Abby Hileman
Salt Watch Coordinator
Salt Watch

www.SaltWatch.org

- Community Science Program
  - Launched 2018
- Mobilizing volunteers to monitor road salt pollution (chloride) in surface water & advocate for smarter salting practices
Chloride pollution impacts...

- Environment
- Infrastructure
- Human Health
Raise awareness in the general public about the connection between salt and stream/public health

Identify hot spots in freshwater

Advocate for solutions and smarter salt application of road salt by sharing results with private landowners and local and state agencies
How to Participate

- Take the Salt Watch pledge and request a kit
- Use test strips to measure chloride
- Snap a picture of the test strip and chart
- Report results on Water Reporter app

www.saltwatch.org
Resources for Monitors: education

**Webinars**

- Taking a Closer Look at Road Salt
- Sharing Our Strategies: A Beginner's Guide to Salt Management
- Season 6 Salt Watch Kickoff: Engage in the Future of Water Quality
- Salt Watch Wrap-up: Meet the Salt Watch Team
- How Road Salt Impacts Our Health

**FAQs**

- **Road Salt: The Basics**
  
  *What's the problem with road salt?*
  
  Road salt is important for helping people travel safely in the winter. But road salt doesn't stay on roads; it seeps into natural waterways, which damages the quality of our drinking water and harms wildlife that isn't adapted to salt-rich environments. Learn more about the history of road salt, how much we use, and what we can do to reduce its impact.

  *Okay, but don't we still need salt for safety reasons? What are you really suggesting?*
  
  Yes, salt is needed. We are not pushing a "salt-free" campaign. We hope to transition communities to more sustainable practices, such as using alternative methods to melt ice or using less salt. It's summer now, so don't worry about road salt, right? In reality, many roads use road salt even in the summer, and that can be even more sensitive to salt in warmer weather.

- **Your Salt Watch Test Kit**
  
  *Why do you need my address?*
  
  We need your address to send you the Salt Watch kit. We will not use your mailing address for any other purposes.

  *What comes in my Salt Watch test kit?*
  
  Your kit will include four easy-to-follow scripts, a salinity test strip, and instructions. It will help you determine if the water in your area is safe to drink.

  *Are the tests safe?*
  
  Yes! The test strips are safe to use, and they are approved by the EPA.

  *When should I test my Salt Watch kit?*
  
  You can use the kit any time you need to test for salt levels in your water. It's especially important to test after a heavy rainfall or snowmelt.

**Blogs**

- **Road Salt and Stream Health**

  As the days shorten and the temperatures drop, our thoughts shift from outdoor activities to spending time indoors with family and friends. When it's time to shovel snow or prepare for winter, we need to consider the impact of road salt on our streams and waterways. Learn more about the effects of road salt and what you can do to reduce its impact.

  Although road salt can cause serious damage to our water quality, the League is committed to promoting sustainable practices. By reducing our reliance on road salt, we can help protect our waterways and ensure a cleaner, healthier future for all.

- **Road Salt: A Brief History**

  Road salt is a commonly used substance to prevent ice from forming on roads and sidewalks. However, its use can have negative impacts on water quality and aquatic life. Learn about the history of road salt and how we can work towards a more sustainable future.
Resources for Monitors: advocacy

Letters to representatives

- Maryland
  - Find your legislators
  - Sample letter

- Minnesota
  - Find your legislators
  - Sample letter
  - Tell your city council / local property owners to use the model snow and ice policies and contracts with applicators from MPCE

- Pennsylvania
  - Find your legislators
  - Sample letter

- Wisconsin
  - Find your legislators
  - Sample letter
  - Tell your city council / local property owners to use the model snow and ice policies and contracts with applicators from WI Salt Wise

- Other states
  - Sample letter to legislators

Letters to the editor

It's life, salt goes a long way

Starting with the first snowfall of the year and continuing throughout the winter months, [insert your county, state] relies on sodium chloride (commonly called rock salt) and other chloride-containing ice melt products to reduce snow and ice accumulation on our roadways. As a result, we use roughly 20 million tons of road salt per year. Rainfall and snowfall carry that salt into storm drains, which empty directly into nearby streams, causing potentially dangerous spikes in salt levels.

Increased salt levels in streams can coralpose, harm our pets, and make it tough for wildlife to find clean, safe drinking water. Many of us (more than 115 million Americans) depend on local streams for drinking water too. Water treatment plants are not equipped to filter out excess salt, so road salt can end up in our tap water, which can cause health concerns for people with high blood pressure.

The problem is getting worse. Chloride concentrations approximately doubled in the northern U.S. from 1980 to 2011. Increasing even faster is the size of urbanization in the region. According to the New Hampshire Department of Environmental Services, damages due to road salt cost the U.S. $1-1.5 billion a year. More traffic and more roads will only exacerbate the problem further.

Traveling safely is important to all of us — and we can keep our roads and sidewalks safe while not degrading water quality in the process. Community members and government officials need to work together to reduce salt use. Find alternatives to road salts, and stop the pollution of our nation's streams, rivers, and lakes.

For more information about road salts, please visit saltwatch.org

Fact Sheets & Best Practices

- Be a Smart Salter
- Reduce your salt use to protect our water!

Once you put salt down, it doesn’t go away...

Salt seeps into our streams, lakes, and rivers, degrading aquatic life and human health at risk.

Safe winter driving is easy as 1-2-3...

1. Wait
   - Wait to allow time for plowing and deicing.

2. Know
   - Know the current road conditions before you drive.

3. Slow
   - Travel slowly and use caution on the roads.

Americans use 20 million tons of road salt every year.
Heather Wilson
Midwest Save Our Streams Coordinator
Nitrate Watch

www.NitrateWatch.org

- NEW community science program
  - launched Feb. 2023
- Mobilizing volunteers to monitor nitrate in surface water & drinking water
Nitrate pollution impacts...

Environment

Human Health

Economy
GOALS OF NITRATE WATCH

Raise awareness about nitrate pollution and its impacts on human health and the environment.

Identify hot spots of nitrate pollution across the country.

Advocate for solutions that reduce nutrient pollution.
How to Participate

- Take the Nitrate Watch pledge and request a kit
- Use test strips to measure nitrate
- Report results on the Clean Water Hub

www.nitratewatch.org
Resources for Monitors: education

Make a Plan worksheet

Make a Plan to Monitor

Each free Nitrate Watch test kit comes with 20 nitrate test strips. Use this worksheet to make a plan and get the most out of your test kit!

CREATE AN ACCOUNT ON THE CLEAN WATER HUB
The Clean Water Hub is the database where all Nitrate Watch readings are reported. Visit www.cleaneathub.org/nitrate-watch and follow the prompts to create an account!

Already have a Clean Water Hub account? You’re all set!

PLAN OUT WHERE YOU WILL MONITOR
You can use your test strips to monitor:
• Surface water (lakes, streams) or
• Drinking water (from a public drinking water system or private groundwater well)

Choose waterways that are important to you!

Places I plan to monitor:

<table>
<thead>
<tr>
<th>Location</th>
<th>Type of Sample Source</th>
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Concerned about a potential pollutant? Monitor upstream and downstream if it and compare your results.

FAQs

Nitrate: The Basics

Where does nitrate come from?

Nitrate is formed when nitrogen combines with oxygen to make nitric acid. It occurs naturally in plants, including many legumes and tree roots. It is also formed from human and animal waste, including fertilizers, animal manures, and sewage. Nitrate does not decompose in the soil and can contaminate groundwater and surface water. Nitrogen is a natural part of the water cycle, so “freshwater” is a term for water that does not contain high levels of nitrate and other nutrients.

Why is excess nitrate bad for human health?

Excess nitrate in drinking water can cause a condition called methemoglobinemia, also known as “blue baby disease.” This can cause the skin to turn bluish-gray and may result in serious illness or death.

Dietary nitrate has been linked to a reduction in blood pressure, but high levels of nitrate in drinking water can cause a condition called methemoglobinemia, also known as “blue baby disease.” This can cause the skin to turn bluish-gray and may result in serious illness or death.

If plants need nitrogen to grow, why is excess nitrate bad for the environment?

Too much nitrate in plants can be a bad thing. When excess nitrate is present in your area, it can overwhelm the growth of algae, leading to a condition known as “blue-green algae.” Blue-green algae can be toxic to humans and animals. It is also a sign of nutrient enrichment in the water, which can lead to other environmental problems. The presence of blue-green algae in the water can cause a condition called “methemoglobinemia,” also known as “blue baby disease.” This can cause the skin to turn bluish-gray and may result in serious illness or death.

Algae blooms are a major concern. The drinking water supply for more than 30,000 people in Toledo, Ohio was shut down for days after the algae blooms to protect health. Even algae blooms are harmful. Algal blooms can be toxic and may cause health problems. The blooms can also cause a condition called “methemoglobinemia,” also known as “blue baby disease.” This can cause the skin to turn bluish-gray and may result in serious illness or death.

Are there any more reasons I should be concerned about nitrate levels?

Yes! There is more evidence that nitrate levels are related to health problems in humans and animals. High nitrate levels in drinking water can cause a condition called “methemoglobinemia,” also known as “blue baby disease.” This can cause the skin to turn bluish-gray and may result in serious illness or death.

What if my water comes from a well?

If you get your water from a well, you are at a much higher risk of exposure. The EPA does not regulate drinking water for nitrate, so you should consider having your water tested for nitrate. If you use a well, you should consider having your water tested for nitrate. If you use a well, you should consider having your water tested for nitrate.

Blogs

What Is Nitrate Pollution?

Alex Peska

Nitrate Watch is the latest initiative in the 100% Water League’s campaign to address water pollution and degradation. As with many environmental pollutants, nitrate significantly threatens the health of ecosystems and the humans residing near them. Therefore, it is essential to monitor nitrate levels in local waterways in order to prevent harm to all forms of life.

Nitrate (NO3) is a naturally occurring compound of nitrogen and oxygen. An essential component of life on Earth, nitrate’s component element, nitrogen, is needed in large quantities by all organisms. Nitrogen is utilized in everything from DNA replication to capturing sunlight for energy production in plants. Without usable nitrogen, the Earth could not support the billions of people now living on our planet.
Resources for Monitors: advocacy

Petition

Time to Call a Halt to Harmful Nitrate Pollution

Nitrate is well-known and highly prevalent water pollutant with harmful impacts to human and environmental health. Nitrate is abundant in synthetic fertilizers, animal manure, and sewage. They are easily picked up by rainfall and frequently run off into water bodies and seep through soil into the groundwater below. Dangerously high levels of nitrate present in our surface waters and drinking water sources are unacceptable and demand action.

High nitrate levels lead to algal blooms which deplete the oxygen in waterways, creating dead zones where aquatic life is scarce. Algal blooms may also harbor toxic cyanobacteria, which can cause rashes, nausea, and in some cases death to humans and animals that come into contact with the bacteria.

Consuming nitrates in drinking water is known to have negative impacts on human health, including methemoglobinemia (“blue baby syndrome”), thyroid disease, central nervous system birth defects, and colorectal, bladder, ovarian, and kidney cancers. While the EPA has set the drinking water standard of 10 mg/L for nitrates, private water supplies from groundwater wells are not regulated and do not have established standards for drinking water.

As an issue, I understand the responsibility that our state has for providing food for our people and country. However, our current farming practices can be modernized to improve soil health and reduce excess nitrates applied to fields that pollute our water. Our agricultural systems must evolve in a way that we can continue to feed a growing population without harming our water. Government officials and our communities need to come together to reduce excessive fertilizer use, advocate for alternative farming practices, and stop polluting our waterways.

For more information about nitrate pollution, visit nitratewatch.org.

Letters to the editor & Letters to representatives

A little fertilizer goes a long way.

Many modern agricultural practices depend on synthetic fertilizers that are high in nitrates to produce crop yields that will support a growing population. Unfortunately, these fertilizers can be harmful to human and the environment when they run off into waterways. From July 2017 to June 2018, Iowa’s 144,520 farms fertilized an estimated 13.4 billion tons of fertilizer. As nitrate runoff or sewage may carry the nitrates from fertilizers into groundwater or into drainage systems which empty into streams, about 60% of the nitrogen in Iowa’s surface water bodies where they are applied.

High levels of nitrates in streams can lead to unsafe drinking water. More than 13 million Americans depend on local streams for drinking water. In 1999, the Environmental Protection Agency (EPA) established the drinking water standard for nitrates as 10 mg/L. But studies have found that nitrate levels in Iowa with nitrates even lower than that may not be safe to ingest. Some health risks related to nitrate levels include methemoglobinemia (blue baby syndrome), cancer, thyroid disease, respiratory issues, and birth defects. About 10% of public water supplies in Iowa treat their water for nitrates, and private water supplies, such as groundwater wells, are not regulated and do not have a standard for contaminants. Together, that means that about one third of the households in Iowa are at high risk of nitrate exposure.

Fact Sheets

Nitrate in Drinking Water

Chemical fertilizers, animal waste, and leaky septic tanks are just a few sources of the elevated nitrate levels in many public water systems and private wells. The impact of nitrates on human health is an area of ongoing research. However, there are several health risks that are known to be linked with nitrates in drinking water.

**Nitrate in Drinking Water**

The drinking water standard for nitrate as nitrogen is 10 mg/L, as established by the US Environmental Protection Agency (EPA). The drinking water standard for nitrates was set at 10 mg/L. Current research suggests that prolonged exposure to nitrate levels below 10 mg/L can still lead to increased health risks.

**WELL WATER ISN’T TESTED**

Approximately 43 million Americans get their water from private wells, which are not regulated by the EPA. Well users are responsible for testing their own water. Most states recommend testing at least once every year.

**WHAT TO DO**

If your drinking water contains nitrate levels above 10 mg/L, take the following steps:

- Contact a licensed well contractor or your public service operator to identify next steps.
- Obtain drinking water from a safe source, such as bottled water. Bottled water will not remove nitrate.
- Consider installing a reverse osmosis system, ion exchange, or distribution water filtration system. Well users may also consider drilling a new well.

**JOIN NITRATE WATCH**

What do I need to know about nitrate in my water? Visit nitratewatch.org to request your free test kit today.

**THYROID DISEASE**

**BIRTH DEFECTS**

**CANCER**

**BLUE BABY SYNDROME** (METHEMOGLOBINEMIA)**

**HEALTH CONCERNS**

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