Crowdsourcing for Valuable Water Quality Data
IWLA Citizen Science Initiatives

WINTER SALT WATCH
IZAACK WALTON LEAGUE OF AMERICA

VIRGINIA
Save Our Streams

SAVE OUR STREAMS
IZAACK WALTON LEAGUE OF AMERICA
What is the goal of Winter Salt Watch?

• To raise awareness in the general public about the connection between salt and stream health

• To advocate for smarter application of road salt by sharing results with private landowners and local and state agencies.
Wildlife Impacts

- < 100 ppm typical
- 230+ ppm concerning
- Affects fish, but macroinvertebrates, plankton and microbes may be even more sensitive than fish
- Vernal pools may be more intensely affected – as well as the organisms that spawn in them
- Mammals drinking from high chloride streams can be negatively impacted
Salt Watch kit

Includes:

- 5 Hach 30-600 ppm chloride test strips
- Sample testing instructions
- Data uploading instructions
- Conversion chart

- ~ 500 kits last year
- ~ 1,000 kits this year
Who is participating

- School classes
- University students
- Watershed groups
- Concerned individuals
- Existing water quality monitors
Recruitment and Retention

- Social media—organic and paid
- Word of mouth
- Listserv emails within IWLA membership
- Monthly Salt Watch newsletters
- Social Media updates
- Data visualization
When should volunteers monitor?

- Before a winter storm (to get a baseline reading).
- After salt has been applied to roads.
- After the first warm day or rainstorm following a snow or freeze.
- After the next rain event.
Test# 2, at Riffle Ford Road bridge on Sunday Jan 19 at 11am. Road was treated on Friday Jan 17 prior to ice event on Saturday Jan 18 that was followed by a rain event.
How to Participate

Get Started

• Download Water Reporter to your smartphone.
• Create your personal account.
• Join the Izaak Walton League of America group.

Submit Reports

Open your Water Reporter App
Click on “Start a new post”
Add the photo of your test strip and location
Enter #SaltWatch in the comments

Important Tips

• “Toggle on” the IWLA group on your post so that we receive it!
• Show the test strip and the reference card in your photo.
• You can share photos of giant piles of salt to the IWLA group too!
Not every report is great...
2018-19 DC area reports
2018-19 Philadelphia area reports

Number shows how many reports per watershed
Interactive Map of Winter 2019-20 Results– Point Data w/ Buffers
www.iwla.org/saltwatch
WINTER SALT WATCH MAP
Zoom in and click on the dots to see this season's Salt Watch results.
What do volunteers do next?

Act
Take action. If you find high levels of chloride, let someone know!

Report
Report high salt readings to your local watershed entity

Call
Call your city or county department of environmental protection to report high chloride levels or large salt piles.

Write
Write a Letter to the Editor of your local newspaper or other news outlet to educate your community about this issue. You can start with our sample letter and adapt it for your use.

Share
Share road salt best practices with property owners, community managers and state agencies.
muddybranchalliance As unbelievable as it may be, this pile of salt was found this past week. The salt obviously wasn’t put down for concerns with ice since we had no recent snow or icing events. Perhaps someone had salt left in their truck and needed to get rid of it? It was reported to the county and quickly picked up. 
#senecacreekwatershedpartners
#savecleanwater #salt
#saveourstreams

saveourstreams 🌟 Glad it was spotted and cleaned up!

24 likes
Citizen science reveals salty findings

January 31, 2020  by Mike Schoonveld

If you take a freshwater fish and drop it into the ocean it will die pretty darned quick. At least the vast majority of them will – as will many of the insects, plants, plankton and most other things adapted to life in unsalted water.

So it only seems logical that putting salt into a freshwater lake or stream could be debilitating to the flora and fauna living in it. No one would do that, would they? No one other than highway departments across most of the world in towns and cities that experiences winter weather.

Highways are safest when they are ice free so the rubber on the tires can meet the road, not a layer of ice or snow coating the surface of the road. Nothing deices roads better than chlorinated salts – sodium chloride, the most common salt found in the ocean and on the exterior of potato
Groups want to dilute the threat of road salt to streams, wildlife in Berks

By Lisa Scheid lscheid@readingeagle.com @LisaScheid on Twitter  Jan 6, 2020  Comments
Initiatives beyond IWLA Salt Watch

- Participating in VA DEQ Salt Management Strategy
- Partnering with watershed groups to pick up the project
  - Coon Creek Watershed in MN—raising community awareness
  - Pennypack Trust in PA—raising community awareness and working with private landowners on better salt practices
- Partnering with Minnesota Pollution Control Agency to screen for chloride around the state
Did you know...

Salt applied to paved surfaces during slick weather conditions helps keep us safe, and businesses and vital services open. However, after a snow event, salt residue lingers and impacts:

- **Public health:** Affecting those serviced by drinking water supplies with higher salt concentrations.

- **Infrastructure:** Corrosion and damage to roads, bridges, sidewalks and parking lots leads to higher maintenance and replacement costs.

- **The environment:** Increases in stream and groundwater salinity impact freshwater fish and other aquatic life.
What to do during and after a storm?

Clear snow by shoveling early and often, and apply salt only where needed.

If the sun comes out and you can wait, let the sun do some of the work before you apply salt.

Apply salt after clearing snow. Never use salt to “burn off” snow. It will quickly dilute and requires more salt.

After the storm, sweep up the extra salt or traction material and use it again next time.