



Water Division Update

Rene Pelletier

Director, Water Division

September 12, 2023

Water Division Organization

Director: Rene Pelletier, P.G.

Assistant Director: Ted Diers

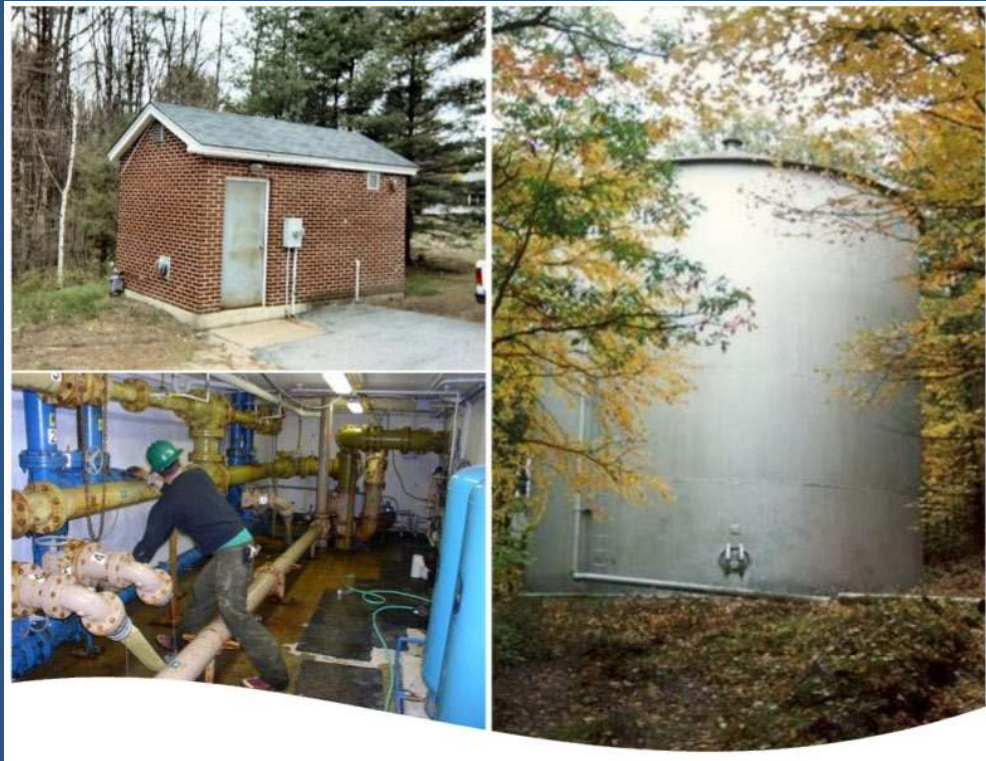
Eight Bureaus & Programs

Land
Resources
Management

- ❑ **Alteration of Terrain**
- ❑ **Wetlands Bureau**
- ❑ **Subsurface Systems Bureau**
- ❑ **Drinking Water & Groundwater Bureau**
- ❑ **Dam Bureau**
- ❑ **Wastewater Engineering Bureau**
- ❑ **Watershed Management Bureau**
- ❑ **Winnepesaukee River Basin Program**



Drinking Water Program Update



Hot Topics in Drinking Water

- 1) PFAS (presented in another session)
- 2) Surge in financial assistance (presented in another session)
- 3) Federal Lead and Copper Rule
- 4) Lead in school and daycares – state law
- 5) Cyanotoxins
- 6) Cybersecurity
- 7) Planning for the future

Federal Lead & Copper Rule

- 1) The final rule will be issued in the fall of 2023.
- 2) One of the costliest and most complicated drinking water rules to develop and administer.
- 3) Lead service line (line running from water main into the building) material inventories must be completed by October 2024 along with a replacement plan (\$6M in grants and contracts are being used to complete this work – approx. 1100 water systems)
- 4) The current action level of 15 ppb may be reduced.
- 5) More intense and targeted sampling will be required beginning January 2025. There will be a significant surge in public notifications/publicity in 2025 due to the new regulations – NOT due to changes in water quality.
- 6) Lead service lines (& other materials that may have accrued lead from upstream lead materials) must be replaced.(\$150M in loan funds with over 49% principal forgiveness are available in NH)

Lead in School & Childcare Facilities

- 1) State law passed in 2018 requires every fixture that could be a source of drinking water be tested and mitigated if lead exceeds 15 ppb. (650 schools and 550 childcare facilities – approx. 30,000 fixtures)
- 2) Law changed in 2022 to lower the limit to 5 ppb for just these facilities. Notification of exceedances is required. This is why there are numerous media stories recently.
- 3) NHDES & HHS are collaborating on administering the program. Grant funds from USEPA and the Drinking Water and Groundwater Trust Fund are available.

Testing Results & More Information available online.



Cyanobacteria/Cyanotoxins



- 1) Formerly known as blue-green algae.
- 2) Phosphorous or nitrogen rich environments + warm water = multiplication.
- 3) Cyanobacteria have the potential to generate harmful toxins. (cyanotoxins). Toxins – can affect various organs (liver, brain) and systems in the body.
- 4) No specific drinking water standards but NHDES can order action if a health risk is present. Water systems have readily collaborated with NHDES to address cyanobacteria blooms.
- 5) NHDES has monitoring and testing contracts and offers grants to water systems to address this risk.
- 6) Four cyanobacteria blooms have occurred in sources of drinking water in 2023.

Cybersecurity

- 1) Since 9/11, water systems have substantially increased physical security.
- 2) Cybersecurity is now a major concern.
- 3) NHDES with assistance of Cybersecurity & Infrastructure Security Agency is now working to ensure there are proper cybersecurity measures in place at applicable water systems – onsite assessments are occurring.
- 4) NHDES offers \$50K grants to water systems to improve cybersecurity.

Planning for the Future

- Regional water supply study has been completed for southern New Hampshire
 - Adequate water supply exists
 - Additional infrastructure and coordination between Manchester Water Works and Pennichuck Water Works will be required
- Regional water supply study has just been initiated for the seacoast region.

Wastewater Engineering Bureau

Administrator Tracy L. Wood, PE

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Who We Are



**Planning &
Design &
Construction
Management**



**Grants
Management
(CWSRF & SAG)**



**Permits &
Compliance
& Operations**



**Residuals
Management**

Clean Water Programs



What We Do

Support planning, design, construction and operation of clean water infrastructure for protection of public health and the environment.

Promote Sustainable Programs

(Asset Management, Energy Efficiency, Climate Resiliency)



Provide Technical Assistance to NHs WWTPs & Operators

Award CWSRF and SAG Funds:

~\$75 million

Process Permit Applications

(Sewer Connection, SQC, Septage & Sludge Haulers, etc.)

Wastewater (WW) Infrastructure



Wastewater Treatment Facilities (WWTFs)



Sewers



Pump Stations (PSs)

What Requires NHDES Approval?

- New Sewers & Pump Stations
- WWTF & Pump Station Upgrades
- Design Rules: Env-Wq 700 - Standards of Design and Construction for Sewerage and WWTFs



Wastewater Projects – Submittals to NHDES (per year)

Ownership	Type	#	%
Municipal (40%)	WWTF	30	15%
	Sewers/PS	50	25%
Private (60%)	Sewers/PS	120	60%
TOTAL		200	



Upcoming Rules

- Env-Wq 304 Certification of WWTP Operators – Readoption Coming Fall 2023!
- Env-Wq 1600 Septage Management – Readoption Coming Winter 2023!
- Env-C 500 Prequalification of Engineers for Certain Projects – Readoption Coming Spring 2024!
- Env-700 Standards of Design and Construction for Sewerage and WWTFs – Readoption Coming Fall 2024!



Watershed Management Bureau "Hot Topics"

September 2023

Water Quality Planning Updates

Welcome!

Judy Sears
Houston, P.E.,
Section Supervisor

Harvey Pine
TMDL Coordinator

Water Quality
Standards

Triennial review
underway – JLCAR
process anticipated
to start late fall

Updates of note -
arsenic, aluminum,
nutrient permitting
guidance, PFAS

401 & Large Surface
Water Withdrawal
Water Quality
Certifications

Updates to RSA
485-A:13 including
review timeframes

Env-Wq 302 Rule
Revisions in
progress (expect
draft in late 2023)

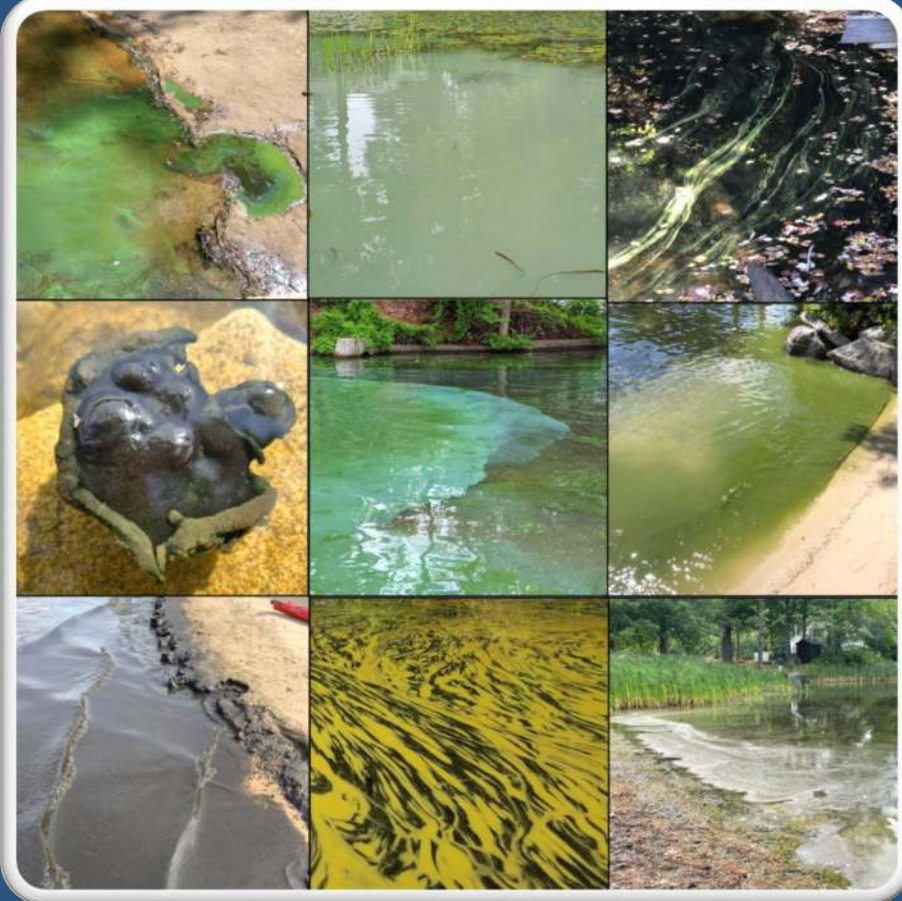
Green SnoPro & Municipal Voluntary Winter Maintenance Certification Program

- ❑ **Purpose** – Certify winter maintenance managers on state-of-the-art salt reduction practices that prioritize public safety while mitigating salt usage
- ❑ **Commercial Program Underway** – 542 Individuals Certified in the 2022-2023 season
- ❑ **In Development** –Municipal Voluntary Program Rules
 - ❑ Improve efficiency in salt use to use the least amount to ensure safe conditions
 - ❑ Train municipalities in salt reduction and to implement management systems that reduce salt use but protect public safety

Timeline – Presenting draft rules to the Water Council in October



Cyanobacteria Harmful Algal Blooms Program – Record breaking year and not in a good way



- Earliest Advisory (> 70,000 cells/mL) issued on May 16 (vs. May 20)
- Most advisories issued in May, June, and July; breaking previous records
- As of August 24, 2023, there are 14 active Cyanobacteria Advisories

Erin Holmes, Administrator of the Watershed Management Bureau, is presenting a comprehensive update on cyanobacteria and presenting key takeaways from the draft *New Hampshire's Cyanobacteria Plan and Statewide Strategy* at 12:45

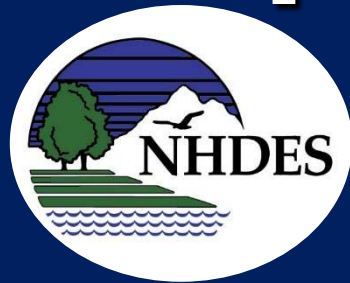
NHDES Coastal Program Win - \$2.9 M from NOAA

- Project - NH Resilient Tidal Crossings Project to Restore Coastal Habitats & Build Community Resilience to Flooding
- NHDES partnership with NHDOT will enable replacement of three undersized culverts on State roads in the Towns of Stratham and Rye, N.H.
- These culverts are the highest priority tidal crossings based on a 2018 assessment of 120 tidal stream crossings
- Prioritized for ecosystem compatibility, flood resilience and structural condition.



Culvert along Ocean Boulevard, Rye, NH presented in the application for IIJA funding to NOAA

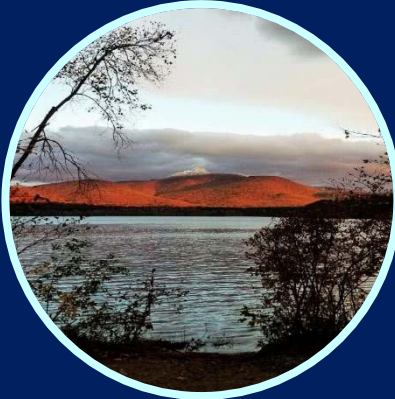
Land Resources Management Program 2023 Update



Who We Are



**Alteration
of Terrain
Bureau**



**Shoreland
Program**



**Subsurface
Systems
Bureau**



**Wetlands
Bureau**

Land Resources Management Program (LRM)



What We Do

Guiding landowners
to minimize the impacts of development
on water quality and habitats

**Process Permit
Applications:
~10,000**

**Award
Conservation &
Restoration
Funds:
~\$3 million**



**Provide
Customer
Service:
20,000
contacts**

**Investigate
Complaints:
~400**

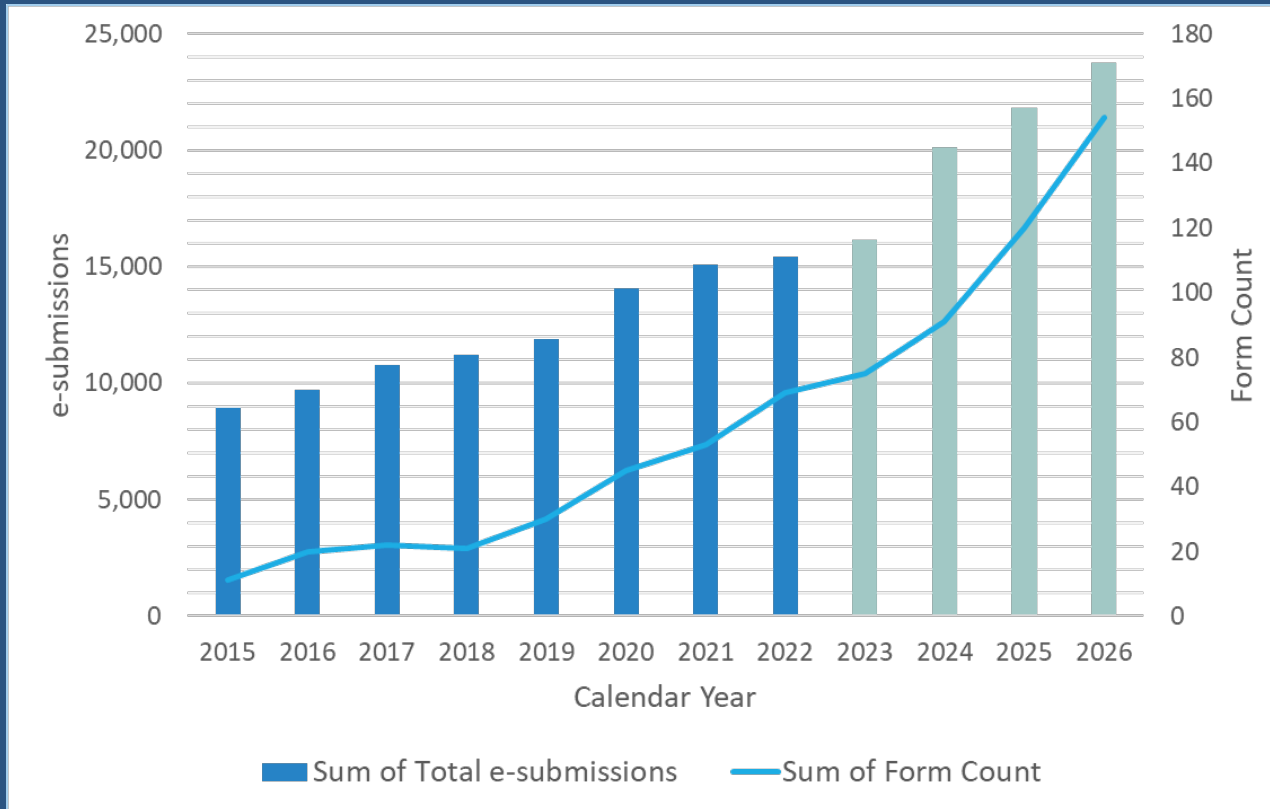


LRM Training & Outreach

Objectives for 2023

- Grow outreach capabilities
- Enhance application quality
- Improve internal efficiency & consistency
- Ensure permitting timeframe compliance
- Update rules, forms, guidance
- Help streamline permitting processes

Increase in e-Permitting



- 100% increase in forms online
- 60% increase in submissions department-wide
- Approximately 75% LRM eFiling online by the end of 2026



Upcoming Rule Changes

Wetlands

- ☐ Mitigation hierarchy
- ☐ Permit-By-Notification form simplification and digitization

Alteration of Terrain

- ☐ Solar
- ☐ Redevelopment
- ☐ Agriculture



Subsurface - winter

- ☐ Grease Interceptor Requirements
- ☐ Homeowner Installs
- ☐ Innovative Technology Approvals



Improvements in Permit Application Forms

- Enhance readability and usability
- Increase completion rates
- Progress toward paperless



How are we doing?





Dam Bureau Update

- Welcome!
 - Corey Clark, P.E. – Recently promoted to Chief Engineer for the Dam Bureau (presenting at 1:30pm today in the Concord Room)
 - Replaced long time former Chief Engineer, Jim Gallagher who retired in 2022

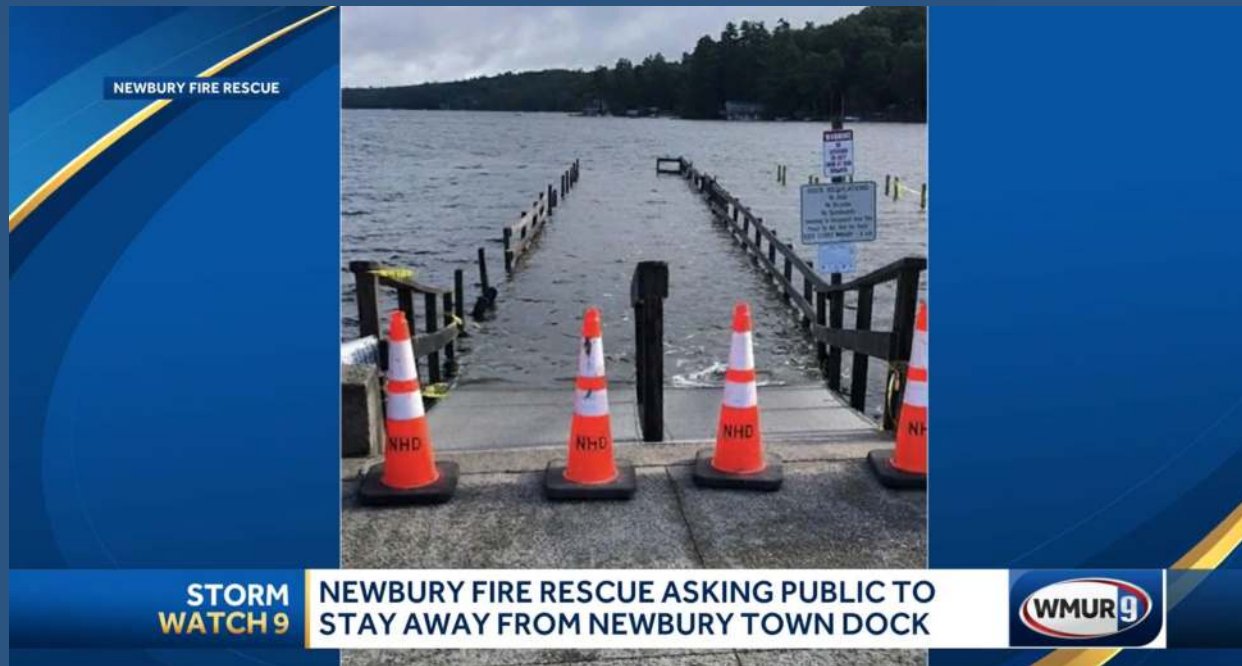




July 2023 – Flooding

■ Lake Sunapee

- Second highest recorded lake level with a peak of 1.45ft or 17.4 above full summer level
- Highest recorded discharge from Sunapee Lake Dam into Sugar River at 726 cfs.





July 2023 – Flooding

- Other locations with State-owned dams
 - Lake Winnepesaukee – crested at 504.96 or 7.7 inches above full summer level
 - Lake Winnisquam – crested at 12 inches above full summer level
 - Newfound Lake – crested at 6 inches above full summer level
 - Squam Lake - crested at 3.5 inches above full summer level
 - Ossipee Lake - crested at 1.3 feet or 15.6 inches above full summer level



July 2023 – Flooding

- Personnel responded to the failures of privately owned Forest Lake Dam in Winchester and Newport Fire Pond Dam in Newport
- Personnel responded to very high water at Highland Lake and Island Pond Dams in Stoddard (Island Pond crested 4.8 feet above normal)



Forest Lake Dam 7/10/2023



July 2023 – Flooding

- Managed operations at Lakeport Dam (Lake Winnepesaukee), Avery Dam (Lake Opechee) and Lochmere Dam (Lake Winnisquam) to limit flooding impacts along Silver Lake and the Winnepesaukee River.



State Owned & DES-Operated Regional Wastewater Collection and Treatment System



**WRBP Created: RSA 485-A:45-54
(1972)**

- 10 Communities (co-permittees) served
- 57 miles of regional sewer lines
- 14 pumping stations
- Laconia Maintenance Shop
- Franklin WWTF

- ❖ \$7.5M Operating Budget
- ❖ \$30M Capital Budget
- ❖ 100% Other Funds
- ❖ + federal grants or loans
+ Energy Incentives

- ✓ 3/10th of a penny/gallon treated
- ✓ 2.4 billion gallons treated/year
- ✓ 1M million gallons septic/year

Before the WRBP



"Pea Soup" Waters



**Algae Blooms
& Fish Kills**



Cyanobacteria

After the WRBP



**Sewage-free
waters**



Lake recreation



Wildlife habitat

The public can help sewer infrastructure

**Broken pump impeller
- \$35K to replace**



**400+ lb. - 60'-feet long
"wipe worm" removed
from sewer manhole**

**Damaged grinder "teeth"
- \$28K to replace**





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