Protecting Groundwater Regional Strategies and Municipal Best Practices

NEW HAMPSHIRE OFFICE OF STRATEGIC INITIATIVES -2019 PLANNING CONFERENCE

JUNE 1, 2019

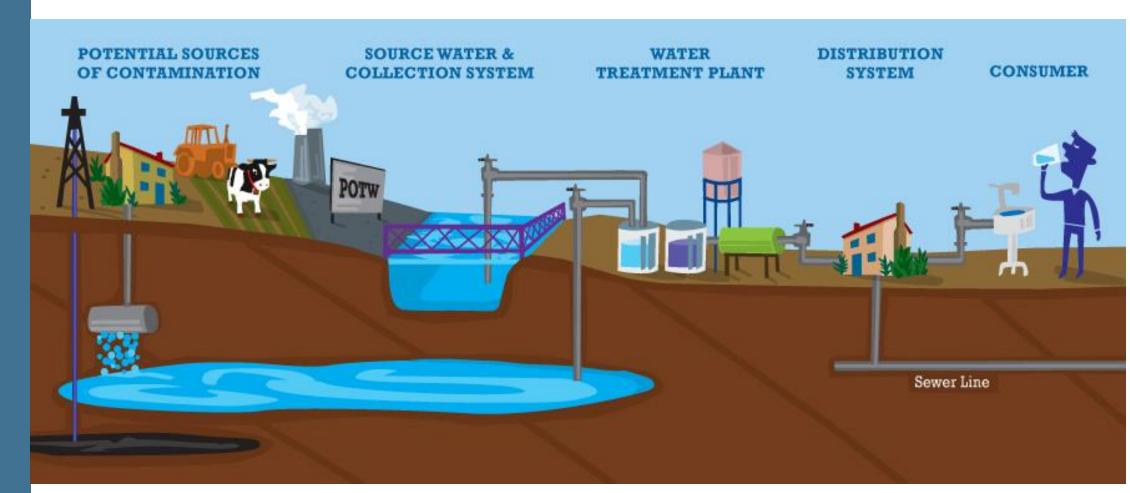
Jenn Rowden Senior Planner

ROCKINGHAM PLANNING COMMISSION

Overview

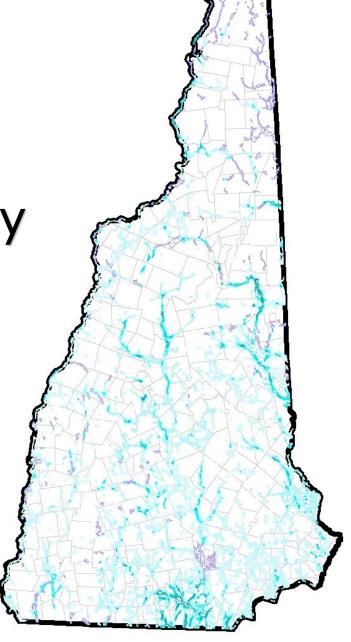
- Facts and figures about drinking water and aquifers
- Regional Planning Commissions and Drinking Water Protection
- Municipalities and Regulatory Options for Protection
- Case Studies
- Tools and Strategies
- What we learned along the way....



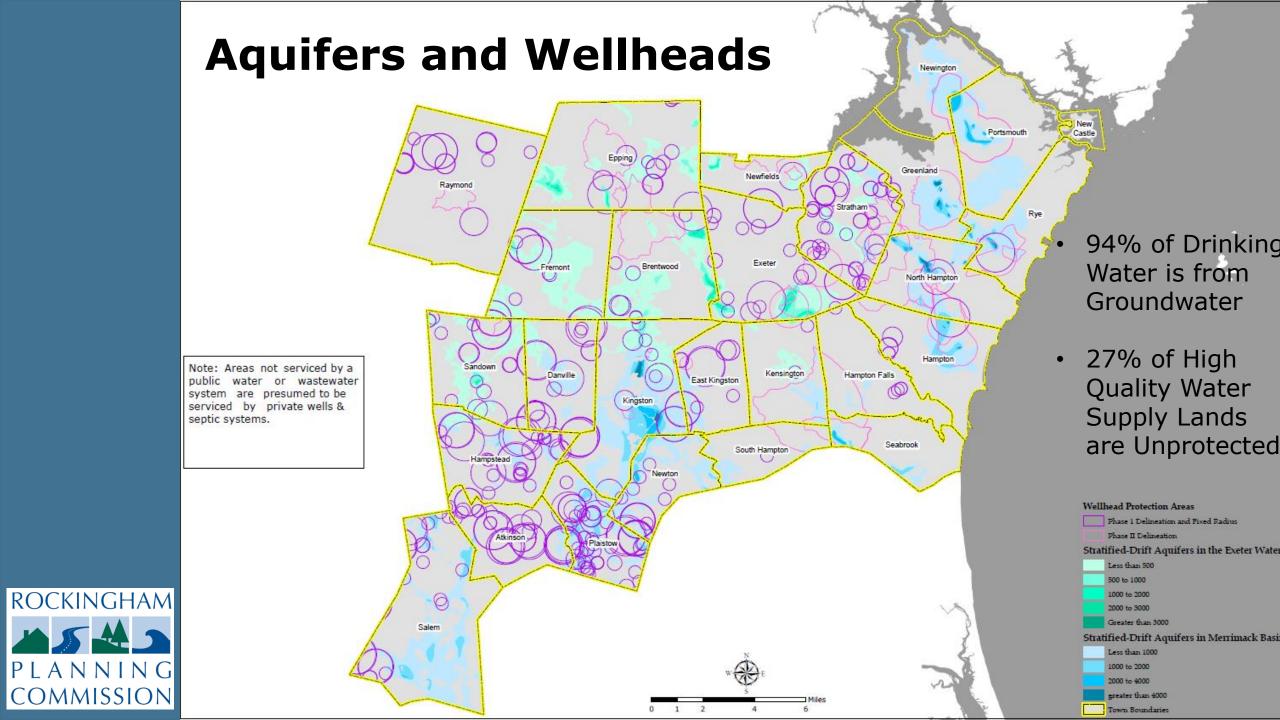


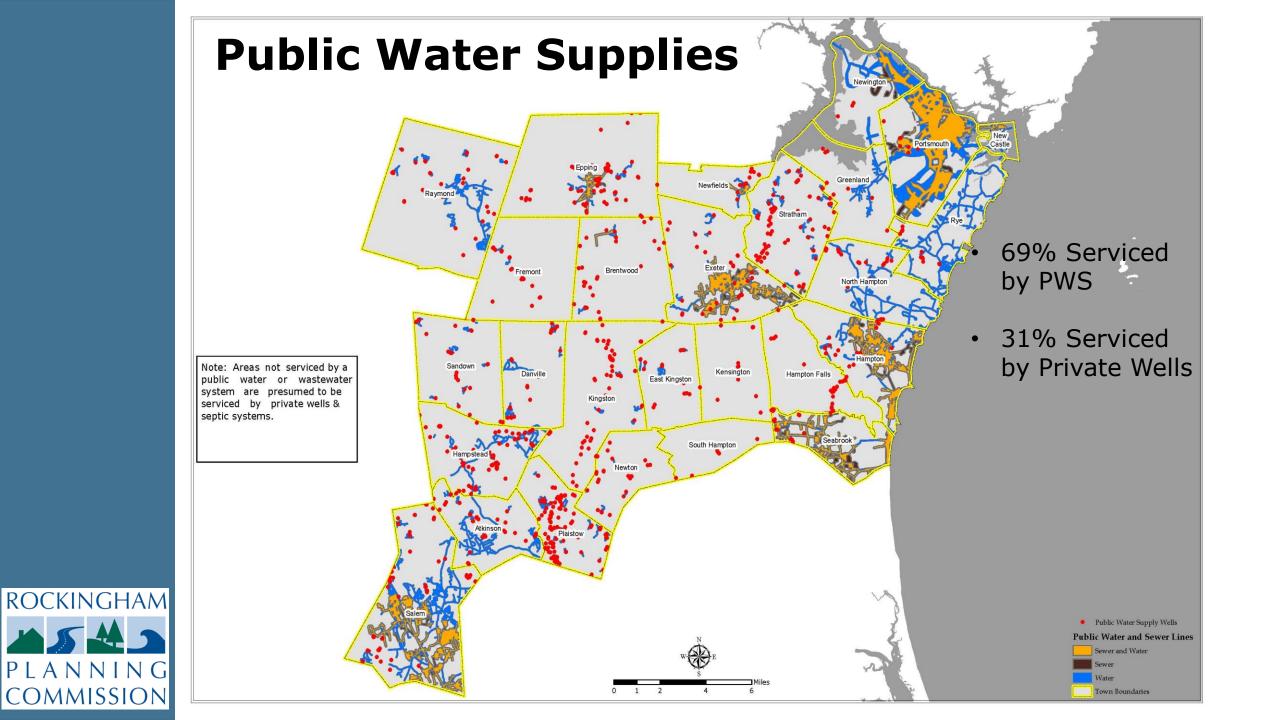


60% of NH Water Supply is from Groundwater









RPC's Role in Water Protection

- Zoning and Land Use and Development Regulations
- Master Plans
- Watershed Plans, Land Conservation and Open Space Plans, Natural Resource Inventories
- Project Management and Facilitation
- ROCKINGHAM
- Mapping and GIS Analysis



Groundwater Management: Municipal Regulatory Options

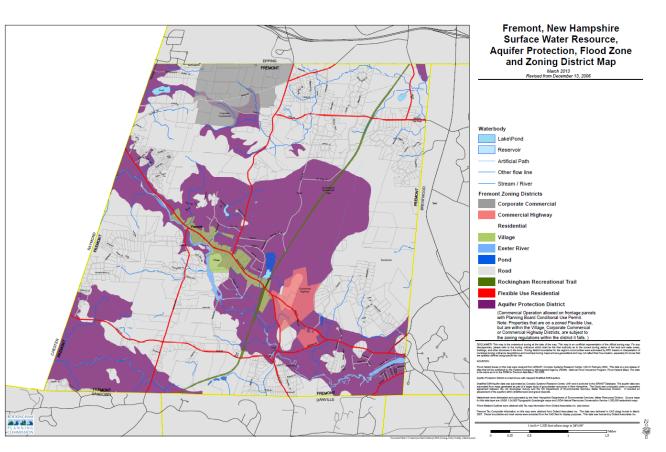
ROCKINGHAM

COMMISSION

| Local Water Use Restrictions | Local Land Use Regulations | Groundwater Reclassification | Watershed Rules (state/local) |
|---|---|--|---|
| Water Conservation Plans Outdoor Watering Restrictions (public & private wells) Private Well Testing | Zoning Ordinances Groundwater protection Buffers Max. lot coverage Restrict high risk uses Require BMPs Subdivision Regulations Stormwater regulations Well-radius protections Site Plan Regulations Stormwater regulations | Restrict 6 High Risk Land Uses Hazardous waste disposal facilities Solid waste landfills Outdoor bulk road salt storage Junkyards Snow dumps Wastewater/septage lagoons. | Restricts Land and Water Uses Protect Buffers |

Fremont Aquifer Protection Update

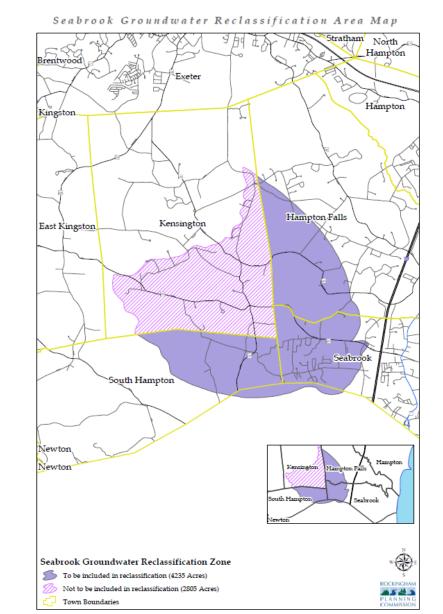
- Better understanding of current status of potential threats to groundwater.
- Through zoning (using DES Model Ordinance) allow more commercial uses, but require periodic inspections of PCSs.
- Educate landowners and businesses about BMPs to protect through outreach.





Seabrook Groundwater Reclassification

- Educate residents and businesses about protecting groundwater
- Inspection program of Potential Contamination Sources within wellhead protection areas, including areas in other municipalities
- Prohibit 6 high risk land uses throughout wellhead protection areas
- ROCKINGHAM PLANNING COMMISSION
 - Promote multi-town cooperation on protection and monitoring efforts

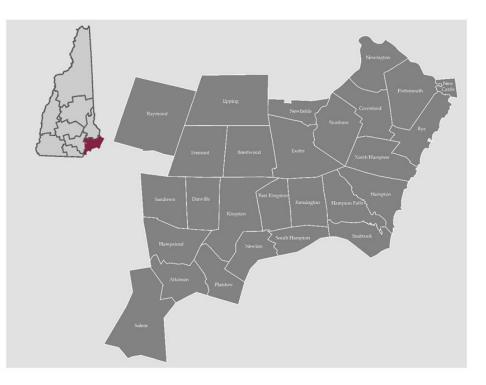


RPC's Regional Drinking Water Outreach

- Audit of existing local drinking water protection measures
- GIS assessment of threats to all public water systems
- Regional and municipal drinking water resource maps
- Report with recommendations and resources for each municipality

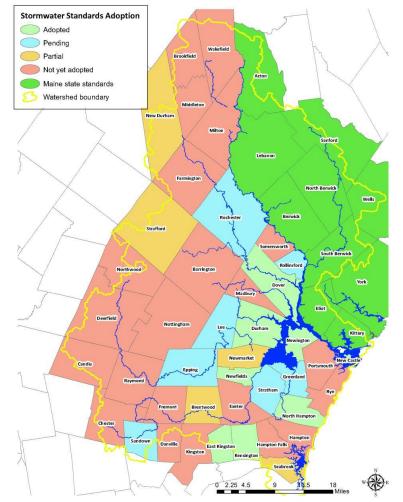


 Three sub-regional workshops focused on proactive steps to protect drinking water resources



Southeast Watershed Alliance Model Stormwater Standards

- Developed by RPC and UNH Stormwater Center; updated 2019
 - Lower applicability (trigger) threshold of 5,000 square feet captures a significantly greater percentage of development projects not subject to Alteration of Terrain Permit
 - Requires implementation of LID practices to the maximum extent practicable including infiltration for groundwater recharge and retaining natural hydrologic functions/pathways
 - Stringent water quality criteria for pollutant removal – nitrogen phosphorous, total suspended solids
 - Important for compliance with new water quality and stormwater treatment requirements in the EPA MS4 permit including redevelopment



State of Our Estuaries, PREP (2018)



Seacoast Commission on Long Term Goals and Requirements for Drinking Water (RSA 485-F)

Recommendations for Regional and Municipal Action:

- 1. Ongoing need to fund, develop and implement regional water supply planning.
- 2. Expand/improve source water protection at local and regional level.
- 3. Implement Seacoast NH Emergency Interconnection Study recommendations (2006)
- 4. Increase awareness of need for private well testing.

ROCKINGHAM

PLANNING

COMMISSION

- 5. Support regional planning commissions efforts to assist with municipal source water protection.
- 6. Encourage municipalities to enact water efficiency measures.
- 7. Improve information sharing between local and state levels on source water.

Report due 11/1/2018

HB 495 – Est. long-term seacoast commission on drinking water through 2029

Upcoming Case Study

RPC/SRPC Regional Drinking Water Plan

Goal: Establish long-term drinking water protection plan for southeast NH (RSA 485-F).

Phase 1: Fact finding, pilot projects

- Develop online regional source water protection maps that identify state & local protections and gaps.
- Review/update inventory of Potential Contamination Sources (PCSs), focused on 1,4 dioxane and PFOAs
- Conduce up to four local source water protection projects.





Phase 2: Develop the plan!

Protecting Water Quality in Private Wells

- 40% of population serviced by private wells
- Actions at the municipal level to protect public health:
 - Outreach and education to property owners about:
 - periodic testing and safe drinking water standards
 - what contaminants to test for
 - water quality testing before home purchase
 - best practices for home and yard to protect their wells



Provide sampling kits and information about testing labs
 Ensure adequate regulatory standards are

COMMISSION

 Ensure adequate regulatory standards are adopted for all development

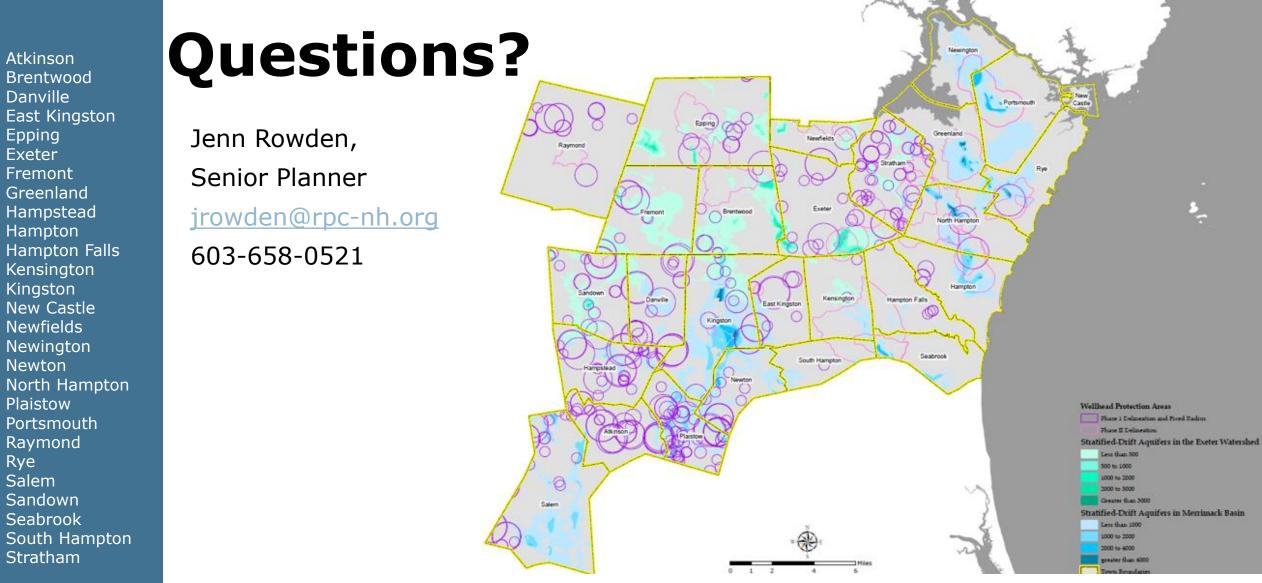
Overview of Municipal Tools and Strategies

- Zoning and land development regulations
 - $_{\odot}$ impervious cover limits, protection of groundwater recharge areas, limit high risk land uses
- Stormwater management standards
 - o groundwater recharge, water conservation, pollutant removal
- Groundwater Reclassification
- Land Conservation through public and private partnerships
- CKINGHAM
 Outreach and stewardship activities to educate landowners and businesses about protective BMPs
 OMMISSION

What we learned along the way.....

- Different perceptions about the value of water
- Limited knowledge of the sources of pollution and which waters are impaired and for what
- Varying knowledge about hydrology and how aquifers work
- Competing priorities (funding, infrastructure improvements, services, economic development, private property rights)
- Benefits and challenges of collaboration across municipal boundaries

COMMISSION





Rockingham Planning Commission 156 Water Street | Exeter, NH 03833 603-778-0885 | www.rpc-nh.org

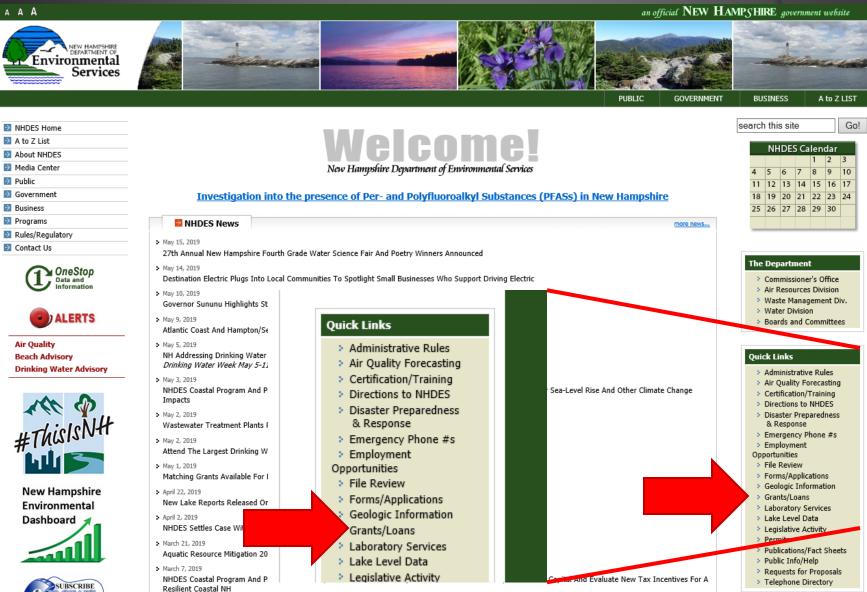
NH DRINKING WATER & GROUNDWATER TRUST FUND PROGRAM UPDATE

MICHAEL UNGER, P.E. DRINKING WATER ENGINEER, NHDES





www.des.nh.gov

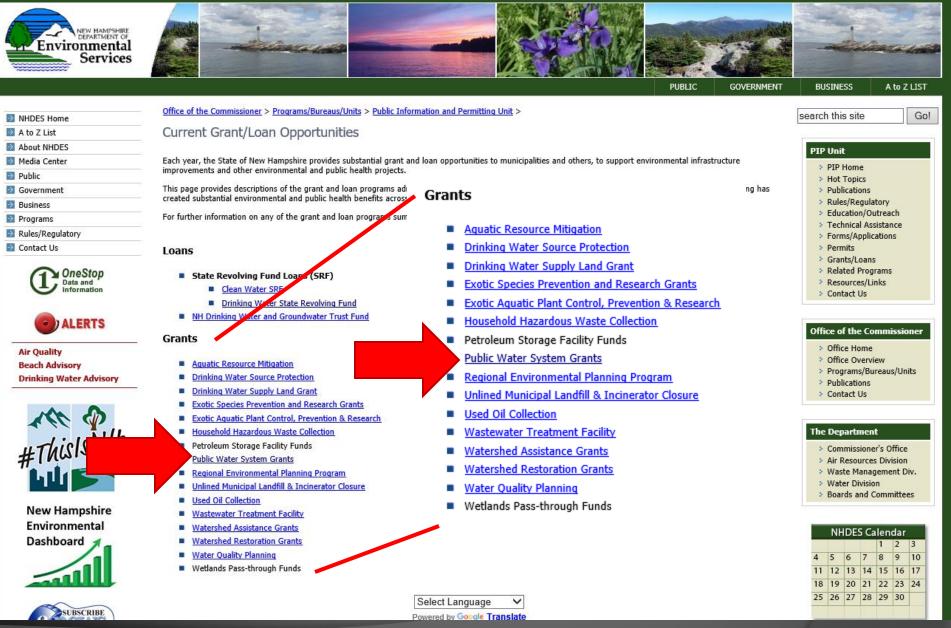




How Do I...

AAA

an official NEW HAMPSHIRE government website











| NHDES Home | — Divisions > Water Division > Programs/Bureaus/Units > Drinking Water and Groundwater Bureau > |
|--|---|
| A to Z List | Grants/Loans |
| About NHDES | |
| Media Center | Asset Management for Drinking Water & Wastewater |
| Public | |
| Government | Common Grant and Loan Sources for Public Water Systems in New Hampshire |
| | <u>Cyantoxin Monitoring Equipment & Training Grant</u> |
| Business | Drinking Water State Revolving Fund |
| Programs | Leak Detection Survey Grants |
| Rules/Regulatory | |
| Contact Us | Local Source Water Protection Grants NH Drinking Water and Groundwater Trust Fund |
| OneStop | Record Drawing Guidance and Grant Application Packet |
| Data and Information | Storage Tank Inspection Grant Application |
| CONTROL DE LA CO | Water Supply Land Conservation Grants |
| ALERTS | |

Air Quality Beach Advisory **Drinking Water Advisory**

1 Adobe Acrobat Reader format. Download a free reader from Adobe.

- Microsoft Word format: free viewer instructions from Microsoft.





| COMMON GRANT AND LOAN SOURCES FOR PUBLIC WATER SYSTEMS (PWS) IN NEW HAMPSHIRE | | | | | | |
|---|--|--|--|--|---------------|---|
| Funding | Program | Who's eligible | What can be funded | Terms | Timeframes | Contacts |
| New Hampshire Department Of Environmental Services (www.des.nh.gov) Quick Links, "Grants/ Loans" | <u>Asset</u> <u>Management</u> <u>Grants</u> | All PWS systems <u>></u> 200 population | Development or expansion of asset management activities (inventory, financial, implementation) | Grant up to \$20,000 - 100% (1:1)match required | Fall/Winter | Luis Adorno DWGB, 603-271-2472 luis.adorno@des.nh.gov |
| | <u>Cyanotoxin</u> <u>Monitoring</u> <u>Equipment &</u> Training Grants | PWS that utilize a surface water source | Initial costs of approved equipment, supplies & training to perform cyanotoxin testing &/or monitoring | 100% reimbursement of eligible costs, up to \$10,000. No match required | Anytime | Tyler Davidson DWGB, 603-271-3906 <u>Tyler.davidson@des.nh.gov</u> |
| | <u>Drinking Water</u> <u>State Revolving</u> <u>Fund (DWSRF)</u> <u>Loans</u> | Community (publicly & privately owned) and non-profit, non-transient water systems | Capital improvements for drinking water infrastructure (design and construction) | Below-market interest rates; no closing costs; Up to 30 years for disadvantaged applicants | Spring | Johnna McKenna DWGB, 603-271-7017 Johnna.Mckenna@des.nh.gov |
| | Leak Detection Survey Grants | Community water systems | Acoustic leak detection surveys by a professional retained by NHDES | In-kind volunteer services required. No maximum, no match | Early Summer | Stacey Herbold DWGB, 603-271-6685 <u>Stacey.Herbold@des.nh.gov</u> |
| | <u>Local Source</u> <u>Water</u> <u>Protection</u> <u>Grants</u> | PWS, municipalities, conservation districts, non-profits& regional planning commissions | Source security & other source water protection projects | Grant up to \$20,000 – no match required, (100% grant) | Fall/Winter | Andrew Madison DWGB, 603-271-2950 Andrew.madison@des.nh.gov |
| | <u>MtBE</u> <u>Remediation</u> <u>Fund</u> | Public and private water systems impacted by MtBE contamination | Design & installation of drinking water infrastructure in areas with MtBE contamination | 100% reimbursement for eligible costs | Anytime | Michael Juranty MtBE Remediation Bureau 603-271-8873 michael.juranty@des.nh.gov |
| | <u>Petroleum</u> <u>Reimbursement</u> <u>Fund</u> | Public & private water systems impacted by petroleum contamination | Design & installation of drinking water infrastructure in areas w/ petroleum contamination from unknown source | 100% reimbursement of eligible costs | Anytime | Jennifer Marts Petroleum Reimbursement Fund Program, 603-271-2570 <u>jennifer.marts@des.nh.gov</u> |
| | <u>PWS Record</u> <u>Drawing Grants</u> | All PWS systems ≤500 population | Preparation of or modifications to record drawings | Reimbursement up to 50% or maximum grant of \$1,500 | Anytime | Emily Nichols DWGB, 603-271-8320 <u>Emily.nichols@des.nh.gov</u> |
| | <u>Storage Tank</u> Inspection <u>Grants</u> | PWS serving <500 people & tanks <u><</u> 20,000 gallons | Storage tank inspection & cleaning | \$4,000 maximum grant per tank; \$10,000 maximum per system; 100% (1:1) match required | Anytime | Luis Adorno DWGB, 603-271-2472 luis.adorno@des.nh.gov |
| | <u>Water Supply</u> Land Protection <u>Grants</u> | Certain PWSs, non-profit land conservation organizations & municipalities | Land acquisition or protection through deed restrictions or conservation easements in source water protection areas of eligible entities | 50% grant for land conservation projects within source water protection areas in I-93 widening area | Summer / Fall | Holly Green DWGB, 603-271-3114 <u>Holly.Green@des.nh.gov</u> |

| Funding | Program | Who's eligible | What can be funded? | Terms | Timeframes | Contacts |
|---|--|---|--|---|--|--|
| | <u>Construction</u> <u>Projects</u> | PWS & Municipalities | Drinking water infrastructure improvements; groundwater contamination | Loan and grant program | To Be Determined | Erin Holmes NHDES, 603-271-8231 <u>Erin.Holmes@des.nh.gov</u> |
| <u>MYDEANUSPERE DIMENSION WERE</u> <u>NH Drinking</u> <u>Water &</u> <u>Groundwater</u> <u>Trust Fund</u> | <u>Non-</u> <u>Construction</u> <u>Projects</u> | PWS, municipalities, conservation districts, non-profits & regional planning commissions | Water supply land protection projects and other project types | Grant program | To Be Determined | Paul Susca NHDES, 603-271-7061 <u>Paul.Susca@des.nh.gov</u> |
| O. CDFA | Housing & Public Facilities Grants | Municipalities, Counties, and non-profit associations and districts if endorsed by a governmental entity. *At least 51% of project beneficiaries must be of low to moderate income | Infrastructure repair or construction that results in improved community facilities and services | Public facilities grants fund up to \$500,000/year/municipality. 100% (1:1) match required | January & July of each year | Meena Gyawali |
| <u>Community</u> <u>Development</u> <u>Block Grants</u> (CDBG) | Emergency Grants | | Emergency Grants for infrastructure repair (must be related to Natural Disaster) | Up to \$350,000/year for municipalities >10,000 populations or up to \$500,000 for communities <10,000 | Ongoing | CDFA-CDBG, 603-717-9112 <u>mgyawali@nhcdfa.org</u> |
| (0000) | Planning Grants | | Preliminary engineering design, income surveys, etc. | Up to \$12,000/year/municipality | April & Oct of each year | |
| | <u>Water& Waste</u> <u>Disposal Loans</u> <u>&Grants</u> | Municipalities, districts, special purpose districts & non-profit organizations <10,000 population; Area to be | Capital improvements, engineering design & construction | Fixed, long-term (up to 40 years) low-interest loans; Grant funds may be available | Applications are accepted year round and may be filed electronically using <u>RD</u> <u>Apply</u> . | USDA- RD NH Projects west of I-93: Mark Koprowski <u>Mark.Koprowski@nh.usda.gov</u> 603- 223-6057 Projects east of I-93: Heather Malone <u>Heather.Malone@nh.usda.gov</u> 603-447-3318 |
| | <u>Pre-</u> <u>development</u> <u>Planning Grants</u> | | Initial planning and development of an USDA-RD loan/grant application | Up to \$30,000 maximum or 75% of the pre-development planning costs. | | |
| Considers and Analysis | Emergency Community Water Assistance Grants | served must also have median household income (MHI) less than state's MHI | Emergency related water infrastructure construction/repairs/ replacement/extension | Water transmission line-up to \$150,000. Water source-up to \$500,000. *No match required but funding partnerships encouraged. | | |
| <u>USDA Rural</u> <u>Development</u> | SEARCH Grants | Rural populations <2,500 w/ MHI below the poverty line or <80% of state MHI | Pre-development feasibility studies, PER development, & technical assistance on proposed water/waste projects | Up to \$30,000 maximum/grant | | |
| ROC-NH creating opportunity and visite for manifur time feature MH Community Loan Fund | | Resident owned manufactured housing communities/coops | Interim financing; infrastructure evaluation, repair or replacement | Contact ROC-NH for details and lo | an terms | Tara Reardon ROC-NH, 603-224-6669 x755 <u>treardon@rocnh.org</u> |
| | <u>VIBB</u> al Bond Bank_ | Local governmental units (towns/counties/school/ water/fire/village districts) | Capital improvement (design & construction) projects | Competitive interest rates; terms based on lifespan of asset | Applications due in April | Tammy St. Gelais NHMBB, 603-271-2595 <u>tstgelais@nhmbb.com</u> |

OVERVIEW

Who, What, Why

- Clarify the role of the DWGTF in NH
- Describe DWGTF wins to date

Project Spotlights

- Sampling Program
- Water Supply Land Protection
- Infrastructure
 Projects



 2019 Funding Programs and Schedule

Where did the DWGTF come from?

Funds from 2013 ExxonMobil MtBE <u>Trial Verdict</u>

- \$187M current balance
- Use of funds governed by RSA 485-F

Good afternoon

Please see below for the trade confirmation you requested. I included William as it is our policy to notify at least two authorized individuals of any account changes including trans actions. I also copied your relationship manager, **see and the set of the set of**

\$307M Deposited in 2016

What is the DWGTF?

Unique Fund

- Separate from MtBE Settlement Fund
- Separate from DW State Revolving Fund (SRF)
- Separate from other water supply land protection funding programs

I9 Member Advisory Commission

- State Senators
- State Representatives
- DES, DHHS, Fish & Game Representatives
- NHWWA, NHWPCA
- Public and Municipality Members

Role of the Advisory Commission

- Stablished the <u>Mission</u>: The DWGTF is Intended to Provide Protection, Preservation, and Enhancement of the Drinking Water and Groundwater Resources of the State
- <u>Select projects</u> for funding grants and loans on a competitive basis
- Develop <u>criteria</u> for project selection
- Develop <u>rules and annual funding plan</u> for the DWGTF

DWGTF Advisory Commission Key Considerations

- Addressing Contaminated Drinking Water Issues = #1 Priority
- Leveraged Funding Supplement Other Programs, Not Supplant Them
- Protect existing water supply sources
- Protect future water supply sources and keep them available for future use

Photo of Governor's Run Project, Epping, NHDES Site Visit, September 2018



NHDES' Role

Adopt-rules Stakeholders Assist Review Competitive-grant-program <u>อ</u>Sampling **Execute-funding FacilitateInvestigate Present Administer**

Identifying, Preventing, and Addressing Contamination







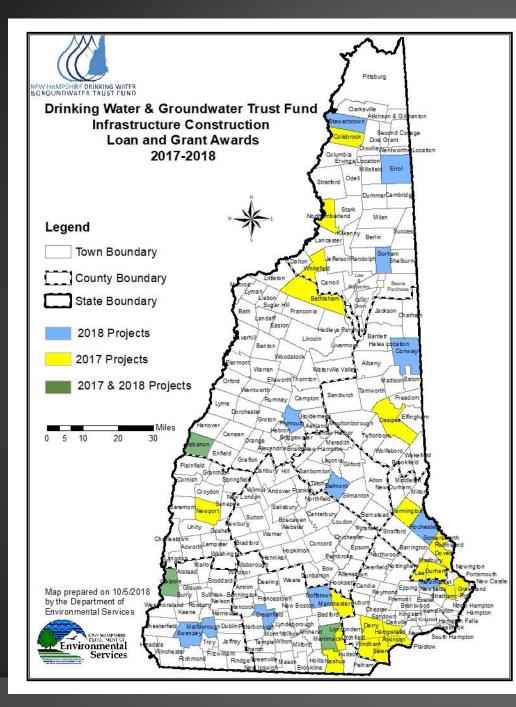


Drinking Water Well Sampling

Water Supply Land Protection

Drinking Water Infrastructure

Clean at the Tap



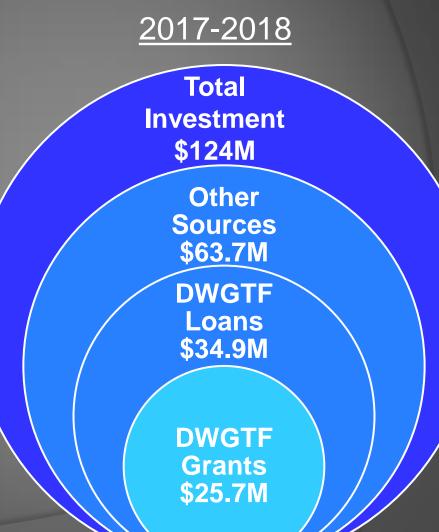
Construction Infrastructure Projects Approved to Date

- Advisory Commission
 Approved ~ \$60M in
 Grants and Loans
- 19 Projects Approved in 2018
- Plus ~ \$30M for
 Southern NH Regional
 Water Project

DWGTF & Total Infrastructure Investment - <u>\$124M 2017-2018</u>

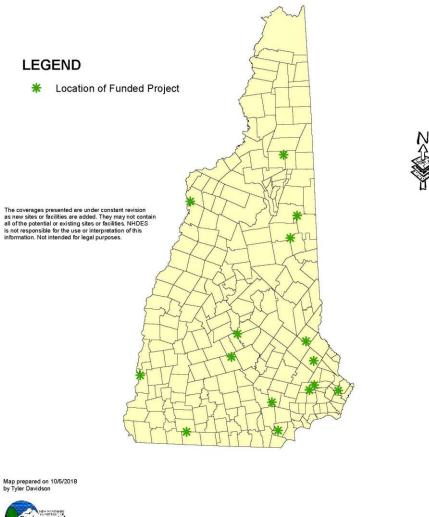
Leveraged Funding Sources

- Drinking Water State Revolving Fund
- USDA Rural Development
- Community
 Development Block
 Grants (CDBG)
- Local Funding
- MtBE Settlement
 Funds





Approximate Locations of Projects Receiving 2018 Trust Fund Land Conservation Grants



2018 Water Supply Land **Protection Project** Approvals

Advisory Commission Approved ~ \$2.4M in Grants

I5 Grants Awarded

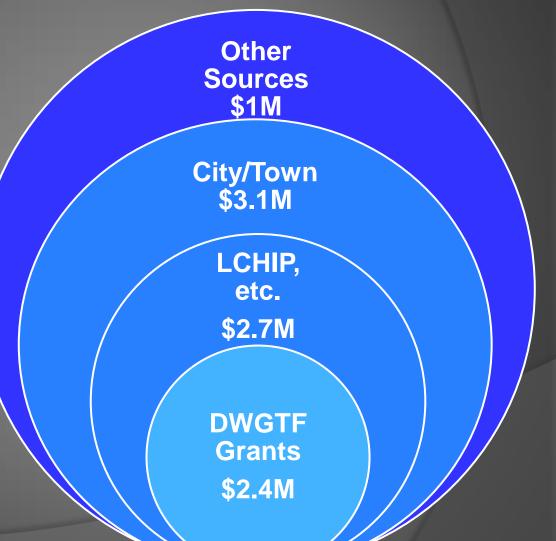
Projects Will Protect ~ 4,744 Acres



Total Water Supply Land Protection Investment - <u>\$9.2M in 2018</u>

Leveraged Funding Sources

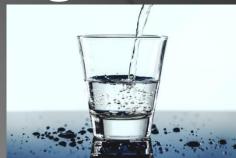
- Municipality/Town
 Contribution
- LCHIP and/or Other Grant Programs
- Other Funding Sources



2017-2018 PROJECT SPOTLIGHTS

Statewide DW Sampling Program

- \$500k DWGTF Grant
- 380+ DW samples statewide

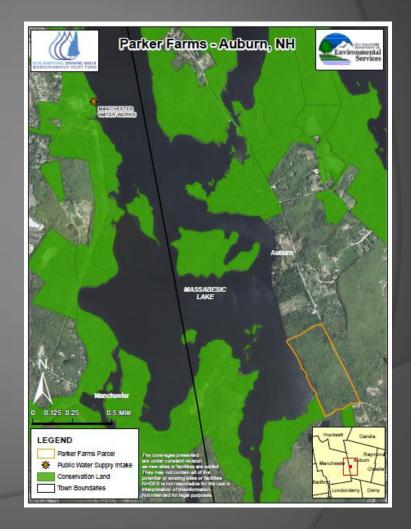


- 100+ samples co-located with DHHS biomonitoring program
- 200+ randomly selected homes with private wells
- Evaluate 200+ water quality parameters:
 - Naturally Occurring Contaminants in Drinking Water
 - Certain Emerging Contaminants
 - Pesticides and their Breakdown Products
- Educate Homeowners

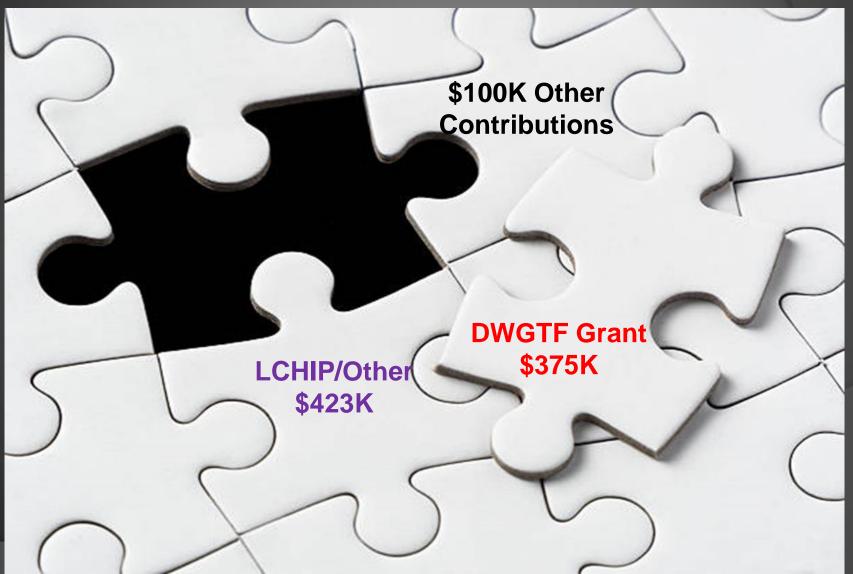
Parker Farms Forest - Lake Massabesic Manchester Water Works Supply







Parker Farms Forest Example of Mixed Funding

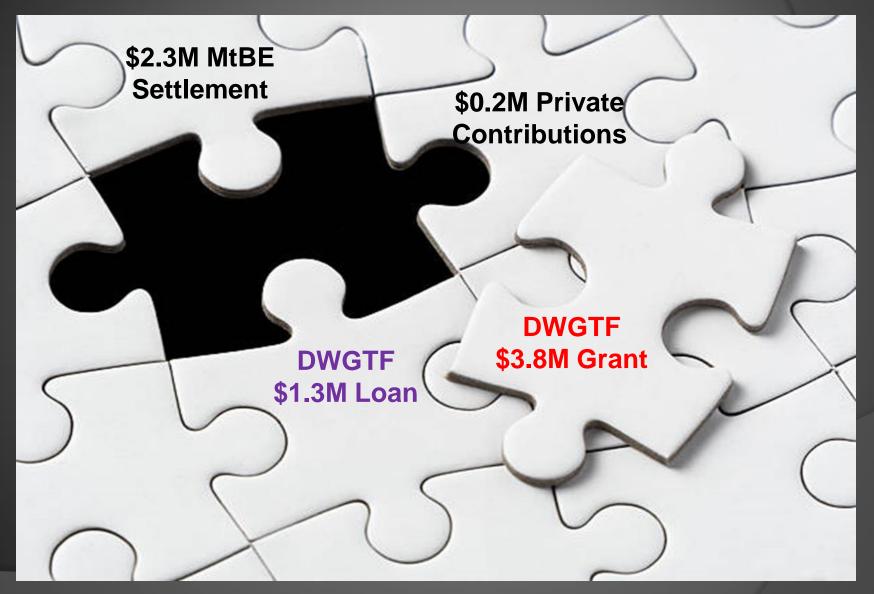


Route 202A Water Main Extension Rochester, NH



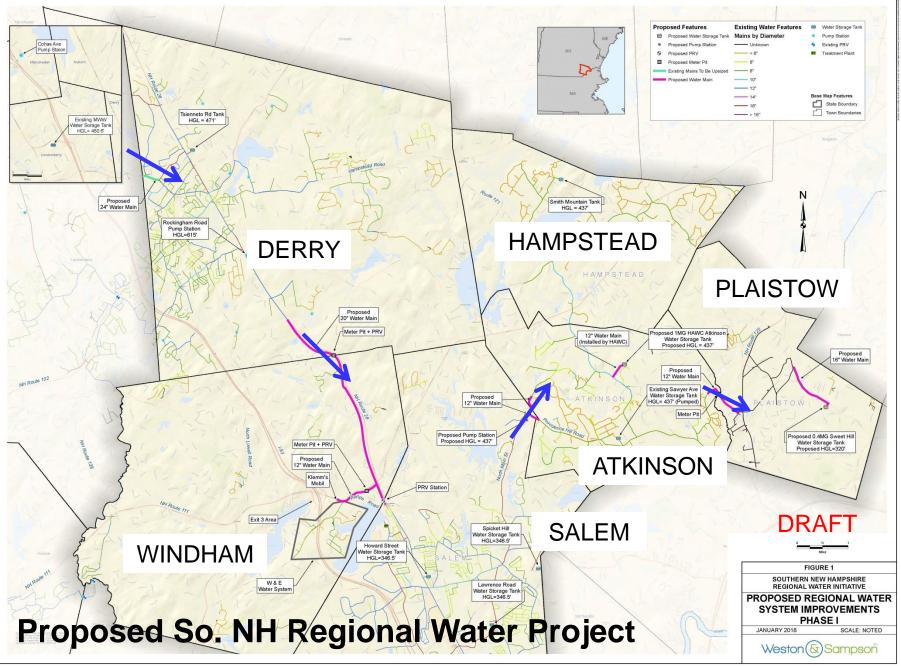


Example of Mixed Funding

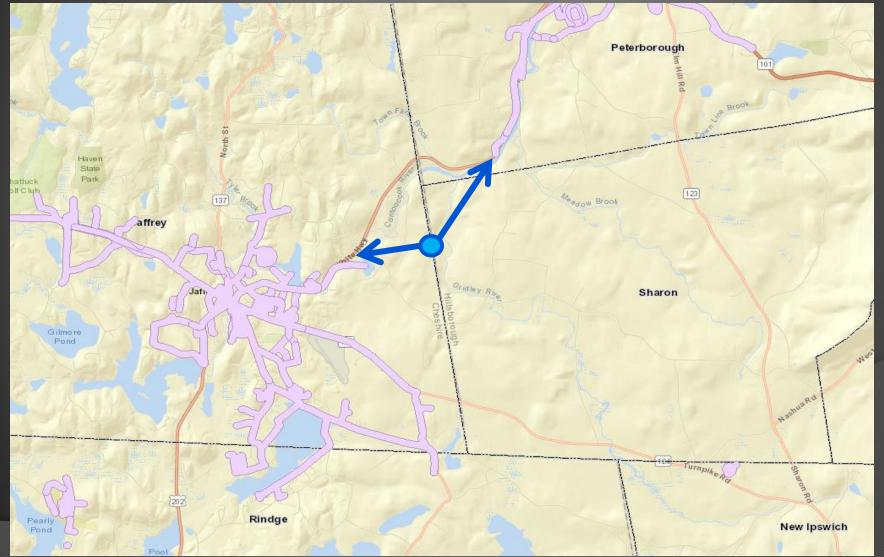


Southern NH Regional Water Project

- Address MtBE contamination in Windham, Salem, and Plaistow
- Address current and future drinking water supply shortfalls in Salem, HAWC, Plaistow, and Windham
- Serving as a model for regional projects in <u>NH</u>



Peterborough-Jaffrey Regional Water Supply and Interconnection Project



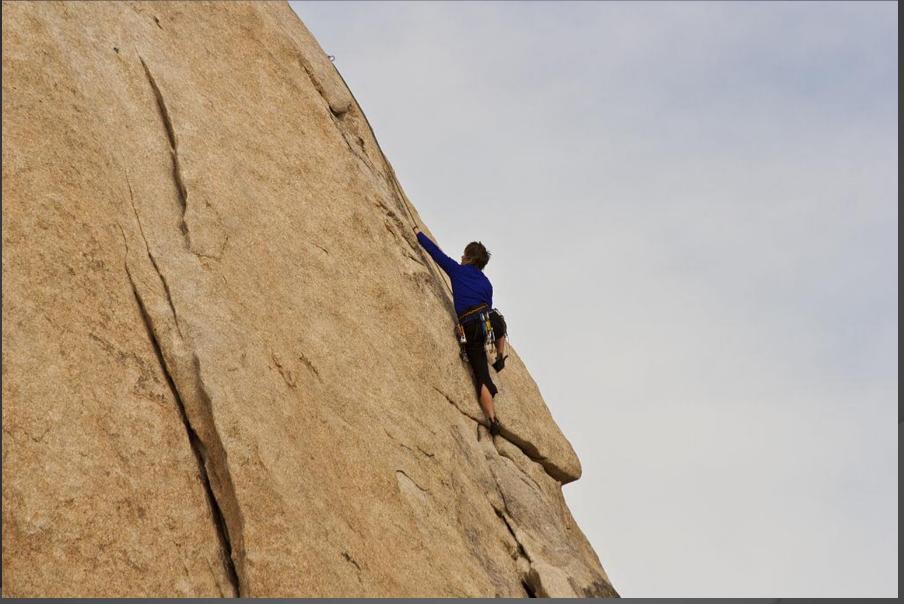
Lead in Schools – Dept. of Education Grant Award

• SB 247 (Feb 2018)

- Drinking water testing in schools and licensed child care facilities by July 1, 2019
- \$1.6M DWGTF Grant to Assist Schools with Lead Removal Projects



DWGTF – What's next?



2019 Project Funding Programs

- 1. Special Projects Assistance Program
- 2. Annual Drinking Water Infrastructure Assistance Program
- 3. Source Water Protection Grant Program
- 4. DES Project Program (in accordance with RSA-485F:3)

Eligibility

| | Construction | Non-Construction |
|------------------------|---|--|
| Eligible Applicants | Public Water Systems (community & non-profit, non-transient, non- community) Political subdivisions of the State State agencies | Same as "Construction" plus Land Trusts |
| Eligible Projects | Drinking water related construction projects | Projects that protect eligible land: Current source wellhead protection areas or hydrologic areas of concern Future water supply sources |

2019 Schedule

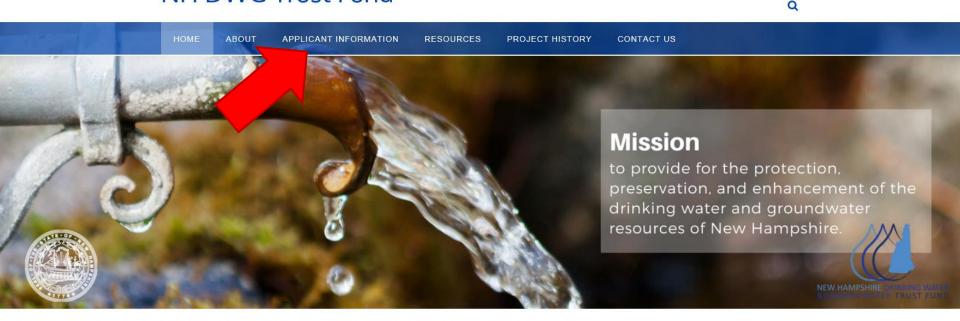
| | Annual Drinking Water Infrastructure Assistance Program | Source Water Protection Grant Program |
|--|---|---|
| Eligibility Applications Due | Not Applicable | June 28, 2019 |
| Funding Applications Due | September 13, 2019 | September 13, 2019 |
| Advisory Commission Funding Decisions | December 9, 2019 | December 9, 2019 |

DWSRF pre-applications due June 14 DWSRF priority list announced early August

Web Search: NHDWG Trust Fund

NH DWG Trust Fund

A State of New Hampshire Website



NH Drinking Water and Groundwater Trust Fund

Posted on January 5, 2018 by Kate Michener

The Drinking Water and Groundwater Trust Fund, established under RSA 485-F, is intended to provide for the protection, preservation, and enhancement of the drinking water and groundwater resources of the state.

Posted in Uncategorized

DWGTF Advisory Commission Approves Adoption of 2019 Award Plan and Funding Applications

UPCOMING EVENTS

2018 – 2019 Meeting and Outreach Schedules

RECENT POSTS

DWGTF Advisory Commission Approves Adoption of **2019** Award Plan and Funding Applications DWGTF Advisory Commission Approves Construction and Source Water Protection Project Rule Sets

NH DWG Trust Fund

HOME ABOUT

APPLICANT INFORMATION

RESOURCES

Construction Projects

DWGTF Commission Construction Rules (adopted Mar11_2019)

2019 DWGTF Award Plan (Adopted 4-16-2019)

DWGTF Funding Application (adopted 4-16-19)

DWGTF Special Project Funding Application Supplement (adopted 4-16-19)

NH DWG Trust Fund

HOME ABOUT

APPLICANT INFORMATION

RESOURCES

Non-Construction Projects

2019 DWGTF Award Plan (adopted 4-16-2019)

DWGTF Commission Source Water Protection Rule Set (adopted 3-11-2019)

DWGTF SWP Grant Program Eligibility Application (adopted 4-16-19)

DWGTF SWP Grant Program Funding Application (adopted 4-16-19)

DWGTF SWP Grant Program Final Application

OneStop Data Mapper Instructions

Presentation Take Aways

- Addressing <u>contaminated drinking water</u> is a top priority of the Advisory Commission
- 2017 and 2018 project approvals will have an impact across the state
- Municipalities, water suppliers, planners and others need to <u>think outside the box</u> to identify collaborative funding opportunities



Sign-up for Email Alerts at the DWGTF Website: https://www4.des.state.nh.us/nh-dwg-trust

Contact: Erin Holmes, P.E. (603) 271-8321 <u>Erin.Holmes@DES.NH.Gov</u>

Mike Unger, P.E. (603) 271-0779 Michael.Unger@DES.NH.Gov