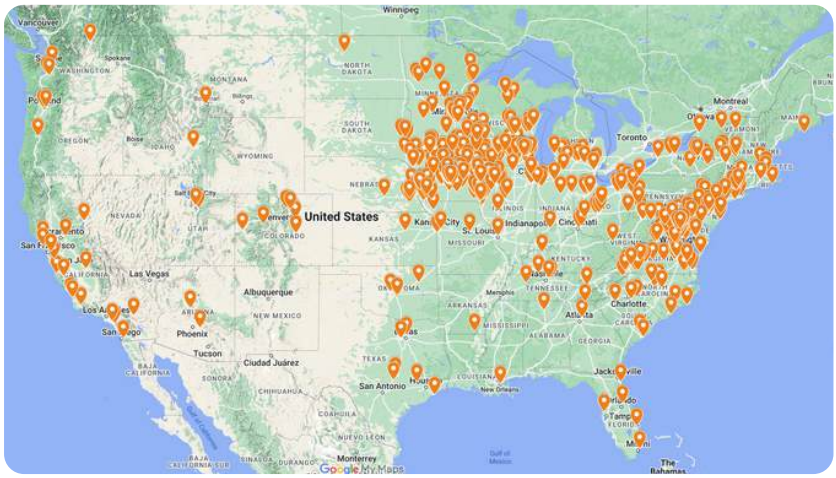
View a map of all partners and participating organizations.

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

OUR VOLUNTEERS

Nitrate Watch would be nothing without the dedicated volunteers who monitor nitrate and report their results. Whether they participate independently or as part of an organized monitoring effort, these volunteers are the backbone of our program.

In 2024, we distributed **1,060 kits** to volunteers across the country. 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. Here are just a few of their responses:

Beyond monitoring, I plan to make a difference about nitrate pollution in my community by...

- Collecting data and raising awareness in the event the results deviate from background levels.
- Sharing results with neighbors and the city council.
- Educating my family, friends, and community!
- Supporting politicians who work to improve water quality, conservation and sustainability.
- Increasing education and awareness to activate change.
- Writing a letter to the editor of the local newspaper and passing out flyers.

RESULTS *NATIONWIDE*

In this section we will summarize nitrate data reported by volunteers in 2024. 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 100 nitrate readings in 2024.

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

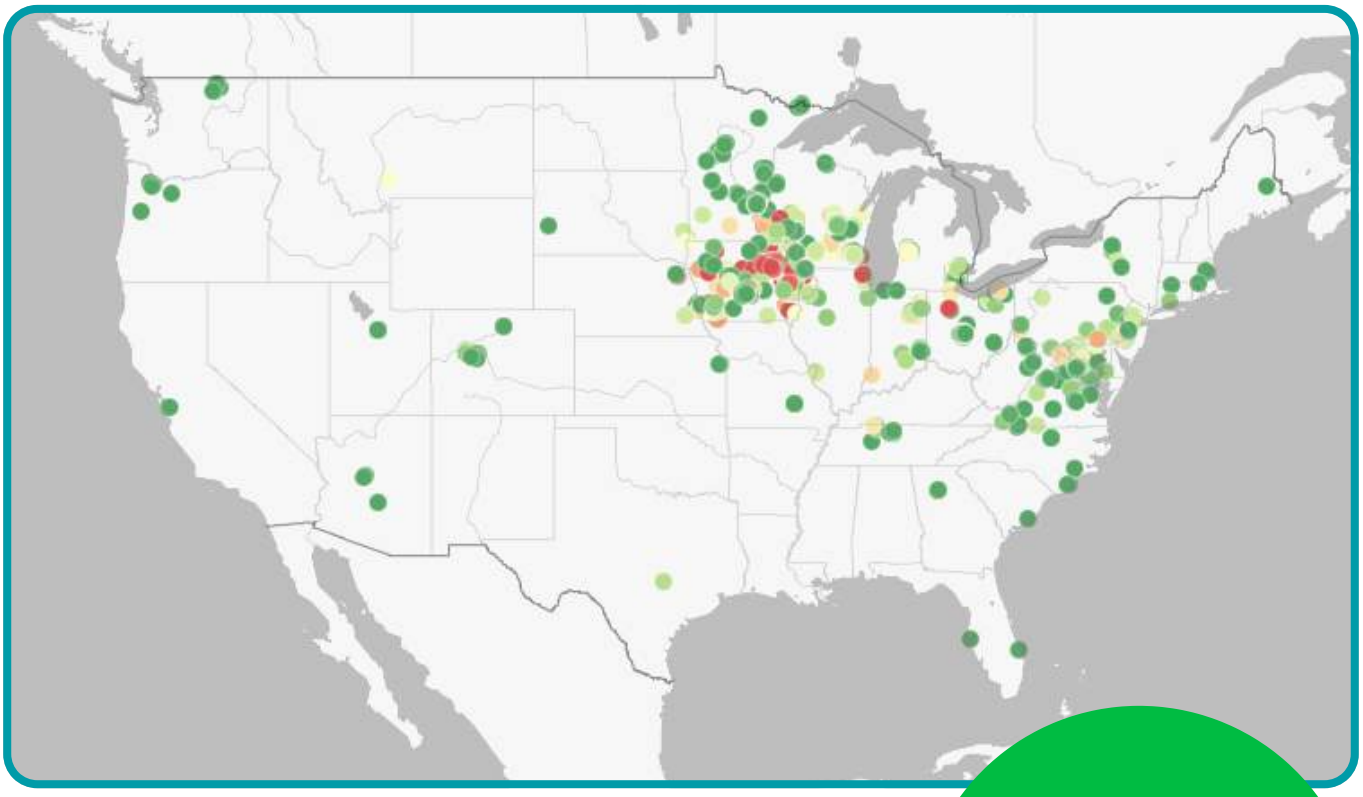
CLEAN WATER HUB
IZAAK WALTON LEAGUE OF AMERICA

SURFACE WATER & DRINKING WATER

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

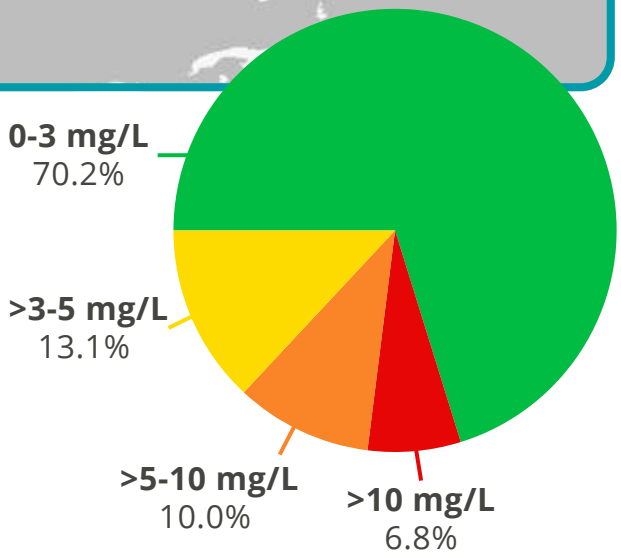
- **Surface Water** includes water from small streams/creeks, rivers, lakes, ponds/wetlands, and drainage/outlet pipes.
- **Drinking Water** includes water from private groundwater wells and public drinking water systems.

RESULTS *NATIONWIDE*



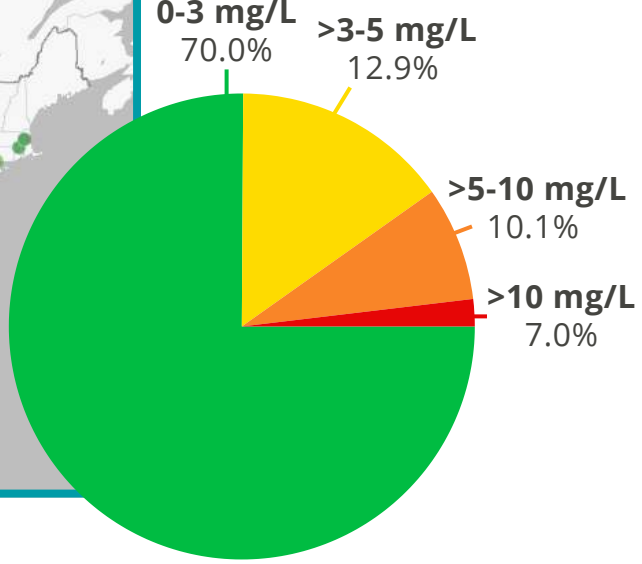
Total nitrate readings: **5427**

- 0-3 mg/L: **3810**
- >3-5 mg/L: **708**
- >5-10 mg/L: **541**
- >10 mg/L: **368**



RESULTS *NATIONWIDE*

DRINKING WATER



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

Total nitrate readings: **265**

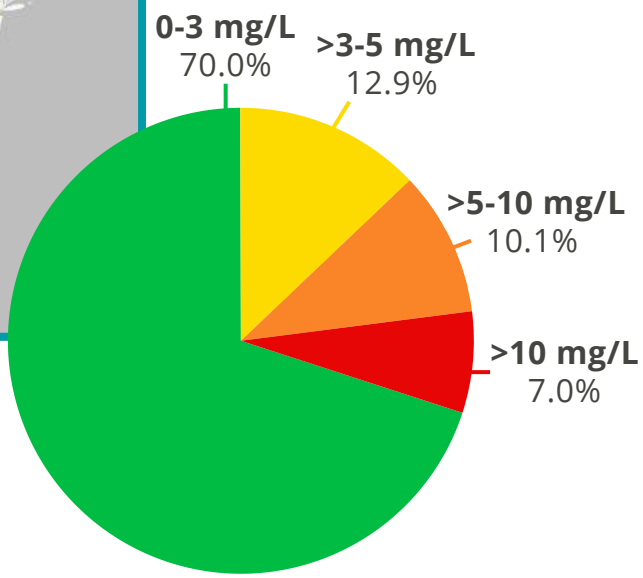
- 0-3 mg/L: **199**
- >3-5 mg/L: **40**
- >5-10 mg/L: **21**
- >10 mg/L: **5**

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 concentrations of 5 mg/L, or even less.

23.4% 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 in a stream is 0-3 mg/L. Surface water nitrate readings in excess of 3 mg/L can serve as an unofficial indicator that external inputs of nitrate, such as agricultural runoff, are present.

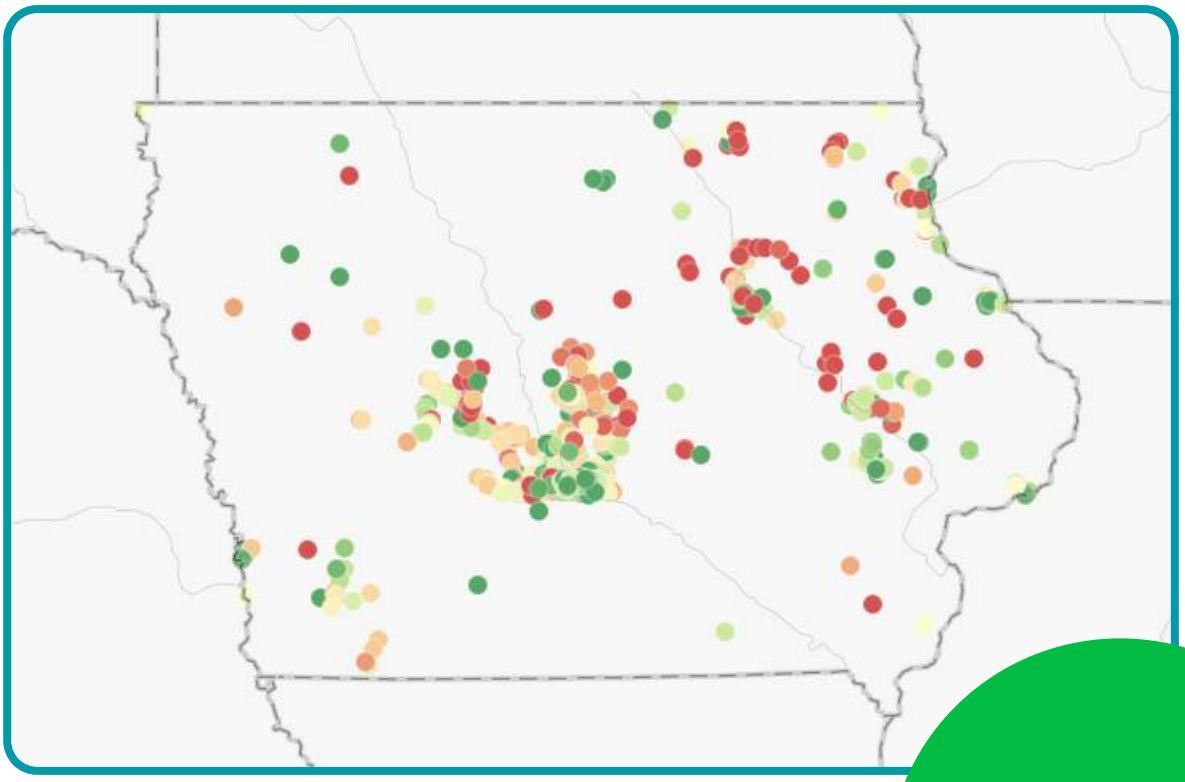
Excess nitrate in surface water contributes to:

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

Total nitrate readings: **5162**

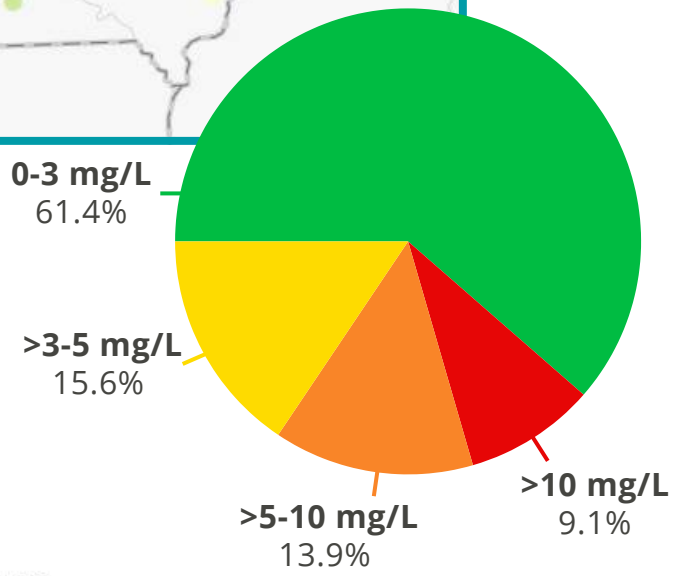
- 0-3 mg/L: **3611**
- >3-5 mg/L: **668**
- >5-10 mg/L: **520**
- >10 mg/L: **363**

RESULTS
IOWA



Total nitrate readings: **3445**

- 0-3 mg/L: **2116**
- >3-5 mg/L: **537**
- >5-10 mg/L: **479**
- >10 mg/L: **313**



Regional Partners:

Iowa Environmental Council

Partners of Scott County Watersheds

Prairie Rivers of Iowa

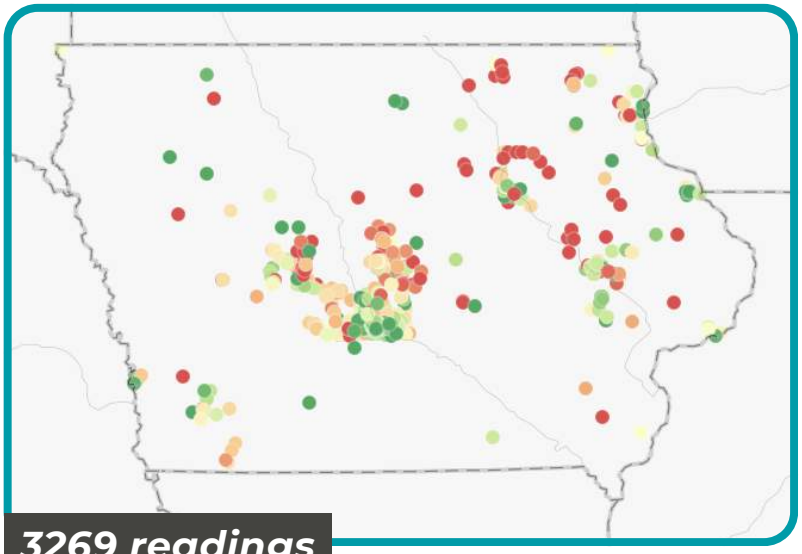
CCI

Iowa Learning Farms

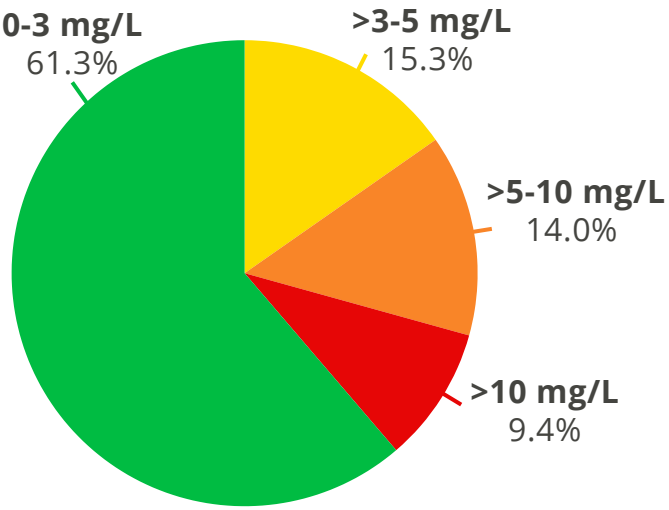
JFAN Jefferson County Farmers & Neighbors, Inc.

RESULTS
IOWA

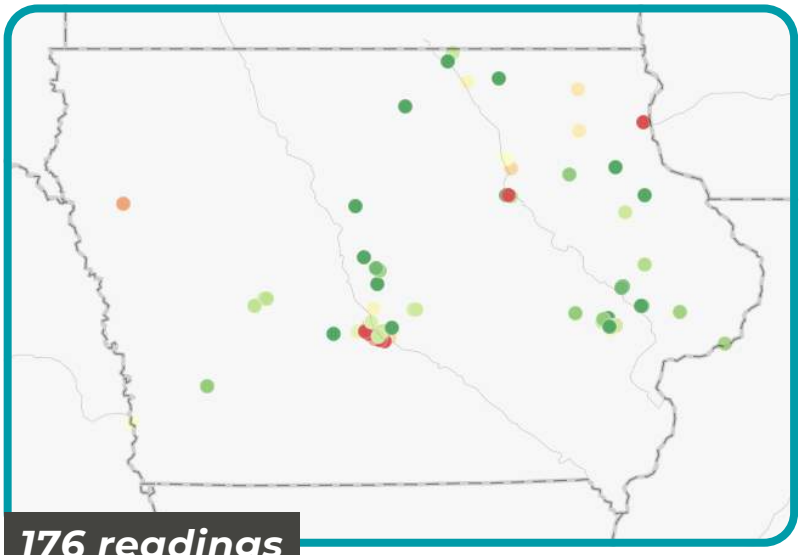
SURFACE WATER



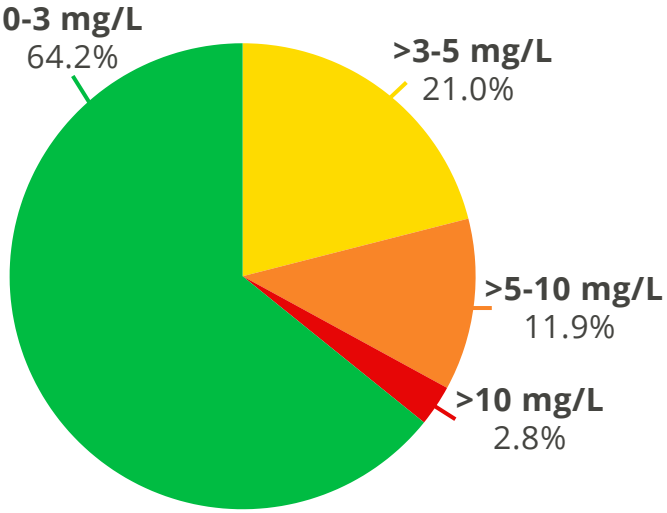
3269 readings



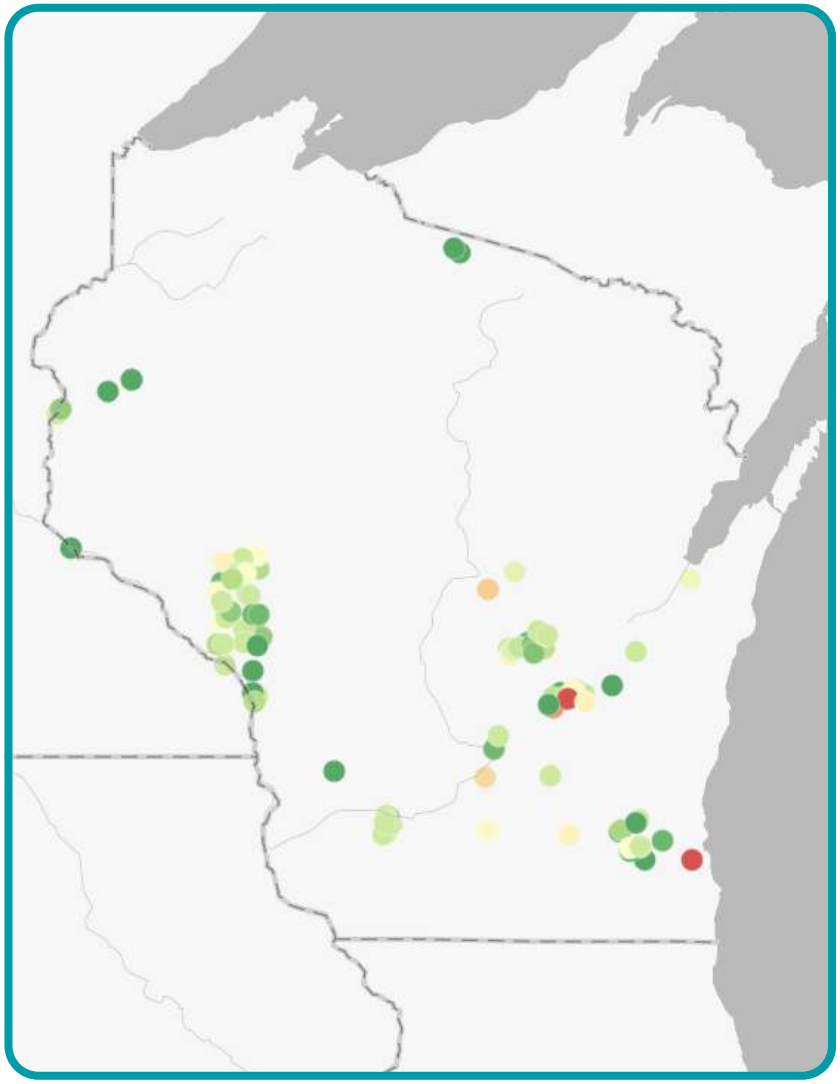
DRINKING WATER

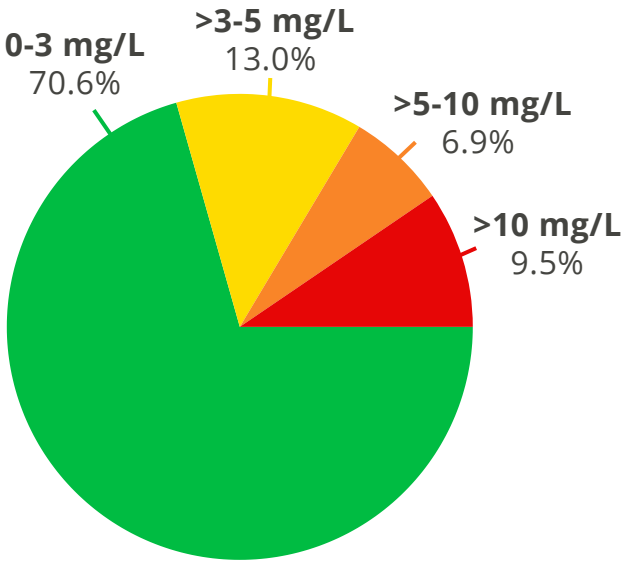


176 readings



RESULTS
WISCONSIN





Total nitrate readings: **347**

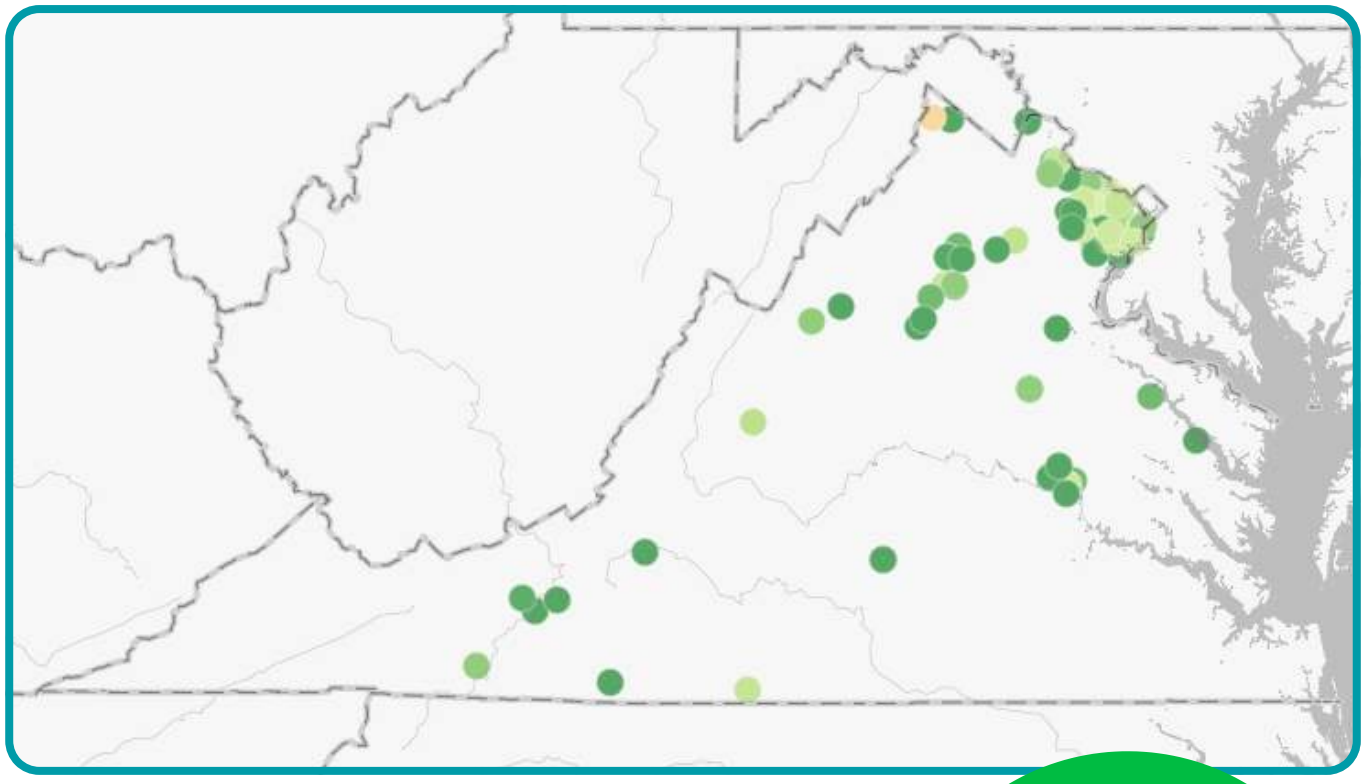
0-3 mg/L:	**245**
>3-5 mg/L:	**45**
>5-10 mg/L:	**24**
>10 mg/L:	**33**

Regional Partners:

COLUMBIA COUNTY PUBLIC HEALTH
PREVENT•PROTECT•PROMOTE

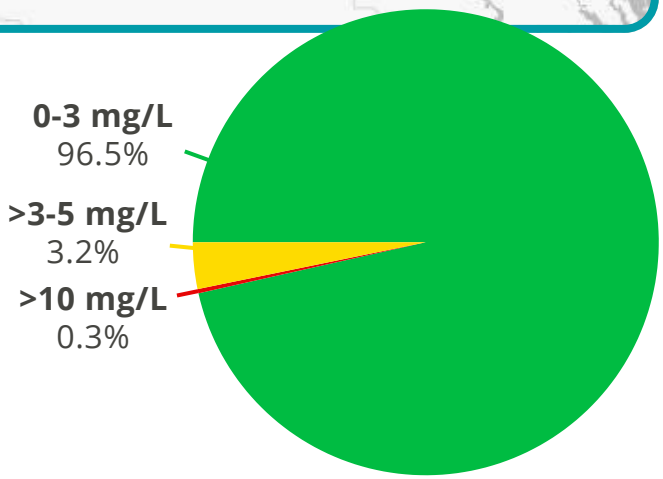
GREEN LAKE ASSOCIATION

RESULTS
VIRGINIA



Total nitrate readings: **341**

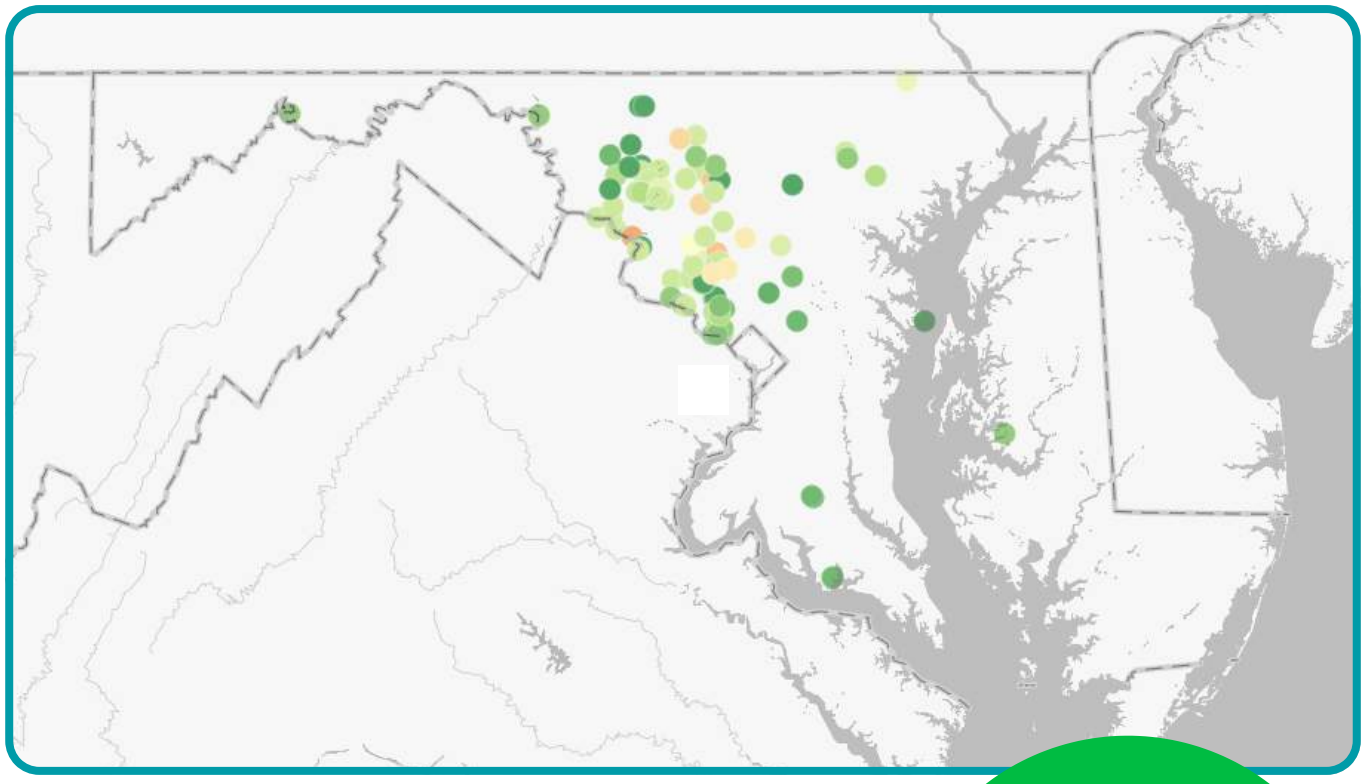
- 0-3 mg/L: **329**
- >3-5 mg/L: **11**
- >5-10 mg/L: **0**
- >10 mg/L: **1**



Regional Partners:

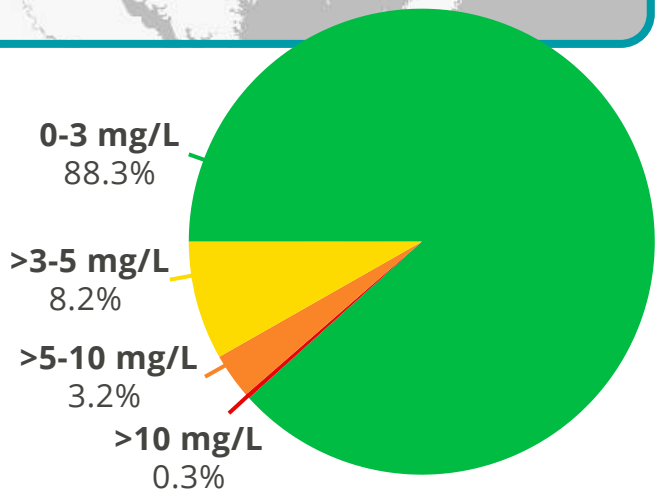
Loudoun Wildlife Conservancy
Established 1995

RESULTS
MARYLAND



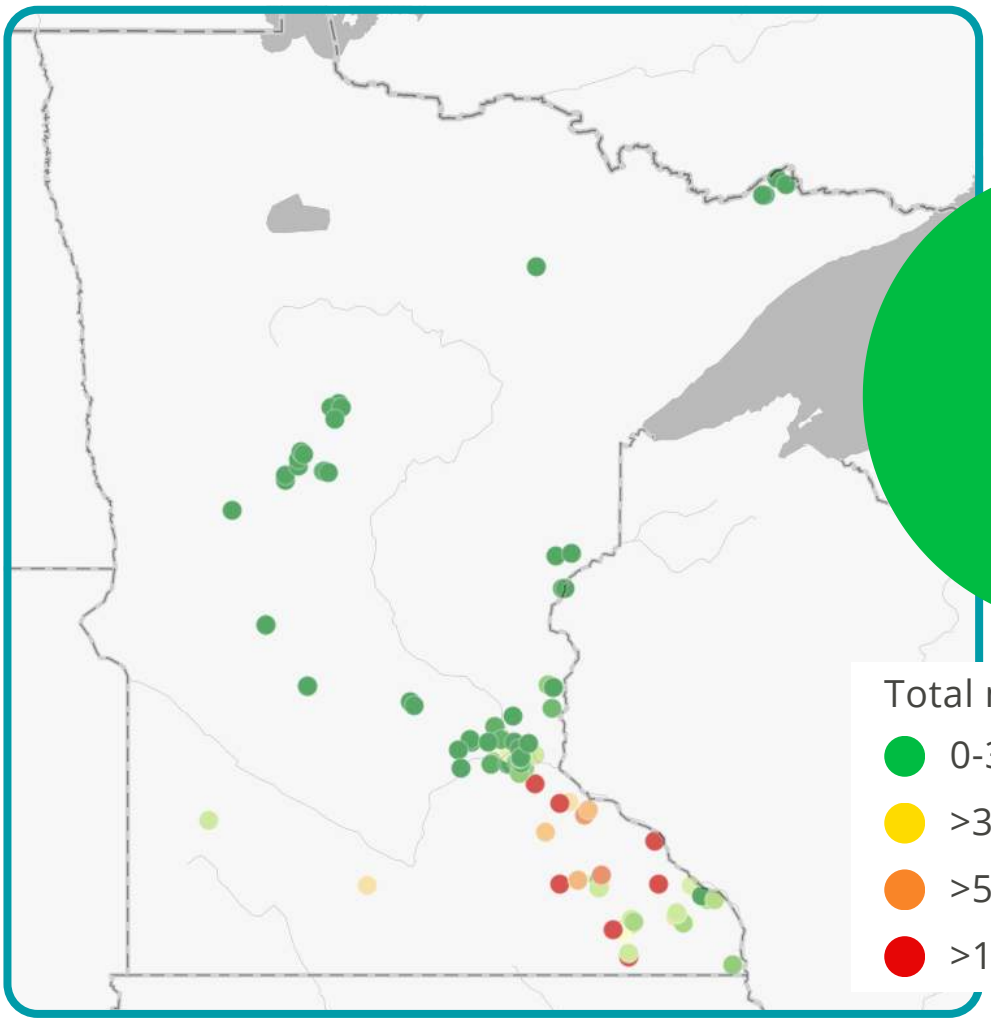
Total nitrate readings: **316**

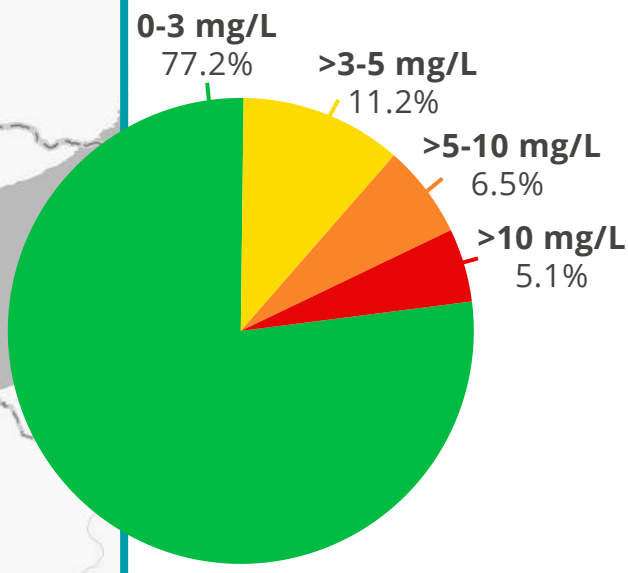
- 0-3 mg/L: **279**
- >3-5 mg/L: **26**
- >5-10 mg/L: **10**
- >10 mg/L: **1**



Regional Partners:

RESULTS
MINNESOTA





Total nitrate readings: **249**

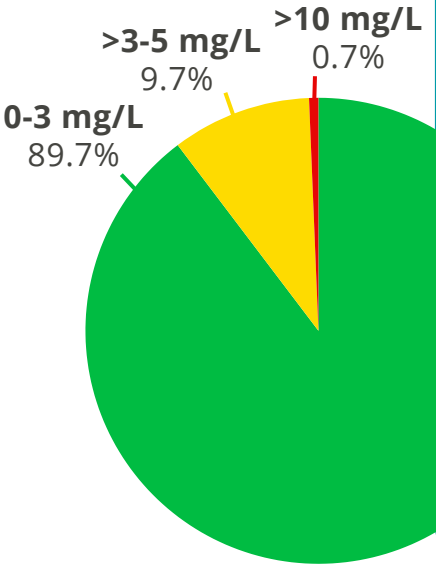
0-3 mg/L:	**227**
>3-5 mg/L:	**33**
>5-10 mg/L:	**19**
>10 mg/L:	**15**

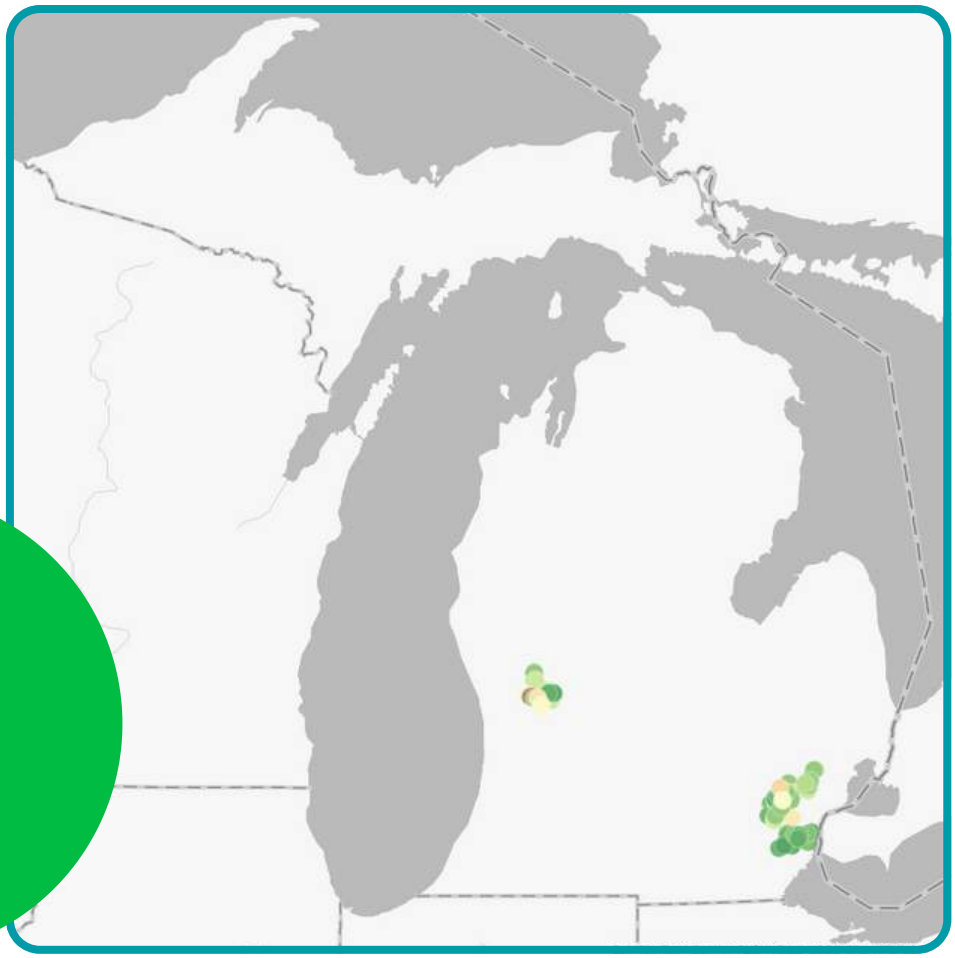
Regional Partners:

River Watch

FAITHFUL SHEPHERD CATHOLIC SCHOOL

RESULTS
MICHIGAN





Total nitrate readings: **155**

- 0-3 mg/L: **130**
- >3-5 mg/L: **8**
- >5-10 mg/L: **0**
- >10 mg/L: **0**

Regional Partners:

Friends of the Rouge

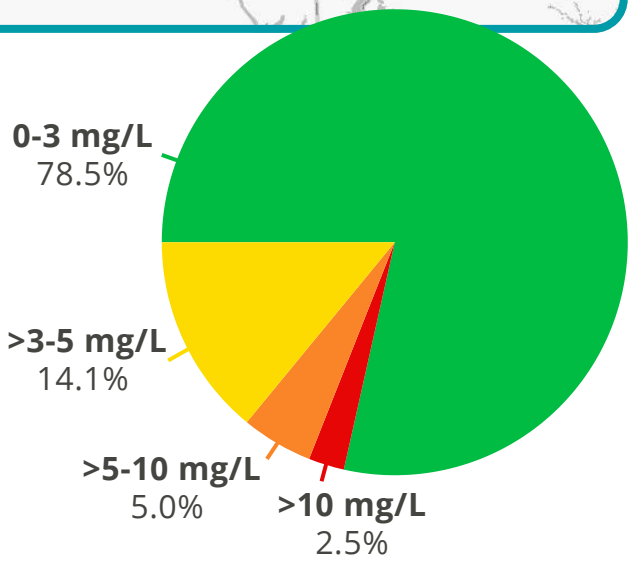
Lower Grand River Organization of Watersheds

Rogue River Watershed Partners

RESULTS
PENNSYLVANIA

Total nitrate readings: **121**

- 0-3 mg/L: **95**
- >3-5 mg/L: **17**
- >5-10 mg/L: **6**
- >10 mg/L: **3**



LOOKING AHEAD

We are excited to see how much the Nitrate Watch program has grown and how many volunteers have joined us in just two short years. As we look downstream and make plans for the future, we intend to focus on...

- **Forging relationships with new partner organizations**
- **Tracking EPA's decision-making regarding nitrate in drinking water**
- **Creating tools and providing education to support clean water advocacy**
- **Encouraging more monitoring of drinking water, especially from private wells**
- **Expanding the Nitrate Watch program to reach new volunteers!**

THANK YOU!

We are incredibly 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 2024:

- Aegon Transamerica Foundation
- Chesapeake Bay Restoration Fund
- Iowa Division of the Izaak Walton League of America
- Iowa Department of Natural Resources REAP Conservation Education Program
- Izaak Walton League of America Endowment
- James E Dutton Foundation
- Raines Family Fund
- Roy A Hunt Foundation

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