Site Study Ashburnham: Page Avenue

About this site: This area is located on the shores of Lower Naukeag Lake (1), and is owned by the Lower Naukeag Lake Association. Many lake-side homes that were previously only resided in temporarily during summer as camps have been transitioning into year-round homes. Stormwater runoff from these homes is going straight into water bodies, as stormwater connection was never engineered in the area.

Community concerns about Page Avenue

The Conservation Commission has expressed concern about the need for better management of stormwater runoff at the right of way to the beach (2).

Nature-based Solutions Recommended for Ashburnham: Page Avenue

Page Avenue

DataViewer link:
https://arcg.is/COve00

Recommended NbS
NbS #s correspond to Project Templates referenced on pages 3, 6, & 7 of Site Study

1. Private Pond Access
   - DW F #13 Upstream BMP's rain-garden, bio-swale, etc.
   - DW F #17 Pervious parking/walking areas
2. Page Avenue Neighborhood
   - #56 Volunteer opportunities
   - DW F #17 Pervious parking/walking areas

Map Key

Bright blue overlay is the FEMA 100 year floodplain

Pink overlay is FEMA 500 year floodplain

Recommended NbS Key

- F Flooding NbS
- D Drought NbS
- RT Rising temps NbS
- DW Degraded water NbS
- DL Degraded landscape NbS
- B Loss of biodiversity NbS

NbS Narrative/NbS Project Templates for Ashburnham: Page Avenue

NbS Recommendations

- Removal of the pavement in the Right of Way / lake access area, and installation of a more narrow pedestrian walkway with swales / retention areas on both sides to help prevent stormwater from discharging sand into the lake could be considered; however residents currently use this area as a boat ramp which makes this potential solution less feasible.

- The Commission approved improvements to this right of way to the beach from Page Avenue, and agreed to slow-the-flow techniques. This issue will likely be raised again, and should be straightforward to resolve.

- Although these are private roads, on private property, we included this site because the neighborhood association is likely to be open and motivated to correct the runoff and sedimentation issues.

NbS Project Templates for Site Specific NbS Recommendations on previous page

Resource 1 - How to Use Templates

Resource 2 - Next Steps in Planning & Permitting

The following template numbers correspond to the NbS recommendations on the page 2 Map.

#13 Upstream BMP Raingardens and Bioswales

#17 Pervious Parking- Walking Areas

#56 Volunteer Opportunities

View Ashburnham Map Atlas **for maps on land covers, soil function and storage, water resources, ecological priority sites, and more.**

Soils Information for Ashburnham: Page Avenue

Ashburnham

Large amounts of high functioning soil and its position high in the watershed highlight the importance of protecting soil health in Ashburnham.

Ashburnham stands out among the five focus communities as having a particularly large acreage of high functioning soils that are storing over 2 million metric tons of soil organic carbon (SOC). The richest deposits of SOC are found in the wetland systems that extend from the town's major lakes. The 21,170 acres of "high function/high carbon" soils represent 80% of the town's land area and is about 3 times as much area of high functioning soil as the average in the other 4 towns. Ashburnham straddles two major watersheds with the lands to the southeast of town ultimately draining to the Nashua River, and this position highlights the town's importance in protecting and managing soil health to prevent unwanted downstream effects like flooding and poor water quality. Compared to the other four focus communities, the town has limited areas of degraded soils with potential for regeneration (just 5.7% of the land area is classified as having high regeneration potential because of the relatively little soil disturbance in Ashburnham).

Sites Considered for Nature-based Solutions

Despite having such large area of high functioning soil, several sites that see seasonal flooding have been identified in this project. The sites selected for potential Nature-based Solutions are largely nearby water bodies or streams in areas where soil function has been degraded. Efforts to increase soil capacity to store or slow stormwater flow in these locations may have a positive impact and be important demonstration sites. These site specific interventions should be complemented by efforts to conserve and protect important healthy soil resources throughout the town's forested uplands and the wetlands extending from the town's large water bodies.

Priority Actions for Protecting/Enhancing Soil Health in Ashburnham

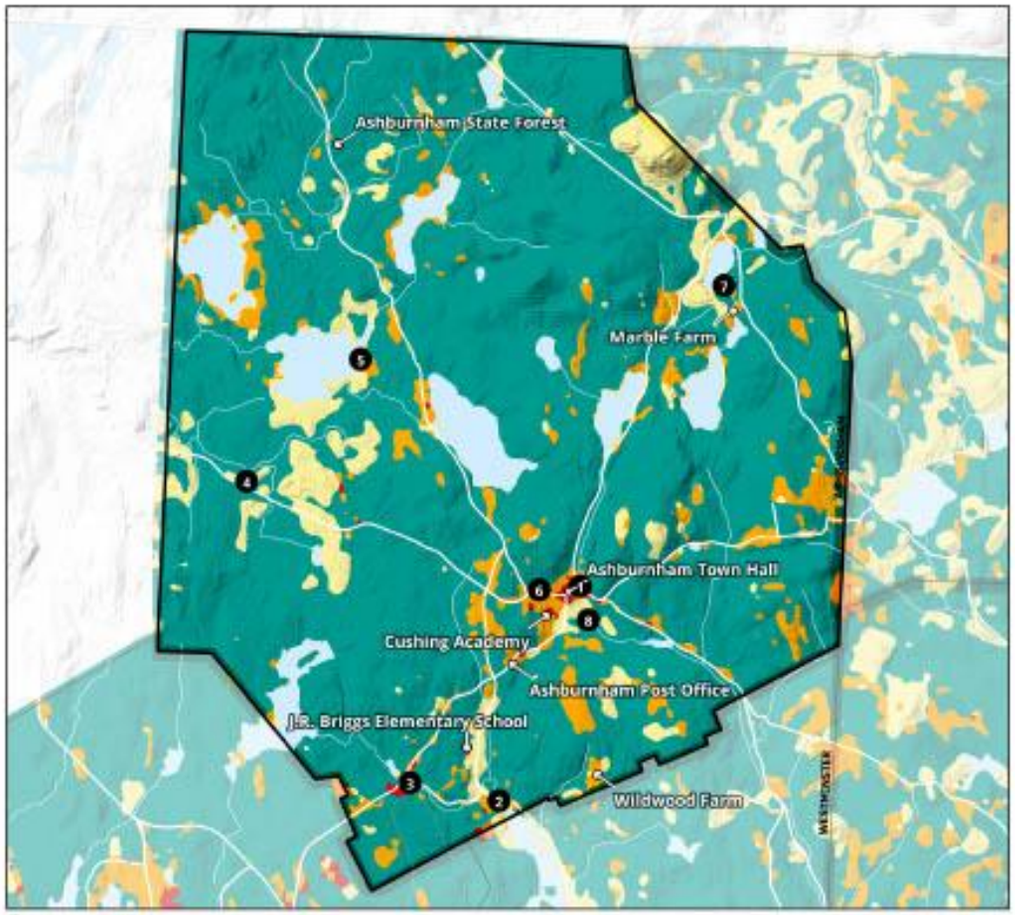
Increased protection and climate forward management of wetlands and forests.

Example Nature-based Solutions:

- Land acquisition and conservation easements
- Forested upland protection district (see Deerfield example, appendix 1)
- Transfer of development from rural to infill locations, including across town borders (See Deerfield example, appendix 1)
- Forest tree planting to increase climate-adapted species abundance and total stock and to preserve forest structure
- Improving local bylaws for wetland protections

#	SITE	PREDOMINANT SOIL FUNCTIONS FOR RESILIENCE			
		Highly Degraded	High Regeneration Potential	Moderate-Low Function	High Function
1	Phillips Brook/Residential Area on Main St.	◆	◆		◆
2	Pump Station			◆	
3	Sweeney Park	◆	◆		
4	Dump/Transfer Station			◆	
5	Page Ave		◆		
6	High St./Cushing St.	◆	◆		
7	S. Branch Souhegan River		◆		◆
8	Brickford Field			◆	◆

Soil Functions for Resilience



	ASHBURNHAM
High Performance Soils & High Carbon Soils	21,170 ac (80.8%)
Moderate-Low Function Soils	3,450 ac (13.2%)
Degraded Soils with High Regeneration Potential	1,507 ac (5.7%)
Highly Degraded Soils	83 ac (0.3%)

○ Landmarks

❶ Sites Considered for Nature-based Solutions

[Read full Nashua River Watershed-wide Healthy Soils Report](#) (PDF 25MB)

Nature-based Solutions Opportunity Table Ashburnham: Page Avenue

Value	BEST	BETTER	GOOD
Feasibility	high	mid	low
Ownership	Residential		

Best Value = An improvement to a resource that provides significant lasting resiliency and strengthens or serves related resources

Better Value = Makes significant improvements to resiliency with long lasting effect

Good Value= Improves the habitat value, or resiliency of a site or feature

Feasibility is based on property ownership or technical access

NbS Template#	Nature-based Solution Description	Page Avenue
	Natural Environment Restructuring	
1	River / pond bank revegetation	
2	Grassland meadow management restoration	
4	Wetland management restoration	
5	New wetland or floodplain construction / expansion	
7	Stream flow alteration	
8	Pollinator hedgerow buffer	
10	Soil management or restoration**	**mid***

** see Healthy Soils Report

NbS Template #	Nature-based Solution Description	Page Avenue
	Built Environment Restructuring	
11	Stormwater treatment wetlands	
13	Upstream BMPs rain-garden, bio-swale	**mid**
14	Shade-habitat/ Infiltration tree plantings	
15	MSCS culvert improvement	
16	Dam modification / controls	
17	Pervious/ hi-SRI parking/walking areas	**mid**
19	Lighting modifications / upgrades	
20	Species crossing protections	
21	Beaver deceiver / promoter	
22	High-performance soil specifications**	
23	PV Parking Awnings + Rooftops	

Nature-based Solutions Opportunity Table Ashburnham: Page Avenue, cont'd.

Value	BEST	BETTER	GOOD
Feasibility	high	mid	low
Ownership	Residential		

Best Value = An improvement to a resource that provides significant lasting resiliency and strengthens or serves related resources

Better Value = Makes significant improvements to resiliency with long lasting effect

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Feasibility is based on property ownership or technical access

NbS Template#	Nature-based Solution Description	Page Avenue
	Ecological Awareness & Access Projects	
24	Outdoor classroom/ Nature-play	
25	Food production and forage	
26	Apply Indigenous knowledge	
27	Soft trail	
30	Pedestrian safety and bike access	
	Architectural Projects to Consider	
49	Nature-based recreational opportunities	

NbS Template#	Nature-based Solution Description	Page Avenue
	Value Added Features on Projects	
50	Analysis and study projects	
52	Educational Interpretation	
53	Furnishings / gathering space	
56	Volunteer opportunities	**high**
58	Invasive species management	
60	Habitat enhancements	

Boat ramp at Lower Naukeag Lake at the Page Avenue MVP project site

Photo by Ralph Baker

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To view the interactive online Plan, please visit nashuariverwatershed.org/Climate Resilience