

NORTHWOOD LAKE | ACTION PLAN



TO: Brian Lobao and the Northwood Lake Watershed Association (NLWA)
FROM: Christine Bunyon, FB Environmental Associates
SUBJECT: **Northwood Lake Action Plan – DRAFT**
DATE: June 3, 2026
CC: Laura Diemer, FB Environmental Associates

This memo includes the Action Plan for the Northwood Lake watershed. The Action Plan will be finalized based on discussion among and feedback from project partners and stakeholders at a Steering Committee meeting on June 18, 2026. The finalized Action Plan will be included in the Northwood Lake Watershed Management Plan (WMP).

THE ACTION PLAN

The Action Plan (Table 1) outlines the action items, responsible parties, approximate costs¹, an implementation schedule, and potential funding sources for each recommendation within the following major categories: (1) Watershed & Shoreline BMPs; (2) Road and Driveway Management; (3) Municipal Operations; (4) Municipal Land Use Planning & Zoning; (5) Land Conservation; (6) Septic System Management; and (7) Education and Outreach. The plan is designed to be implemented from 2026-2036 and is flexible to allow for new priorities throughout the 10-year implementation period as additional data are acquired.

Achieving long-term water quality goals cannot be accomplished by the Northwood Lake Watershed Association (NLWA) working in isolation; rather, success relies on building and strengthening vibrant partnerships with local stakeholders who share a commitment to natural resource protection (Figure 1). Because watershed boundaries transcend political lines, close collaboration with the towns of Northwood, Deerfield, Epsom, and Pittsfield is paramount. Engaging directly with local Boards of Selectmen, Planning Boards, Town Conservation Commissions, and Departments of Public Works ensures that watershed protection goals are directly woven into municipal ordinances, local land-use decisions, and infrastructure maintenance practices. This community-level effort is further enhanced by partnering with County Conservation Commissions, specifically the Rockingham County Conservation Commission (RCCC) for Northwood and Deerfield, and the Merrimack County Conservation Commission (MCCC) for Epsom and Pittsfield, for broader conservation coordination and technical assistance. Similarly, cooperation with Regional Planning Commissions, including the Strafford Regional Planning Commission (SRPC) for Northwood, the Southern New Hampshire Planning Commission (SNHPC) for Deerfield, and the Central New Hampshire Regional Planning Commission (CNHRPC) for Epsom and Pittsfield, ensures

¹ Cost estimates for each recommendation will need to be adjusted based on evolving economic conditions and site-specific design considerations.

that watershed goals are integrated into regional environmental planning. Protecting the shared waters and headwaters within the Northwood Lake watershed also means fostering strong networks with neighboring lake and neighborhood groups, such as the Pleasant Lake Preservation Association (PLPA), Lake Harvey Association (HLA), Jenness Pond Shore Owners Association (JPSOA), Long Pond Neighborhood/Road Associations, and the various Northwood Lake road associations for private roads. These groups are all critical for direct community outreach, education, action, and change. Finally, partnering with dedicated land conservation entities like the Northwood Area Land Management Collaborative (NALMC), the Southeast Land Trust, and Bear-Paw Regional Greenways leverages essential land protection and stewardship resources. By uniting these diverse partners, this action plan establishes a collective, resilient framework capable of effectively safeguarding water quality in Northwood Lake and throughout the watershed.

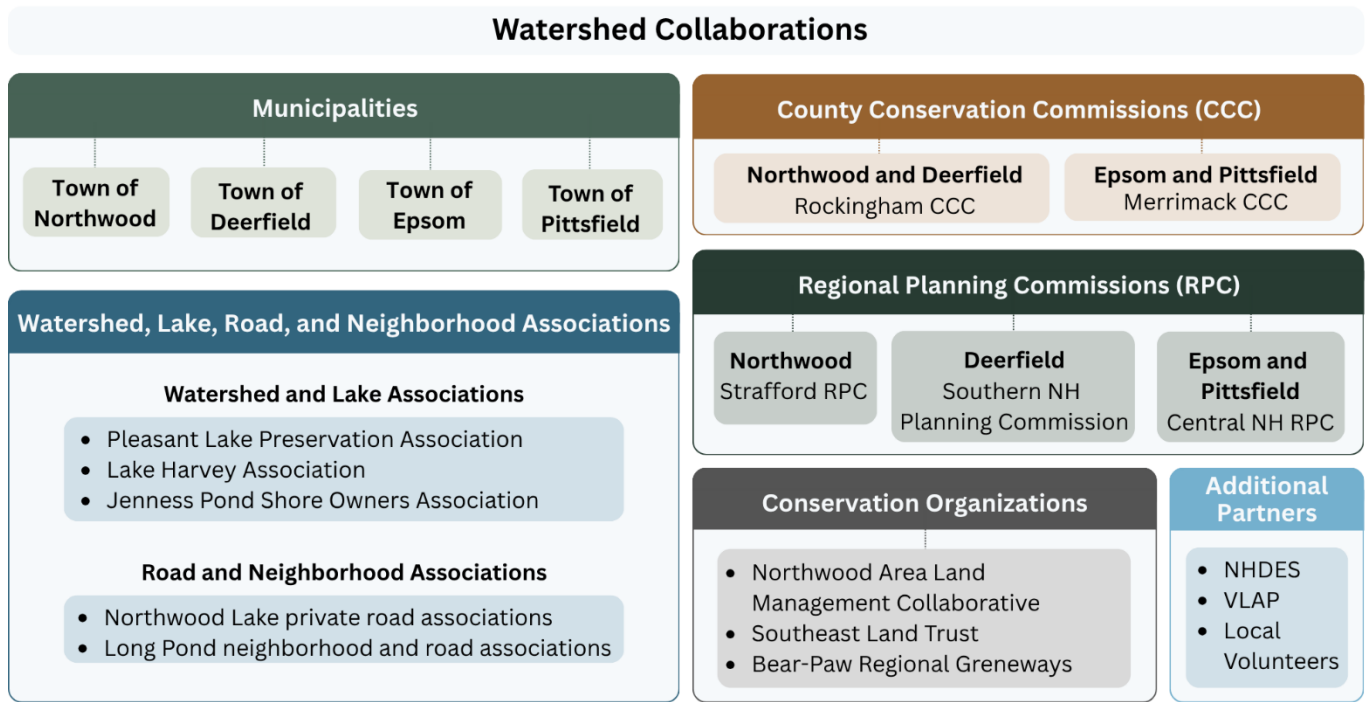


Figure 1. Organizations whose collaboration will help achieve the Water Quality Goal include municipalities; other watershed, lake, road, and neighborhood associations; county conservation commissions; regional planning commissions; and conservation organizations.

Abbreviations found within the Action Plan

ACEP: Agricultural Conservation Easement Program; CSP: Conservation Stewardship Program; CWSRF: Clean Water State Revolving Fund; EQIP: Environmental Quality Incentives Program; LCHIP: Land and Community Heritage Investment Program; LWCF: Land and Water Conservation Fund; MS4: Municipal Separate Storm Sewer System; NAWCA: North American Wetlands Conservation Act; NEFRG: New England Forest and River Grant; NFWF: National Fish & Wildlife Foundation; NH ARM: NH Aquatic Resource Mitigation Fund; NHDES: New Hampshire Department of Environmental Services; NLWA: Northwood Lake Watershed Association; NRCS: Natural Resource Conservation Service; RCCD: Rockingham County Conservation Commission; RCCP: Regional Conservation Partnership Program; TBD: to be determined; VLAP: Volunteer Lake Assessment Program.

Table 1. Action Plan for the Northwood Lake watershed.

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
1	Education and Outreach	Form a collaborative or committee to take responsibility for this Action Plan. Recruit representatives from each organization in Figure 1 (and any other relevant stakeholders), and schedule regular meetings (e.g., quarterly or even once per year). An annual meeting over the winter may be beneficial so the group can review the year's WQ data. Additional meetings can be scheduled for targeted actions or goals (e.g., responding to a cyanobacteria bloom, seeking a grant, planning a workshop, etc.	NLWA, watershed towns, watershed associations, county conservation commissions, regional planning commissions, land trusts, additional partners	None if done with existing staff or volunteers	2026-2036	None
2	Education and Outreach	Create flyers/brochures or other educational materials through printed or online mediums, regarding topics such as stormwater controls, road maintenance, buffer improvements, fertilizer and pesticide use, pet waste disposal, boat pollution, invasive aquatic species, waterfowl feeding, and septic system maintenance. Consider creating a "watershed homeowner" packet that covers these topics and is distributed (mailed separately or in tax bills or posted at community gathering locations or events) to existing and new property owners, as well as renters. Hold 1-2 informational workshops per year to update the public on restoration progress and ways that individuals can help. Cost is highly variable.	NLWA, other watershed associations, watershed towns, county conservation commissions	\$6,000-\$35,000	2026-2036	Grants (319), CWSRF, watershed towns

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
3	Education and Outreach	Share additional/dynamic information on watershed town webpages or a social media platform for the NLWA, such as water quality data, loon updates, weather conditions, and webcam, to generate more traffic to the NLWA website.	NLWA, watershed towns	None if done with existing staff or volunteers	2026-2036	None
4	Education and Outreach	Continue to provide resources for the Lake Host Program. Ensure there is a Lake Host on duty at the state boat at a minimum of every weekend throughout the summer season. Promote messages of “clean, drain, and dry” before boats enter or leave Northwood Lake to reduce the spread of invasive aquatic plants and animals.	NLWA, Town of Northwood	\$10,000	2026-2036	Grants (NHDES AIPC), Town of Northwood
5	Municipal Land Use Planning & Zoning	Present WMP recommendations to Select Board/City Council and Planning Board in Northwood and discuss the connection between municipal land use planning and water quality.	NLWA, watershed towns and regional planning commissions	\$1,000	2026-2027	Grants (319), CWSRF
6	Municipal Land Use Planning & Zoning	Incorporate WMP recommendations into municipal master plans and encourage regular review of the WMP Action Plan.	Watershed towns	None if done with existing staff. \$10,000-\$25,000 for consultant	2026-2036	Watershed towns

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
7	Watershed and Shoreline BMPs	Complete design and construction of mitigation measures at the top ten highest ranked watershed survey sites. Achieves 15% (6.49 kg/yr P of 43.06 kg/yr P) of Objective 1 for Northwood Lake.	Watershed towns, other watershed lake associations, private landowners, and roadway associations	\$221,000-\$365,000	2026-2029	CWSRF, Grants (319, Moose Plate, NFWF 5-Star, ILFP), Watershed towns, private landowners
8	Watershed and Shoreline BMPs	Provide technical assistance and/or implementation cost sharing to watershed/shoreline property owners to install stormwater and/or erosion controls such as rain gardens and buffer plantings. Prioritize high impact properties identified during the shoreline survey. Cost assumes technical assistance and implementation cost sharing provided to the three high impact shoreline properties. Achieves 4% (1.73 kg/yr P of 34.06 kg/yr P) of Objective 1.	NLWA, Town of Northwood, RCCC	\$6,000-\$15,000	2026-2027	Grants (319, Moose plate), CWSRF, Landowners
9	Road and Driveway Management	Review practices for road and drainage maintenance currently used by public and private entities/groups and determine areas for improvement.	Watershed towns, county conservation commissions, regional planning commissions	\$4,000	2027-2028	Watershed towns, Grants (CWSRF, Moose Plate, NFWF 5-Star)
10	Road and Driveway Management	Develop and/or update a written protocol for road maintenance best practices. Incorporate water quality considerations and strategies into roadway evaluations and action plans. Consult action items here relating to road salt practices.	Watershed towns, NLWA, private road associations, county conservation commissions	\$20K	2027-2030	Town of New Durham, Grants (Moose Plate, NFWF 5-Star), CWSRF

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
11	Education and Outreach	Combine educational and outreach efforts among the NLWA, neighboring watershed associations, and local town conservation commissions to pool resources, generate larger audiences, and engage new homeowners. In partnership with NH Lakes and NHDES, coordinate and implement up to ten workshops and training sessions focused on water quality and ecosystem protection. Key Elements to Include: a) LakeSmart Program: Promote evaluations and certifications through NH Lakes to teach property owners lake-friendly practices (e.g., revegetating shoreline buffers with native plants, minimizing large grassy lawns, and raising mower blade heights to four inches). b) Soak Up the Rain NH: Partner with NHDES to deliver targeted stormwater management workshops. c) Property & System Management: Provide guidance on proper septic system maintenance and navigating municipal environmental regulations. d) Long-Term Sustainability: Cycle and repeat these core workshop topics every few years to continuously capture and educate new members and residents entering the watershed.	NLWA, watershed town conservation commission, other watershed lake associations	\$5,000-\$10,000	2027-2036	NH Lakes, NHDES Soak Up the Rain NH, Grants (319, Moose plate), CWSRF, watershed towns
12	Education and Outreach	Collaborate with NH LAKES on legislative or advocacy issues for NH Lakes.	NLWA, NH Lakes	None	2026-2036	None
13	Septic System Management	Look into whether any septic pumping companies would give a quantity or members discount to incentivize septic system pumping.	NLWA	None	2026-2027	None

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
14	Septic System Management	Distribute educational materials to property owners about septic system function and maintenance.	Watershed towns, NLWA	\$3,000	2027, 2031, 2036	Watershed towns, Grants (319), CWSRF
15	Watershed and Shoreline BMPs	Provide technical assistance and/or implementation cost sharing to watershed/shoreline property owners to install stormwater and/or erosion controls such as rain gardens and buffer plantings. Prioritize the 20 moderate impact properties identified during the shoreline survey. Cost assumes technical assistance and implementation cost sharing provided to the twenty moderate impact shoreline properties. Achieves 13% (5.78 kg/yr P of 34.06 kg/yr P) of Objective 1.	NLWA, Towns of Northwood, Deerfield, and Epsom, regional planning commissions	\$50,000 - \$100,000	2028-2029	Grants (319, Moose plate), CWSRF, Landowners
16	Education and Outreach	Educate private property owners on questions to ask hired landscaping companies to ensure they are complying with shoreland fertilizer rules.	NLWA	\$1,000	2027-2036	Grants (319), CWSRF
17	Education and Outreach	Educate contractors and municipal staff about erosion and sediment control practices required on building plans. Work with watershed towns to ensure that there are sufficient resources to enforce permitting conditions.	Watershed towns, county conservation commissions, regional planning commissions	\$4,000	2026-2036	Watershed towns, Grants (319), CWSRF
18	Road and Driveway Management	Contact the watershed towns regarding decreasing their road salt usage on town roads within the watershed due to worsening trends in water quality. Discuss reduced salt areas and low-salt approaches.	Watershed towns, NLWA	None	2027-2030	Watershed towns

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
19	Road and Driveway Management	Participate in Green SnowPro training. Become Green SnowPro Certified once program rules for watershed towns have been adopted. The program works to educate, train, and certify "winter maintenance professionals in salt reduction practices that improve water quality while protecting public safety."	Watershed towns (Public Works/Road/Highway Departments)	\$150-\$250 per person per year	2027-2030	Watershed towns
20	Municipal Operations	Review and update winter operations procedures to be consistent with Green SnowPro best management practices for winter road, parking lot, and sidewalk maintenance. Continue practicing low salt application practices in the watershed.	Watershed towns (Public Works/Road/Highway Departments)	None	2027-2030	Watershed towns
21	Road and Driveway Management	Hold informational workshops on proper road/driveway management and winter maintenance and provide educational materials for homeowners about winter maintenance and sand/salt application for driveways and walkways. Cost assumes up to five workshops.	NLWA, watershed towns, county conservation commissions, other watershed associations	\$5,000-\$10,000	2027, 2031	Grants (Moose Plate, NFWF 5-Star), CWSRF
22	Education and Outreach	Encourage private property and road owners to hire Green SnowPro certified commercial salt applicators.	NLWA, watershed towns, other watershed associations	None	2027-2036	None
23	Watershed and Shoreline BMPs	Complete design and construction of mitigation measures at the next fifteen highest ranked watershed survey sites as opportunities arise. Achieves 10% (4.41 kg/yr P of 43.06 kg/yr P) of Objective 1.	NLWA, Towns of Northwood and Pittsfield, other watershed lake associations, private landowners and roadway associations	\$393,000-\$680,000	2028-2031	CWSRF, Grants (319, Moose Plate, NFWF 5-Star, ILFP), watershed towns, private landowners, and associations
24	Septic System Management	Develop and maintain a watershed-wide septic inventory database base to facilitate code enforcement of any septic system ordinances.	Watershed towns	\$5,000 per town.	2030-2036	Watershed towns, CWSRF

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
25	Municipal Land Use Planning & Zoning	Meet with municipal staff to review recommendations to improve or develop ordinances addressing setbacks, buffers, lot coverage, low impact development, and open space. Refer to the Ordinance Review section for specific recommendations.	NLWA, watershed towns and regional planning commissions	\$4,000	2028-2036	Watershed towns, Regional Planning Commissions, Grants (319), CWSRF
26	Municipal Land Use Planning & Zoning	Adopt/strengthen zoning ordinance provisions and enforcement mechanisms to: 1) promote conservation sub divisions to allow development but also set aside land for conservation; 2) establish a lake protection overlay zoning ordinance that prohibits erosion from sites in sensitive areas (e.g., lake shorefront, along lake tributaries, steep slopes); 3) promote low impact development practices and reduce impervious areas; 4) require stormwater regulations that align with MS4 Permit requirements; 5) promote or require vegetative buffers around lake shore and tributary streams; 6) require shorefront “tear down and replace” home construction to be no more non-conforming than existing structures; 7) require shorefront seasonal to year-round conversions of homes to demonstrate no additional negative impacts to lake water quality; 8) enhance performance standards for unpaved roads to prevent erosion and protect lake water quality.	Watershed towns, regional planning commissions	None	2028-2032	Watershed towns

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
27	Road and Driveway Management	Establish a routine street sweeping program for municipal paved roads at least twice in the springtime after snow melt and once in the summer/fall following heavy storms, while also encouraging homeowners to sweep their impervious surfaces after each snowmelt. Consider purchasing a street sweeper with neighboring towns to sweep up road salt and sand in dry weather periods between winter storms as our winters see more rain between snow events.	Watershed towns, private landowners	TBD	2028-2036	Watershed towns
28	Watershed and Shoreline BMPs	Work with NRCS to implement soil conservation practices such as stormwater control, manure storage, cover crops, no-till methods, timing of manure applications, and other agricultural BMPs which reduce erosion and nutrient pollution to surface waters from agricultural activities.	NRCS, watershed farm owners	TBD	2028-2036	NRCS
29	Road and Driveway Management	Establish inspection and maintenance agreements for private unpaved roads. Cost does not include the implementation of proper road maintenance by private landowners.	NLWA, watershed towns	\$4,000	2028-2032	Watershed towns, private landowners, Grants (319)
30	Watershed and Shoreline BMPs	Complete design and construction of mitigation measures at the remaining twenty-eight lower ranked watershed survey sites as opportunities arise (refer to Appendix B for complete list). Achieves 8% (3.64 kg/yr P of 43.06 kg/yr P) of Objective 1.	Watershed towns, other watershed lake associations, private landowners and roadway associations	\$579,000-\$925,000	2030-2036	CWSRF, Grants (319, Moose Plate, NFWF 5-Star, ILFP), watershed towns, private landowners
31	Land Conservation	Create and map a priority list of watershed areas that need protection based on the towns NRIs and Master Plans.	Watershed towns, county conservation commissions, land trusts, NLWA	\$6,000-\$12,000	2031-2036	Grants (NFWF NEFRG, NAWCA), CWSRF, watershed towns

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
32	Land Conservation	Maximize conservation of intact forest and other ecologically important properties through education, zoning, and public or private conservation.	Watershed towns, county conservation commissions, land trusts, private landowners	TBD	2031-2036	Grants (Moose Plate, LCHIP, RCPP, NAWCA, LWCF, ACEP, CSP, EQIP, NFWF NEFRG), watershed towns, private landowners
33	Land Conservation	Enhance community education regarding private land conservation easements. Host workshops educating landowners on the benefits.	Watershed towns, county conservation commissions, land trusts, NLWA	TBD	2031-2036	Grants (Moose Plate, LCHIP, RCPP, NAWCA, LWCF, ACEP, CSP, EQIP, NFWF NEFRG), watershed towns, private landowners
34	Land Conservation	Inspect wetlands for Prime Wetland Designations and survey for vernal pools within the watershed.	Watershed towns, county conservation commissions	TBD	2031-2033	Watershed towns
35	Land Conservation	Identify potential conservation buyers and property owners interested in easements within the watershed. Use available funding mechanisms, such as the Regional Conservation Partnership Program (RCPP) and the Land and Community Heritage Investment Program (LCHIP), to provide conservation assistance to landowners.	Watershed towns, county conservation commissions, land trusts, NLWA	TBD	2031-2036	Grants (Moose Plate, LCHIP, RCPP, NAWCA, LWCF, ACEP, CSP, EQIP)
36	Education and Outreach	Offer workshops for landowners with ten acres or more for NRCS assistance with land conservation. Cost assumes up to two workshops.	NLWA, NRCS	\$5,000	2031-2036	Grants (RCPP, ACEP, CSP, EQIP)

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
37	Municipal Operations	Review and attain MS4 management standards for towns (regardless of MS4 designation), including infrastructure mapping, erosion and sediment controls, illicit discharge programs, and good housekeeping practices such as regular catch basin cleaning.	Watershed towns (Public Works/Road/Highway Departments)	TBD	2032-2036	Watershed towns
38	Municipal Operations	Identify best practice design standards for stormwater control measures, including deep sump catch basins.	Watershed towns (Public Works/Road/Highway Departments)	None	2032-2036	None
39	Watershed and Shoreline BMPs	Repeat the shoreline surveys in 5-10 years, and especially when updating the WMP. Use the results to target education and technical assistance for high impact sites. Cost assumes hired consultant for survey and summation of shoreline survey results.	NLWA	\$5,000-\$10,000	2031, 2036	Grants (Moose plate), CWSRF
40	Municipal Land Use Planning & Zoning	Increase municipal staff capacity through code enforcers/building inspectors for inspections and enforcement of stormwater regulations on public and private lands.	Watershed towns	TBD	2030-2036	Watershed towns
41	Septic System Management	Institute a minimum pump-out/inspection interval and develop an ordinance or health regulation to implement it for shorefront septic systems (e.g., once every 3-5 years). Pump-outs (~\$300-\$500 per system) are the responsibility of the owner.	Towns of Northwood, Deerfield, and Epsom	None	2030-2036	None
42	Septic System Management	Expand the regulations pertaining to certain subsurface wastewater disposal systems require all property sales to have a septic system inspection on file within the past three years. Require upgrades and repairs if needed.	Watershed towns	\$5,000-\$15,000	2030-2036	None

Suggested Ranking	Category	Action Item	Responsible Party and Collaborations	Estimated Cost	Estimated Schedule	Potential Funding Sources
43	Septic System Management	Evaluate locations of older and/or noncompliant septic systems (including cesspools or holding tanks) to identify clusters where conversion to community septic systems might be desirable.	NLWA, Towns of Northwood, Deerfield, and Epsom	TBD	2030-2036	CWSRF, watershed towns
44	Septic System Management	Conduct a septic system risk assessment to identify areas in town which may be more susceptible to septic system malfunction due to high groundwaters, soil filtering capacity, risk of flooding, age of infrastructure.	Watershed towns	\$20,000	2030-2036	Watershed towns
45	Road and Driveway Management	Continue providing education and training to contractors and municipal staff on protocols for road maintenance best practices. Assumes one workshop.	Watershed towns, NLWA, other watershed associations, private road associations	\$2,000	2034-2036	Watershed towns, Grants (Moose Plate, NFWF 5-Star), CWSRF
46	Land Conservation	Ensure towns maintain up to date (<10 years old) Natural Resource Inventories (NRIs) that are adapted into their master plans. Northwood (2024, Natural Resources and Water Resources chapter in the master plan), Deerfield (standalone document update in progress), Epsom (2024, Natural Resources chapter in Master Plan), and Pittsfield (standalone document in progress). Cost estimated at \$25,000 per town.	Watershed towns	\$100,000	2034-2036	Watershed towns, Grants (NFWF NEFRG), CWSRF