



Expanding Wetland Monitoring and Assessment Capabilities to Inform Environmental Reviews, Mitigation, and Conservation

U.S. EPA WPDG No. CD-00A01391

NH Natural Heritage Bureau



Primary Project Objective

Test and develop a Rapid Floristic Quality Assessment (rFQA) Method ...

while prioritizing wetland surveys within watersheds that support public drinking water supplies for underserved communities.

Major Project Outputs

Develop standardized rFQA protocols for natural resource professionals

Justice 40 Initiative

Address disproportionate impacts to underserved communities by:

- Identifying wetlands of high ecological integrity that support drinking water supplies
- Sharing relevant findings with state and local stakeholders



Additional Project Objective

Provide internship opportunity for a college student

NH NHB's first paid internship!

Professional development in:

- Plant identification
- Field survey methods
- Vegetation classification
- Rapid Assessment Method concepts (Wetland EIA, FQA)



FQA & Coefficient of Conservatism (CoC)

- **Wetland condition assessment method based upon plant species composition**
- **CoC-value:**
 - **A numerical rating between 0-10 indicating a species' fidelity to specific habitats and its tolerance to disturbance**
 - **Typically assigned to each species in entire flora by a panel of experts**

CoC	Criteria
0	Non-native with wide range of ecological tolerances. Often these are opportunistic of intact undisturbed habitats.
1 to 2	Native invasive or widespread native that is not typical of (or only marginally typical of) a particular plant community; tolerant of anthropogenic disturbance.
3 to 5	Native with an intermediate range of ecological tolerances and may typify a stable native community, but may also persist under some anthropogenic disturbance.
6 to 8	Native with a narrow range of ecological tolerances and typically associated with a stable community.
9 to 10	Native with a narrow range of ecological tolerances, high fidelity to particular habitat conditions, and sensitive to anthropogenic disturbance.

rFQA Development

rFQA

Level 2 rapid assessment based on dominant species percent cover

Testing & Development

- **Quantitatively compare FQA scores to scores based upon dominant species PC thresholds of $\geq 2\%$ and $\geq 5\%$**
- **Identify dominant species PC threshold for rFQA that only minimally deviates from FQA scores**

Project Status



Survey site selection, field preparation; March – July 2024



Intern employed; May – September 2024



27 wetlands surveyed; July – September 2024



Post-field data processing; October 2024 – Ongoing

Hudsonia - silverling riparian barren (S1,G1) – Saco River

Known only from floodplain barrens & channel point bars - 40 km of Saco River in NH, ME

Characterized by association of two rare species: hairy hudsonia and silverling.

Surveyed 99 sites in NH & ME summer 2024

Historically 13 known locations - Five remain (2 in NH; 3 in ME)

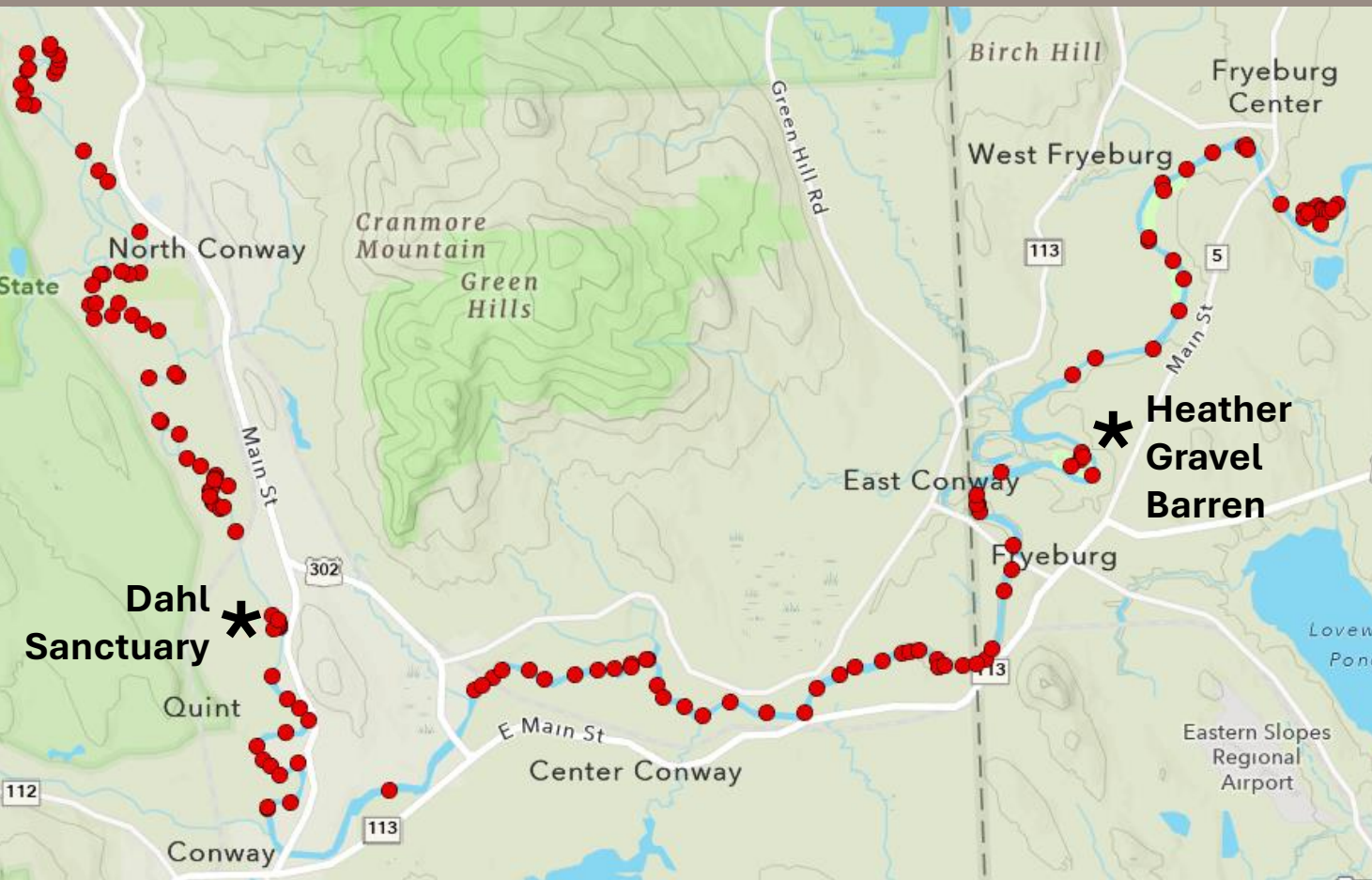
Climate Change is primary threat: More frequent severe rain events resulting in higher river flows



Heather Gravel Barren, Fryeburg ME; Open floodplain variant



Dahl Sanctuary, Conway, NH; River channel variant



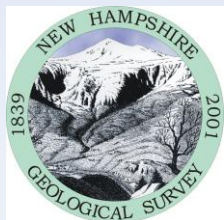
EPA Wetland Program Development Grant (2024-2026)

- NHGS awarded grant from EPA to continue transition of management and ownership of stream crossing data to municipalities
- Collaboration with SWRPC and UNH T2 to provide technical assistance to communities
- Development of Flood Planning Tool to help towns and organizations visualize and analyze flood risk on watershed scale



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EPA Wetland Program Development Grants

- NHDES grant partnered with UNH & NH Fish & Game to develop Turtle Crossing Guidance: [10nov2023-guidance-for-wetland-road-crossings-for-blandings-turtles.pdf](#)
- Wetlands & Stream impact tracking database developed.
- EPA & ACOE Wetland Assessment training 3/23)
- NHDES has provided Assessment training to conservation commissions & to wetland scientists.
- Guidance has been developed to improve applicant information.



LINE OF SIGHT

Data collection record: Full, Partial, or None
Turtles are more likely to cross through structures that have natural or artificial light throughout the structure rather than tunnels or passages that are dark. This parameter is asking the surveyor to visually assess whether there is a line of sight through the structure: when looking through the structure from the inlet, can one see the other side? If yes, the surveyor should choose whether the line of sight is full, partial, or none.

Full: The outlet is visible and enough light is able to enter the structure so that the culvert walls and water surface are visible (next figure).



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