

SURFACE WATER WITHDRAWAL MANAGEMENT IN NEW HAMPSHIRE

Presented to the
Vermont Surface Water Diversion and Transfer Study Group
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by

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TODAY'S MENU

(Focus is surface water withdrawals)

- Public Trust Doctrine
- When withdrawals are not regulated by NHDES
- Withdrawal regulations and programs
 - Env-Wq 1700, RSA 485-A:8, Surface Water Quality Standards
 - RSA 488:3 Registration
 - RSA 485-A:12, IV Water Quality Certifications for Withdrawals
 - Env-Wq 2102 Water Use Registration and Reporting (WURR) Rules
 - Env-Wq 2101 Water Conservation Rules
 - RSA 483:9-c Protected Instream Flow Regulations
 - Watershed Management Plans
- Questions

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PUBLIC TRUST DOCTRINE (PTD)

- NH holds surface waters in trust for use and benefit of public
- Based on PTD which is a common (or case) law vs law codified in statute
- All withdrawals are subject to PTD
 - Must be “reasonable” with respect to impact on other users
 - Must have permission of the riparian landowner
 - Must not adversely impact aquatic life, recreation, or other public uses

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WHEN WITHDRAWALS ARE NOT REGULATED BY NHDES

- Withdraw less than volume thresholds in RSA 488:3
 - i.e., essentially < average of 20,000 gpd
- No impact to wetlands and no discharge to surface water
- Comply with surface water quality standards (Env-Wq 1700, RSA 485-A,8)
- Applies mostly to small intermittent withdrawals
 - e.g., trucks withdrawing water for hydroseeding, dust control etc.)
- Link to [Fact Sheet](#)



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NHDES WITHDRAWAL REGULATIONS AND PROGRAMS



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SURFACE WATER QUALITY STANDARDS

- Env-Wq 1700: [Link](#)
- RSA 485-A:8 : [Link](#)
- 3 Components
 - Designated Uses (e.g., recreation, aquatic life protection, fish consumption, etc.)
 - Criteria (numeric and narrative)
 - Antidegradation
 - Protect high quality waters
 - Applies to any hydrologic modifications including withdrawals.

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SURFACE WATER QUALITY STANDARDS

- Narrative criteria for flow and transfers
- Env-Wq 1703.01(d) - Flow "Unless high or low flows are caused by naturally-occurring conditions, surface water quantity shall be maintained at levels that protect existing uses and designated uses".
- Env-Wq 1708.12 Transfer of Water "means the intentional conveyance of water from one surface water to another surface water for the purpose of increasing the volume of water available for withdrawal from the receiving surface water."
 - Does not include the management of stormwater during construction
 - Must not transfer exotic species, must comply with antidegradation, must have and be in compliance with water conservation plan per Env-Wq 2101.
 - Regulations apply to transfers occurring after 8/23/2011.

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RSA 488:3 (REGISTRATION & CERTIFICATION THRESHOLD)

- *If withdraw more than:*
 - *average of 20,000 gpd over any 7 day period,*
 - *or 600,000 gallons over any 30 day period,*
- then need to register withdrawal
- and possibly get a water quality certification.

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RSA 488:3 - REGISTRATION

RSA 488:3 REGISTRATION REQUIRED. –

I. NO PERSON SHALL WITHDRAW OR DISCHARGE A CUMULATIVE AMOUNT OF MORE THAN 20,000 GALLONS OF WATER PER DAY, AVERAGED OVER ANY 7-DAY PERIOD, OR MORE THAN 600,000 GALLONS OF WATER OVER ANY 30-DAY PERIOD, AT A SINGLE REAL PROPERTY OR PLACE OF BUSINESS WITHOUT REGISTERING THE WITHDRAWAL OR DISCHARGE WITH THE DEPARTMENT. TRANSFERS OF SUCH VOLUME OF WATER SHALL ALSO BE REGISTERED. REGISTRATION SHALL BE IN ADDITION TO ANY REQUIRED PERMITS.

II. NO REGISTRATION SHALL BE TRANSFERRED TO ANOTHER PERSON WITHOUT WRITTEN NOTIFICATION TO THE COMMISSIONER

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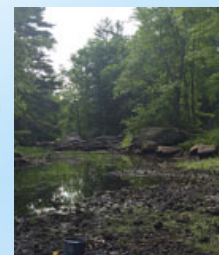
RSA 485-A:12, IV (CERTIFICATION)

Any surface water withdrawal or diversion that

- requires registration under RSA 488:3, and
- was not in active operation as of 9/5/2008,

must be certified by NHDES that it will meet NH surface water quality standards (Env-Wq 1700 and RSA 485-A:8).

- Can include conditions (e.g., monitoring, other)
- NHDES may enforce the certification
- NOT a CWA section 401 water quality certification



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RSA 485-A:12, IV

- NO ACTIVITY THAT INVOLVES SURFACE WATER WITHDRAWAL OR DIVERSION OF SURFACE WATER THAT REQUIRES REGISTRATION UNDER RSA 488:3, THAT DOES NOT OTHERWISE REQUIRE THE CERTIFICATION REQUIRED UNDER PARAGRAPH III, AND WHICH WAS NOT IN ACTIVE OPERATION AS OF THE EFFECTIVE DATE OF THIS PARAGRAPH, MAY COMMENCE UNLESS THE DEPARTMENT CERTIFIES THAT THE SURFACE WATER WITHDRAWAL OR DIVERSION OF SURFACE WATER COMPLIES WITH STATE SURFACE WATER QUALITY STANDARDS APPLICABLE TO THE CLASSIFICATION FOR THE SURFACE WATER BODY. THE CERTIFICATION SHALL INCLUDE ANY CONDITIONS ON, MODIFICATIONS TO, OR MONITORING OF THE PROPOSED ACTIVITY NECESSARY TO PROVIDE REASONABLE ASSURANCE THAT THE PROPOSED ACTIVITY COMPLIES WITH APPLICABLE SURFACE WATER QUALITY STANDARDS. THE DEPARTMENT MAY ENFORCE COMPLIANCE WITH ANY SUCH CONDITIONS, MODIFICATIONS, OR MONITORING REQUIREMENTS AS PROVIDED IN RSA 485-A:22.
- (EFFECTIVE DATE IS 9/5/2008)

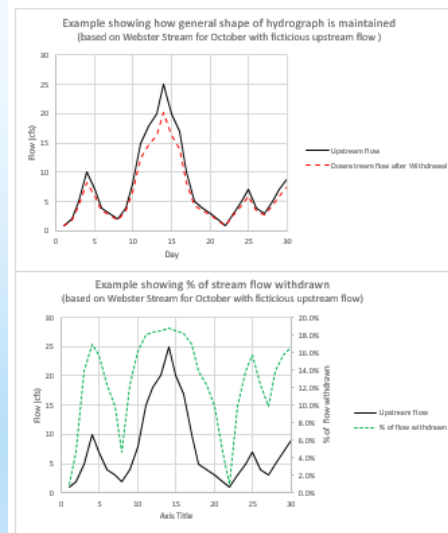
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RSA 485-A:12, IV (CERTIFICATION)

- For new long-term withdrawals, we recently improved our methodology for addressing antidegradation
- So far have only applied to new withdrawals from rivers/streams for public water suppliers but could apply to other applicants.
Example: Bellamy River Withdrawal Certification: [Link](#)
- Shows how antidegradation regulations were applied
- Maximum allowable withdrawal varies by month and upstream flow (Q_{up}) with de minimis of 1% of Q_{up} (public need)
- Requires upstream measurement of flow which determines allowable pumping (withdrawal) rate.
- Maintains general shape of hydrograph (no flat-lining)

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EXAMPLE OF ALLOWABLE WITHDRAWAL IN CERTIFICATION



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WATER USE REGISTRATION & REPORTING (WURR) RULES

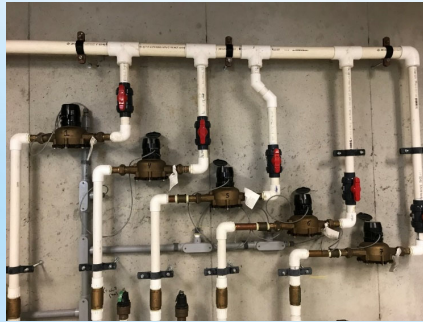
- Required per RSA 488:3, Env-Wq 2102 - [Link](#)
- WURR Program website: [Link](#)
- Reporting Requirements
 - Must report monthly water use on a quarterly or yearly basis depending on the use.
 - Can be done online
 - Publically accessible WURR database available on NHDES One Stop: [Link](#)

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WURR RULES – FLOW MEASUREMENT

Env-Wq 2102- Includes measuring requirements per RSA 488:4.

Measuring requirements – All withdrawals, transfers, and discharges required to be registered (i.e., WURR) shall be measured. All measuring devices shall be maintained for accuracy.



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RSA 488:4

RSA 488:4 MEASUREMENT REQUIRED. – EACH WITHDRAWAL, DISCHARGE, OR TRANSFER REQUIRED TO BE REGISTERED UNDER THIS CHAPTER SHALL BE METERED OR MEASURED BY A TECHNICALLY APPROPRIATE AND VERIFIABLE METHOD APPROVED BY THE COMMISSIONER. WITHDRAWALS AND DISCHARGES SHALL BE MEASURED AT THE POINT OF WITHDRAWAL OR DISCHARGE, RESPECTIVELY. TRANSFERS SHALL BE MEASURED AT A TECHNICALLY APPROPRIATE POINT APPROVED BY THE COMMISSIONER.

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(WURR) PROGRAM BENEFITS

- Pros of WURR Program & Database
 - Helps track cumulative and net withdrawals and discharges on many waterbodies
 - Can help explain problems related to observed groundwater and surface water levels
 - Identifies conservation opportunities
 - Identifies affected water users falling under the Instream Flow Program's water management plans (discussed later)
 - Data facilitates more effective management decisions

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WATER CONSERVATION (WC) RULES

- WC Rules (Env-Wq 2101): [Link](#)
- NHDES WC Program website: [Link](#)
- RSA 485:1-a, XIX defines water conservation:
“any beneficial reduction in water losses, waste, or use

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WC RULES - APPLICABILITY

- Env-Wq 2101.02
- Applications for new groundwater sources:
 - Community water system
 - Facility where withdrawals exceed 57,600 gallons over any 24-hour period
 - Bottled and bulk water operation
- Applications for new surface water sources:
 - Withdrawals over 140,000 gallons per week or more than 600,000 gallons over 30 days
 - Withdrawals or transfers requiring water quality certification
- Affected water users under the Instream Flow Program
- Consecutive water system or privately owned redistribution system that receives water from a wholesale system subject to the WC rules ¹⁹



WC RULES - WATER CONSERVATION PLANS

- Env-Wq 2101.24
- Main Components:
 - Meters
 - Proper installation and maintenance
 - Water loss reduction
 - Trend analysis and leak detection
 - Outreach
 - Increase consumer awareness
 - Implementation of plan
 - Reporting to demonstrate compliance



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PROTECTED INSTREAM FLOWS & WATERSHED MANAGEMENT PLANS

- NHDES Instream Flow Program Website: [Link](#)
- Env-Wq 1900 Protection of Instream Flow Rules: [Link](#)

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NH Instream Flow Program HISTORY

- 1990 RSA 483
- 2001 – Instream Flow Pilot Program
 - Souhegan
 - Lamprey
- 2015 – Complete pilot
- 2016 – 2018 Rule making
- 2019 – Begin work on Cold and Warner
- 2021 – Publish Cold and Warner – PISF
- 2022 – Start work on Ashuelot River
- Future – Manage existing rivers, future PISF development dependent on '22/'23 budget

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INSTREAM FLOW

483:9-c Establishment of Protected Instream Flows. –

I. The commissioner, in consultation with the advisory committee, shall adopt rules under RSA 541-A specifying the standards, criteria, and procedures by which **protected instream flows shall be established and enforced for each designated river or segment.** The department shall determine the protected instream flow criteria based on the **requirements of flow-dependent instream public uses.** Each protected instream flow shall be established and enforced to maintain water for instream public uses and to protect characteristics, including recreational, fisheries, wildlife, environmental, hydropower, cultural, historical, archaeological, scientific, ecological, aesthetic, community significance, agricultural, public water supply, riparian rights, and the resources for which the river or segment is designated.

VI. Water management plans implementing instream flow protections shall be effective and enforceable upon adoption.

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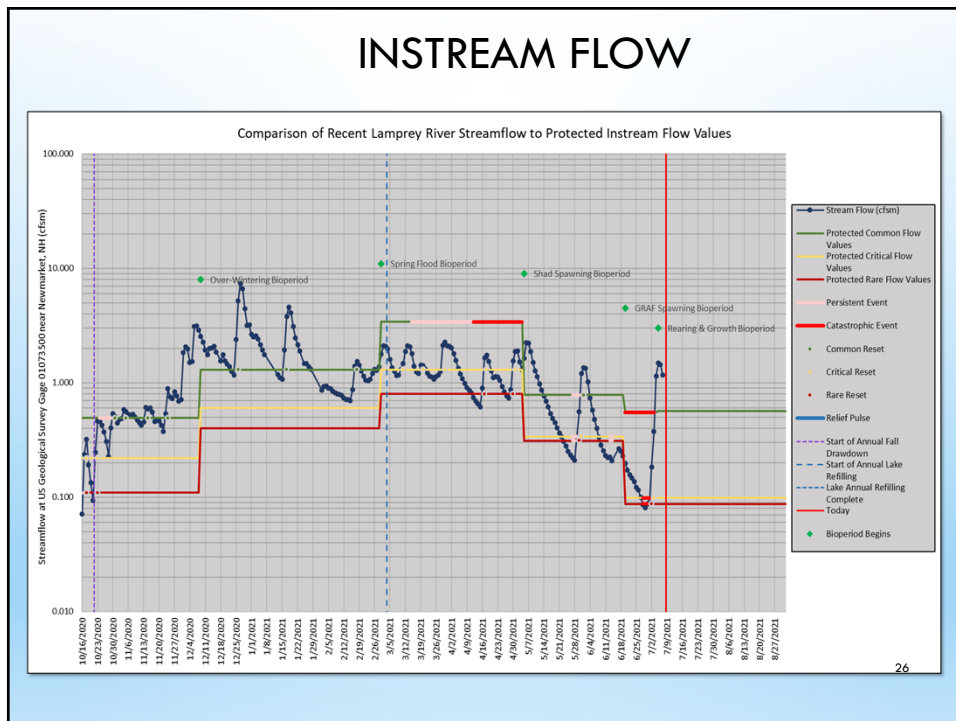
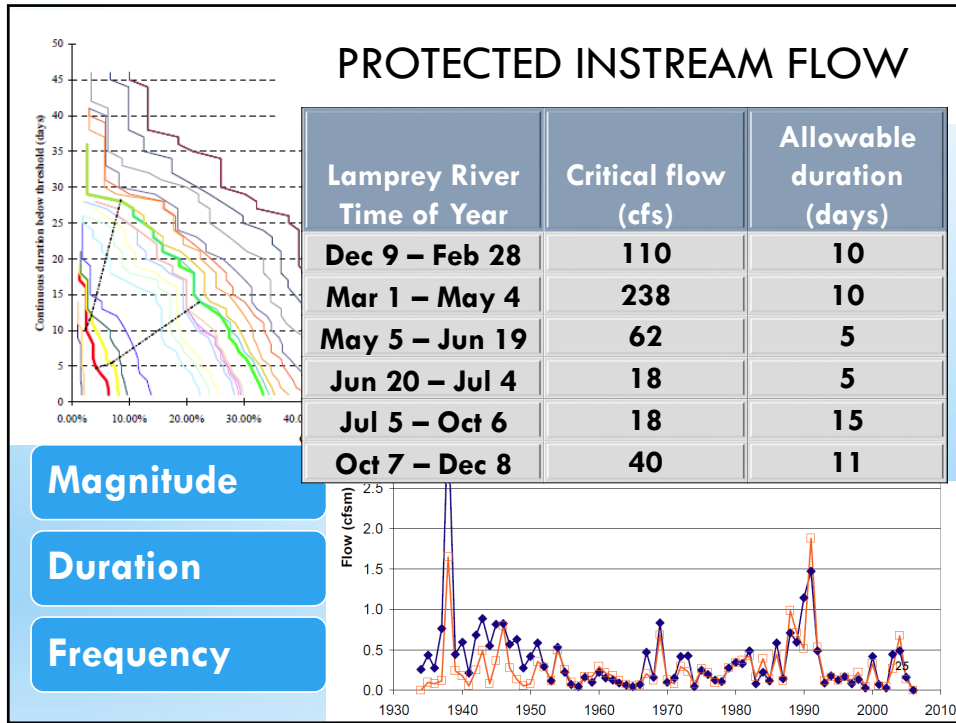
Defining Protected Flows

- Protected flows were defined for instream public uses
- Flow needs identified life cycle needs like spawning
- Protected flows were defined within the historical flow pattern
- Allows droughts to happen on a natural cycle
- Magnitude, duration, frequency, and variability all important

Natural Flow Paradigm

(Poff, 1997)

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Management of Low Flows

Applies to water users

- Conserve water (Env-Wq 2101)
- Use alternate sources

Applies to dam owners (lakes)

- Release 2-day pulses of water from storage to restore the flow pattern

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QUESTIONS?

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