



Drinking Water Resource Protection

Your Community Is What it Drinks...

ROCKINGHAM PLANNING COMMISSION – MPO/COMMISSIONERS MEETING

SEPTEMBER 13, 2017

**POTENTIAL SOURCES
OF CONTAMINATION**

**SOURCE WATER &
COLLECTION SYSTEM**

**WATER
TREATMENT PLANT**

**DISTRIBUTION
SYSTEM**

CONSUMER



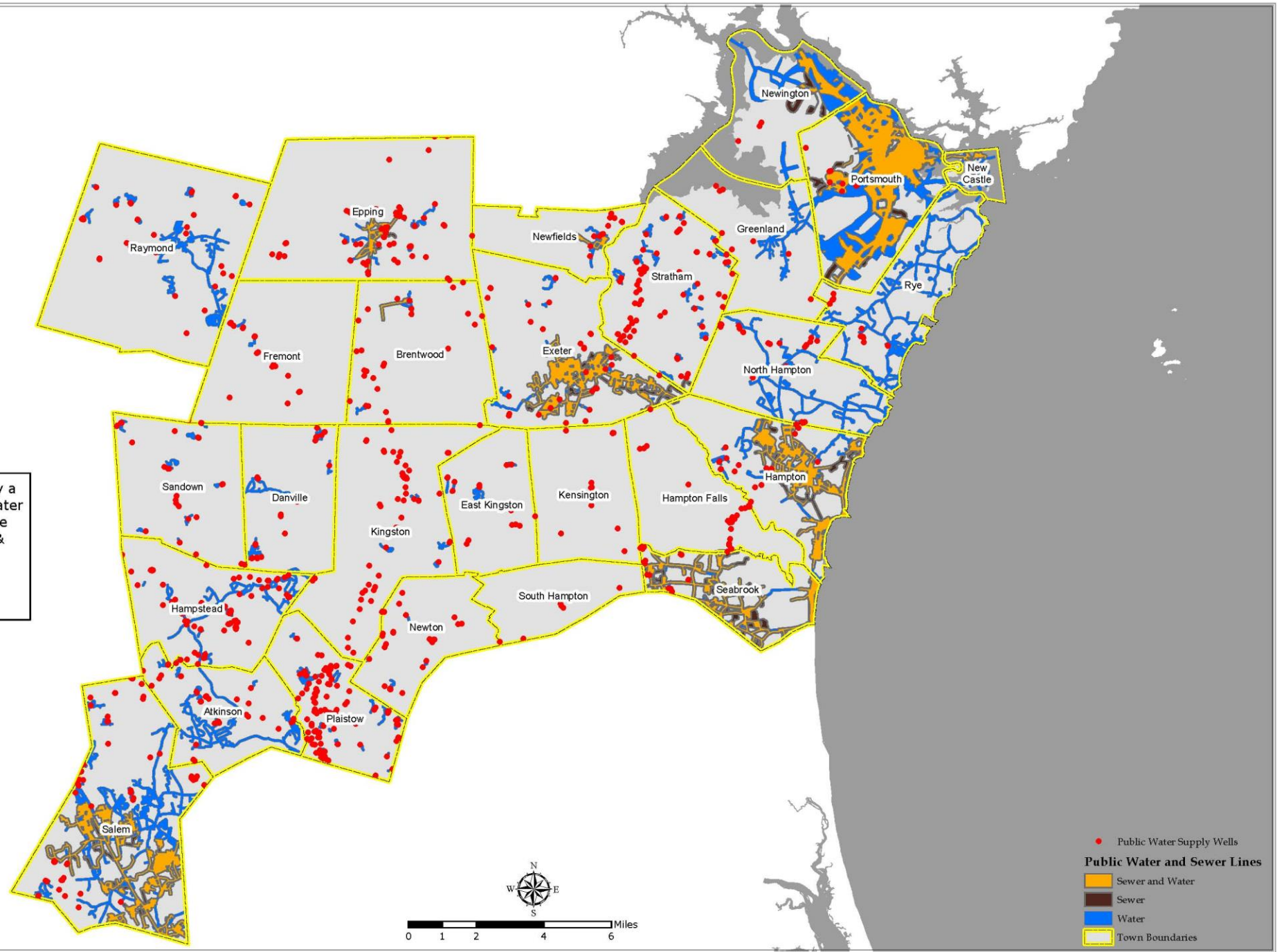
Background Information

- ▶ 311 public water supplies; 115 are community water systems.
- ▶ 69% of the region's population is serviced from a community water system.
- ▶ 31% of the population relies on private wells.
- ▶ Private wells are not required to be tested under state law.
- ▶ Only Salem relies on surface water for its public water supply.

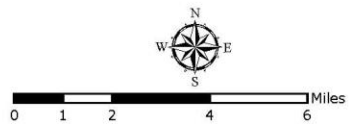
RPC region has:

- 785 miles of rivers and streams.
- 43 lakes and ponds over 10 acres.
- 38,000 acres of wetlands
- 229,974 acres of aquifers.

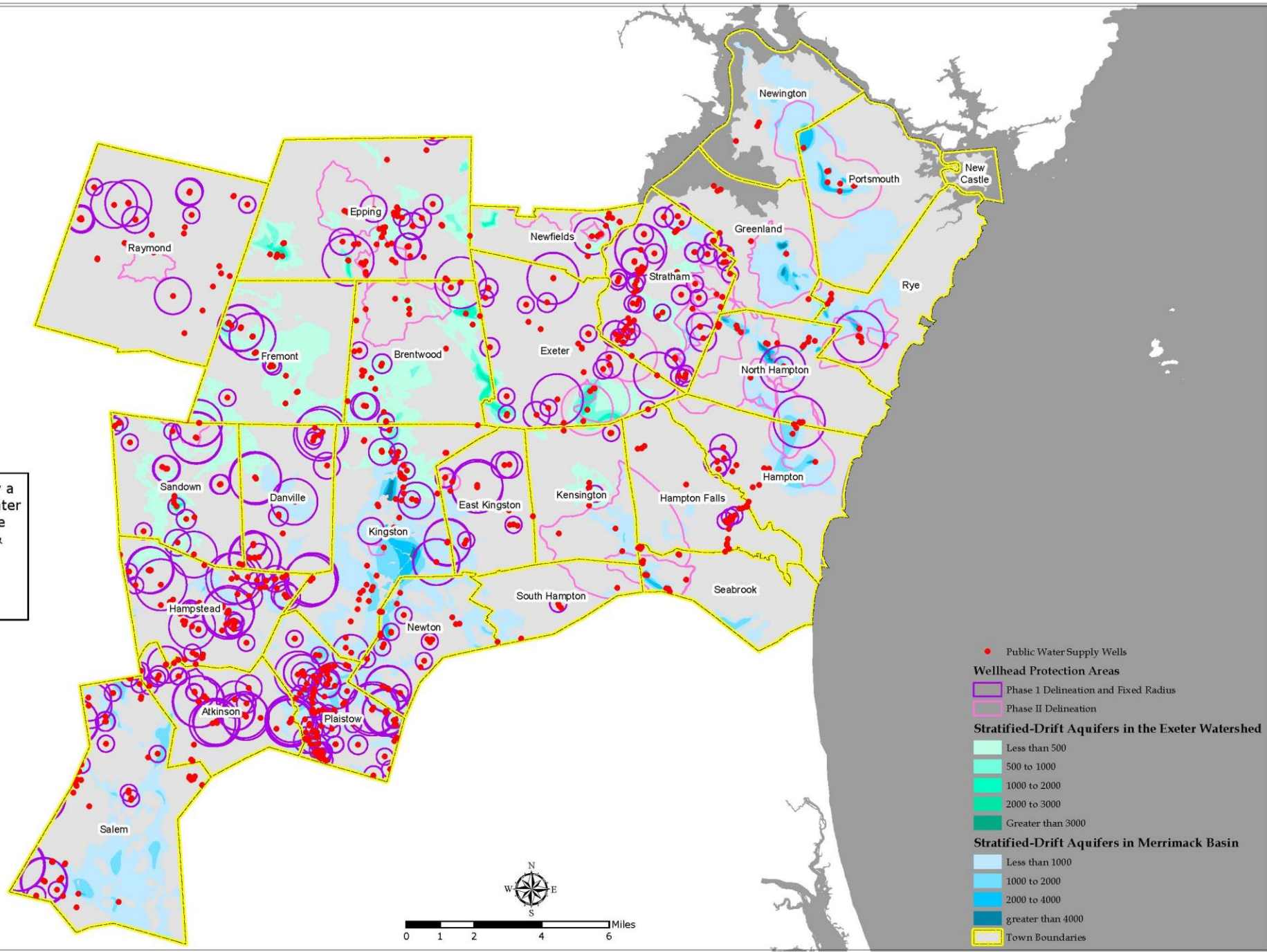
Note: Areas not serviced by a public water or wastewater system are presumed to be serviced by private wells & septic systems.



- Public Water Supply Wells
- Public Water and Sewer Lines**
- Sewer and Water
- Sewer
- Water
- Town Boundaries



Note: Areas not serviced by a public water or wastewater system are presumed to be serviced by private wells & septic systems.



- Public Water Supply Wells
- Wellhead Protection Areas**
 - Phase I Delineation and Fixed Radius
 - Phase II Delineation
- Stratified-Drift Aquifers in the Exeter Watershed**
 - Less than 500
 - 500 to 1000
 - 1000 to 2000
 - 2000 to 3000
 - Greater than 3000
- Stratified-Drift Aquifers in Merrimack Basin**
 - Less than 1000
 - 1000 to 2000
 - 2000 to 4000
 - greater than 4000
- ▭ Town Boundaries

Protecting Water Resources, Protecting Public Health

Multiple Barrier Approach

Source Water

Treatment

Infrastructure

Monitoring



Source Water

- ▶ State Protection (examples)

- ▶ Large Groundwater Withdrawal Requirements (>20,000 gal/day)
- ▶ Watershed Rules for Protecting Surface Sources
- ▶ Community Well Siting Requirements
- ▶ Source Water Protection Program



Contact Person: Pierce Rigrod
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- ▶ Local Protection (examples)

- ▶ Aquifer/ Groundwater Ordinance: 20 out of 27 municipalities
- ▶ Establish inspection program for Potential Contamination Sources (PCSs)
- ▶ Groundwater Reclassification
- ▶ Water Conservation Plans - Enacting water use restrictions during drought
- ▶ Increased setback and land use restrictions around public and private wells
- ▶ Private Well Testing during real estate transfer

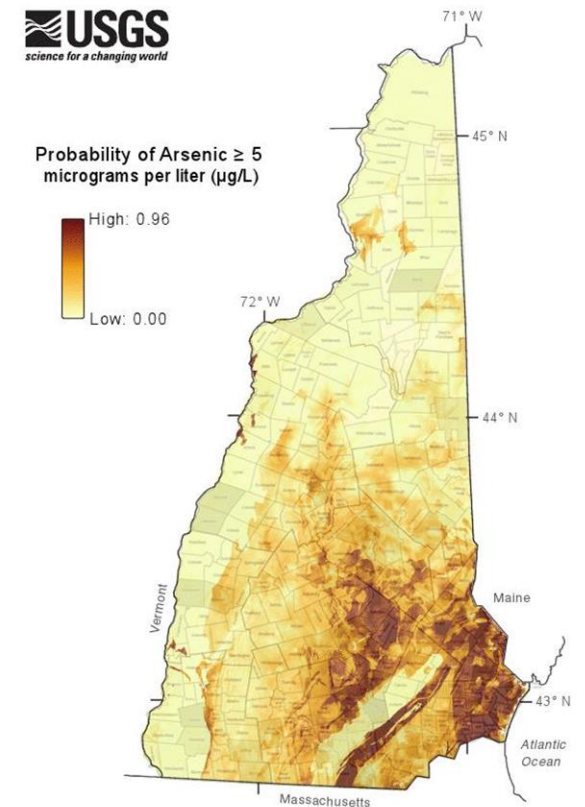
Case Study: Town of Seabrook Groundwater Reclassification

- ▶ Existing potential contamination source (PCS) inventory and inspection program
- ▶ Windshield survey only in neighboring towns
- ▶ Outreach to neighboring towns to expand PCS inventory and inspection program
- ▶ Benefits include protection of groundwater for private drinking water wells
- ▶ Raises awareness of potential pollution sources
- ▶ Proactive by avoiding contamination/spills rather than mitigating after the fact
- ▶ Inter-municipal cooperation and knowledge

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Treatment

- ▶ Public Water Systems
 - ▶ Common treatment requirements: Bacteria, Arsenic, pH, Nitrates/Nitrites and Radon.
- ▶ Private Wells
 - ▶ No state treatment requirements
 - ▶ 20% of private wells contain unsafe levels of arsenic.
 - ▶ 40% of private wells contain unsafe levels of radon.



Infrastructure

- ▶ State

- ▶ Estimated infrastructure need costs: \$857 million over next 10 years.
- ▶ Small water systems have the highest infrastructure need cost per user

- ▶ Local

- ▶ Cost-sharing through interconnection (eg. Exeter & Stratham)
- ▶ Emergency connection (eg. Wiggins Way System & Aquarion)
- ▶ Water Conservation: Less water demand = Less treatment costs

Portsmouth installed its first water distribution system in 1798; the pipes were made of wood.

Monitoring

- ▶ Private Wells
 - ▶ NHDES recommends bacteria and nitrate tested annually
 - ▶ Standard Analytics ever 3 to 5 years: Arsenic, Lead, Manganese, Chloride, Nitrate/Nitrite, Copper, pH, Fluoride, Sodium, Hardness, Radiological Analysis and VOCs.
 - ▶ Only tests conducted at State Lab are reported to NHDES (location & results only).
- ▶ Public Water Systems
 - ▶ 106 Parameters must be tested regularly and reported to NHDES
 - ▶ Many tested quarterly (e.coli), some every 6 years (VOCs & SOCs)
 - ▶ Community PWS must issue Annual Water Report (Consumer Confidence Report) – lists any violations or high levels of contaminants.

Outreach

Multiple Barrier Approach

Source Water

Treatment

Infrastructure

Monitoring



Recent Legislation

- ▶ HB 431 – Seacoast Commission Clean Drinking Water (report due 11/1/18)
 - ▶ Utilize and expand upon existing studies to plan for seasonal or drought supply issues.
 - ▶ Prepare and discuss mutual aid between seacoast towns for firefighting.
 - ▶ Prepare and discuss mutual aid agreements for emergency or replacement drinking water supply where contaminated.
 - ▶ Create a centralized planning group to encourage coordination and support between towns.
 - ▶ Evaluate threats to groundwater quality due to environmental issues.
 - ▶ Monitor possible new emerging contaminant threats to groundwater and drinking water quality.

HB 517 – relative to state fees, funds, revenue and expenditures

- ▶ The bill has nearly 100 sections applying to many different state laws but section 156:208 revises RSA 485, F3-4 (originally established by SB 380 in 2016) effective July 1, 2017
- ▶ SB 380 Established both the Drinking Water and Groundwater Trust Fund and the Drinking Water and Groundwater Advisory Commission (DWGAC) to administer the funds resulting from the MBTE settlement with Exxon.
- ▶ The new amendments (HB 517) more clearly outline the responsibilities of the new advisory commission whose mandate is to administer the Drinking Water and Groundwater Trust Fund and protect against future contamination to drinking water sources

The DWGAC is tasked with the following:

- ▶ Administer settlement funds
- ▶ Award grants and loan funds to protect drinking water resources that may include any the following:
 - ▶ Emergency remediation of existing drinking water or groundwater contamination
 - ▶ Planning design and building of aging infrastructure
 - ▶ Expansion of drinking water infrastructure or drinking water source protection
 - ▶ Delineation of wellhead protection areas
 - ▶ Inventory and management of activities which have a potential effect on groundwater quality
- ▶ Periodic reporting to the general court regarding the state of the Trust Fund and the projects being undertaken

HB 517 housecleans SB 380

- ▶ The new amendments clarify the working relationship between the DGWAC and the Department of Environmental Services
- ▶ The membership of the DGWAC is revised (expanded)
- ▶ The administrative rules necessitated by the establishment of the DGWAC are more specifically outlined
- ▶ Appointment terms for membership are defined (two years or coterminous with a members term in office)

Resources

- ▶ 2015 RPC Regional Master Plan - Natural Resources Chapter

www.rpc-nh.org/regional-community-planning/regional-master-plan/natural-resources

- ▶ 2008 NHDES Drinking Water Primer

www.des.nh.gov/organization/divisions/water/dwgb/wrpp/primer.htm

- ▶ NHDES Drinking Water & Groundwater Bureau Fact Sheets

www.des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm

- ▶ NHDES Be Well Guide – Understanding Private Well Test Results App

www4.des.state.nh.us/DWITool/