

Ossipee Watershed

A Presentation to the
Freedom Country Club

May 11, 2010

“Tonight’s Take Aways”

- What is a Watershed?
- What is Surface Water vs. Groundwater?
 - Who Tests my water?
 - Do we have risks to our water?
 - How do I get my water tested?

What does water mean to you?



The Green Mountain Conservation Group promotes an awareness of and appreciation for clean water and the wise use of shared natural resources across the Ossipee Watershed and fosters a commitment to protect them.

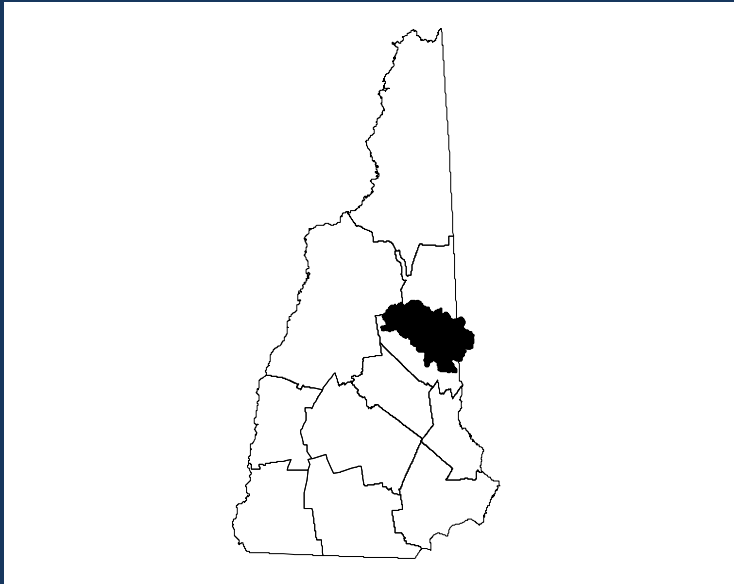


What is a Watershed?

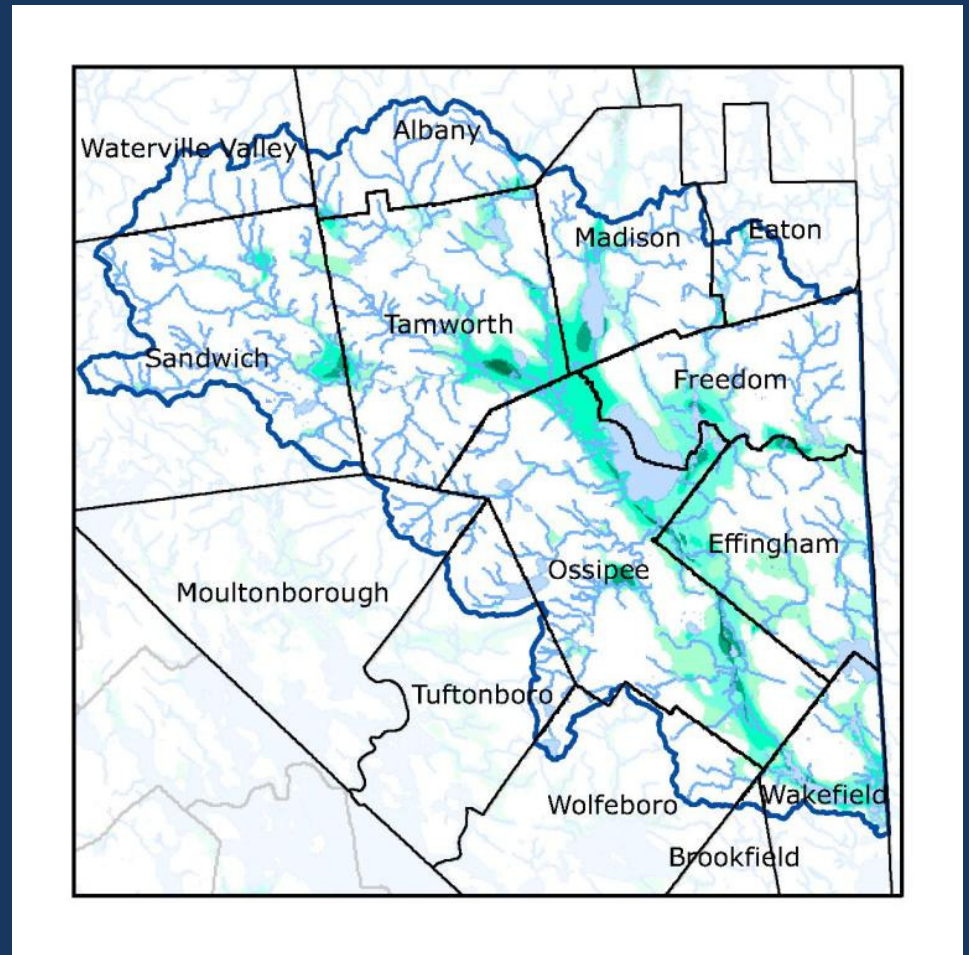


- A Watershed is like a sink – all the water that falls within its rim drains to a common outlet.
- In our case the outlet is the Ossipee River, and the rim is defined by our local mountains

The Ossipee Watershed



Effingham, Freedom, Madison, Ossipee, Sandwich, and Tamworth represent the largest portion of the Ossipee Watershed,

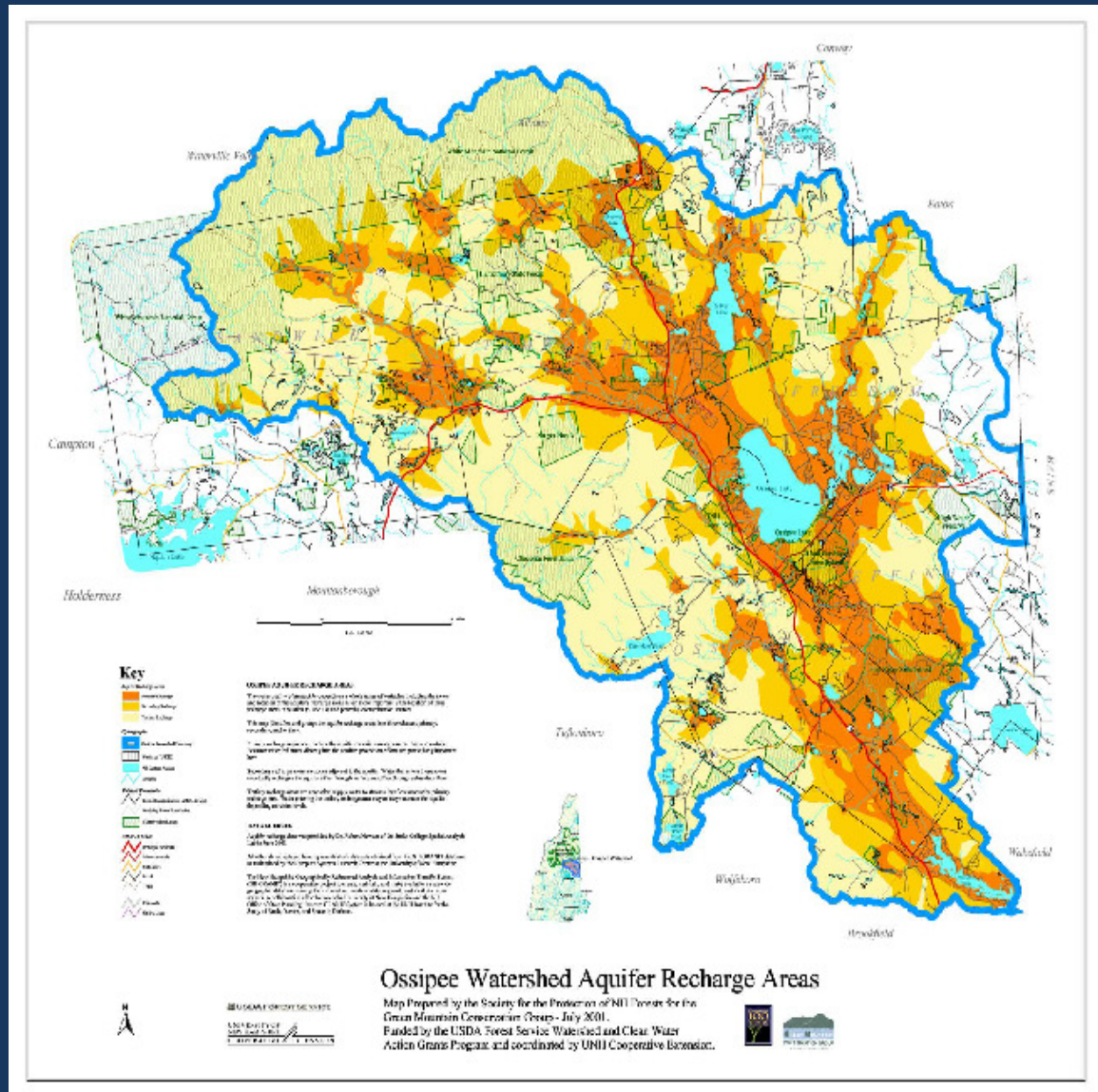


The Aquifer: Underneath the Watershed

The Ossipee Watershed includes part of the LARGEST stratified drift aquifer in NH.

Characteristics of a Stratified Drift Aquifer

- Layers of sand and gravel deposited by glaciers
- Very quickly recharged by rainwater
- Very easily contaminated
- Extremely important drinking water resource



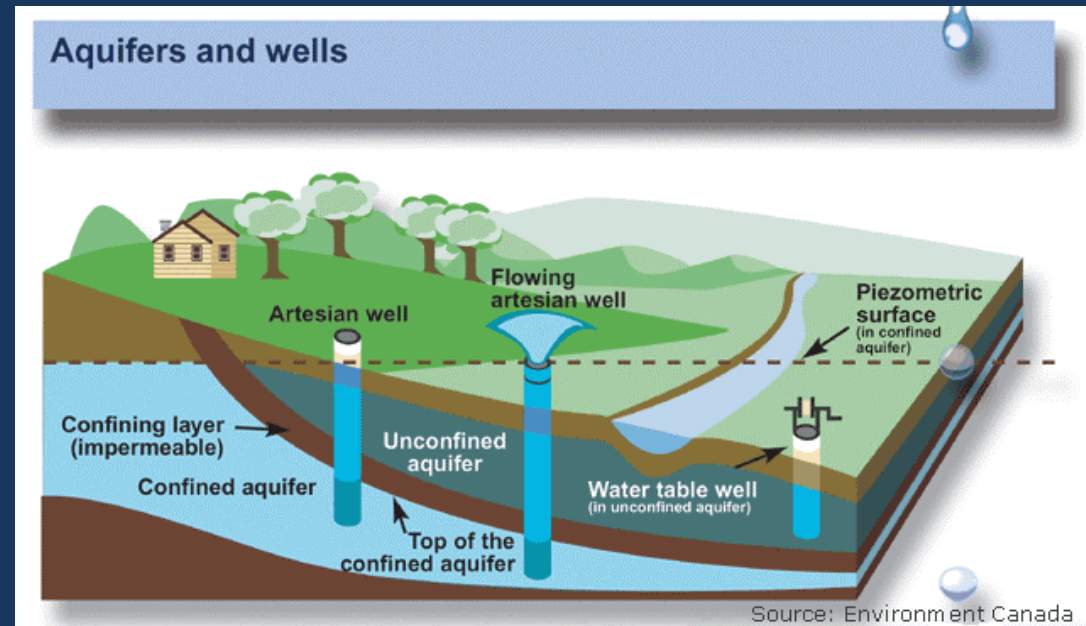
Where our water comes from?

Surface water:

Lakes, rivers,
streams, wetlands

Groundwater:

1. Drift Aquifer
(shallow)
2. Bedrock (Deep)



Who Tests My Water?

- Groundwater (Drinking water)
 - Town water (Freedom Water District)
 - Private Wells (You?)
- Surface water
 - Green Mountain Conservation Group
 - NH DES

Surface Water Quality Monitoring Programs in 2010 by GMCG

- **RIVERS** : Volunteers continue to gather data on our 28 summer testing sites on RIVERS within the watershed.
- **Ossipee Lake Tributary Program**: Volunteers continue to test 11 tributaries to Ossipee Lake
- **Volunteer Lake Assessment Program**: Each layer of the lake at deepest point in each bay (5 sites)
- **VABP Biological Assessment Program**: collect macroinvertebrate samples at 9 stream sites.



GMCG volunteer tests Banfield Brook



GMCG Groundwater Monitoring 2009

Groundwater Monitoring: 60 wells, 14 business owned and 46 privately owned wells in 2009

- Provided a baseline for drinking water quality within the aquifer.
- Only 8 of 60 wells sampled show road salt impacts high enough to raise the sodium concentrations more than 20 mg/L.
- Smith College and GMCG have partnered with USGS to monitor water levels within the aquifer



Businesses received certificates of participation



GMCG, USGS, and Smith College staff out well testing

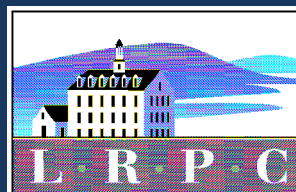
Ossipee Aquifer Groundwater Protection Ordinance

Six Communities Are Working Toward Adopting a Groundwater Protection Ordinance

- Effingham
- Freedom
- Ossipee
- Madison
- Tamworth
- Sandwich

This project is the product of a collaboration between the:

- New Hampshire Department of Environmental Services
- Lakes Region Planning Commission
- Green Mountain Conservation Group



What are some of the Risks to our Water?

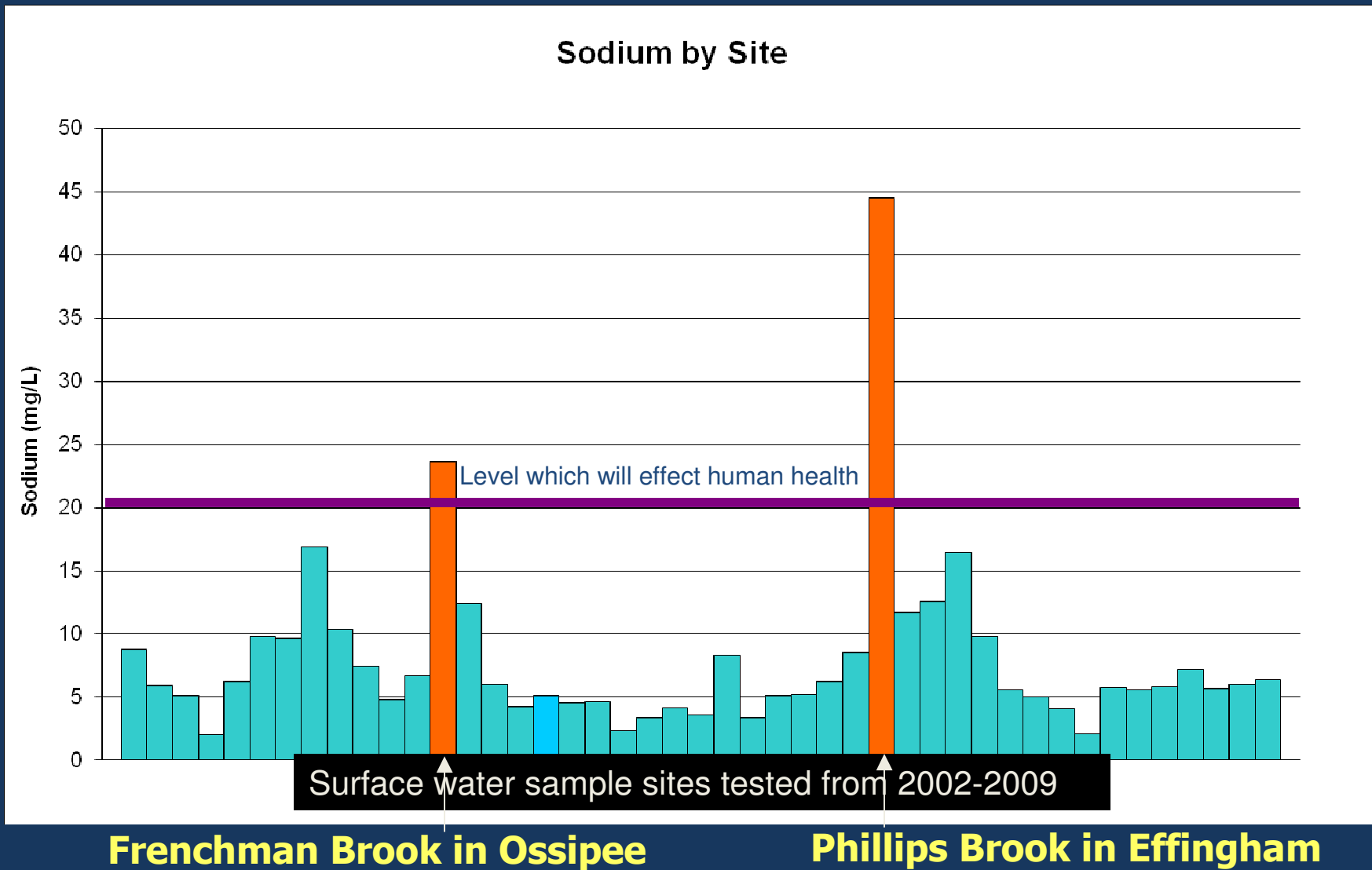
- Drinking Water

- Sodium & Chloride
- Bacteria (*E. coli*)
- Arsenic
- Copper/Lead
- VOC's
- Radon/Uranium

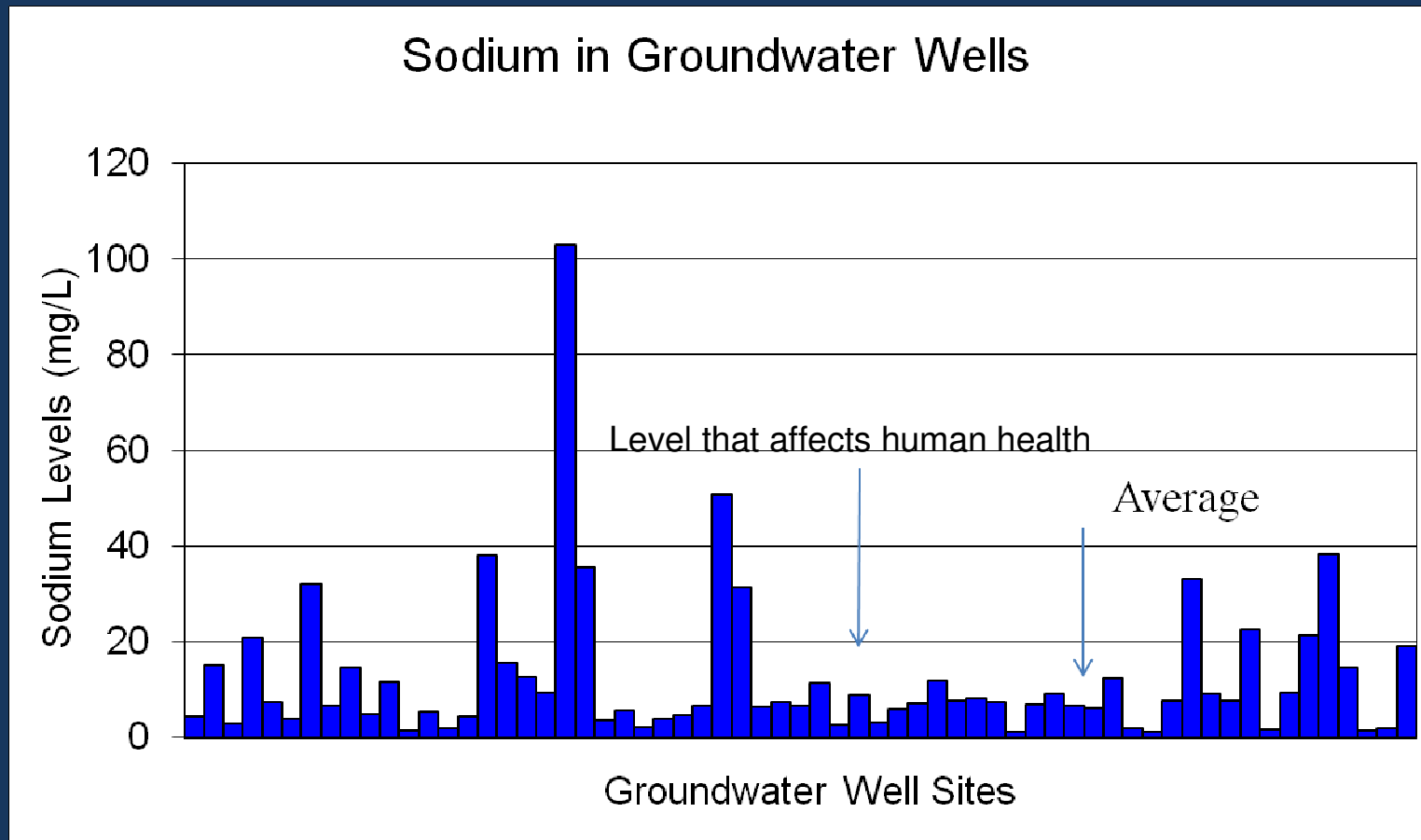
- Surface Waters

- Clarity
- Sodium/Chloride
- Nutrients
- Nuisance plants

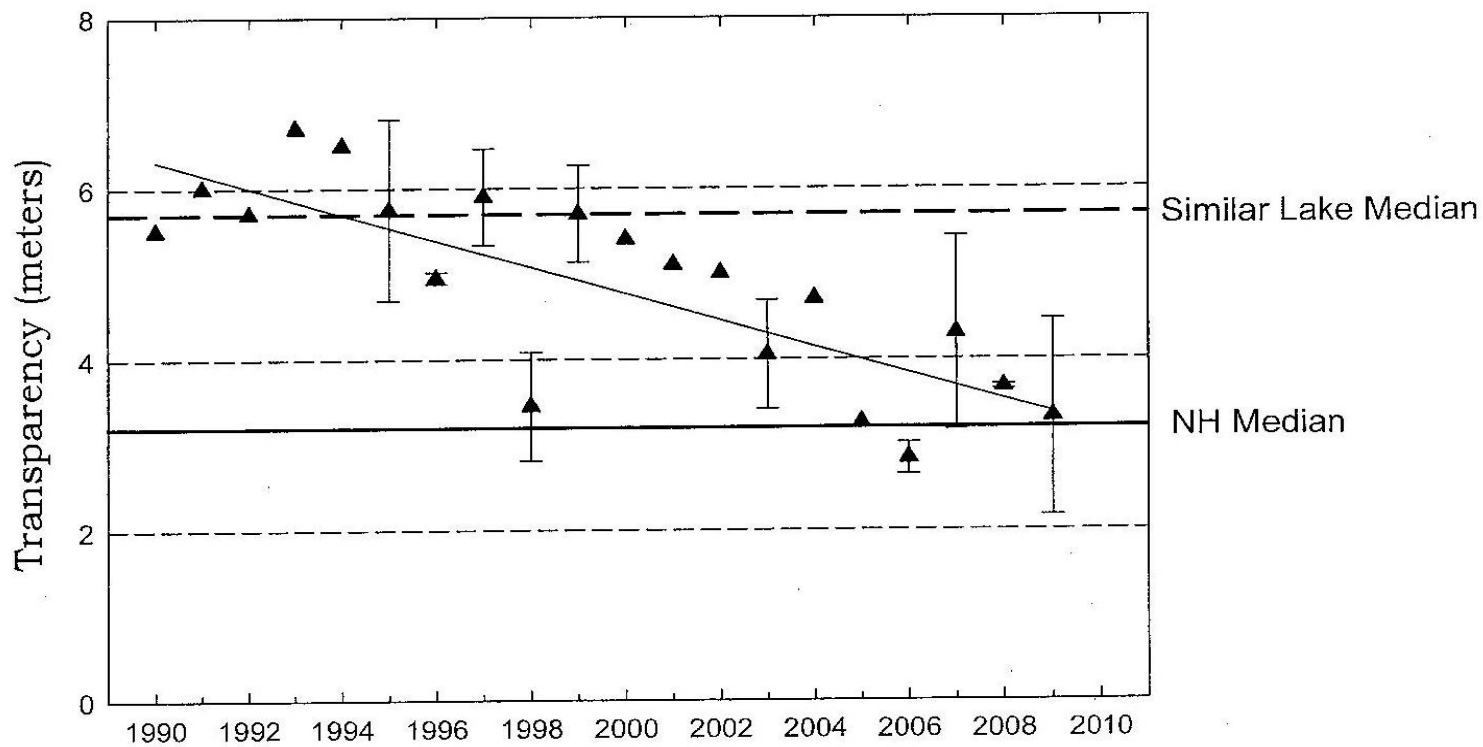
Average Sodium levels in our surface water



Sodium in our Ossipee Watershed Groundwater



Historical transparency (clarity) results for Ossipee Lake's Broad Bay



Historical Transparency Non-Viewscope Results

Eurasian milfoil is a nuisance species

- Clogs waterways
- Expensive and difficult to eradicate
- Eradication methods such as herbicides have their own risks



What is our Water Worth?

“A Perceived decline in water clarity & purity could mean lost recreational sales, income & jobs”*

In the NH Lakes Region

That could mean:

- ❑ \$25 million in sales Lost
- ❑ \$8.8 million in income Lost
- ❑ 396 jobs Lost

* NH Economic Impacts Study, 2007

How do I get my water tested?

Contact NHDES at (603) 271-2513

Or

www.des.nh.gov

Drinking Water & Groundwater Bureau

Test your water every 3-5 years

What else can I do??

- Support your Conservation Commission in its efforts to FUND water testing
- Support your Planning Board in implementing
AQUIFER PROTECTION ORDINANCE
- Support GMCG in its efforts to FUND
water testing

JOIN US...



*in protecting our WATER
for current and future
generations!*



**“HEALTHY WATER ...
HEALTHY COMMUNITIES”**