Site Study Groton: Groton Country Club

About this site: The Groton Country Club (1) is a town-owned property that offers golfing, pickleball, swimming, and dining at the Groton Publick House. It is a well-used facility, located east of Main Street/Rt. 119 on Lovers Lane (2).

Community concerns about Groton Country Club

The Groton Country Club has a very large impervious surface parking lot (3) that is unshaded. These conditions allow both stormwater runoff to nearby roads, as well as the creation of a heat island effect.

The parking area serving the Groton Country Club and Groton Publick House Pub has recently been repaved.

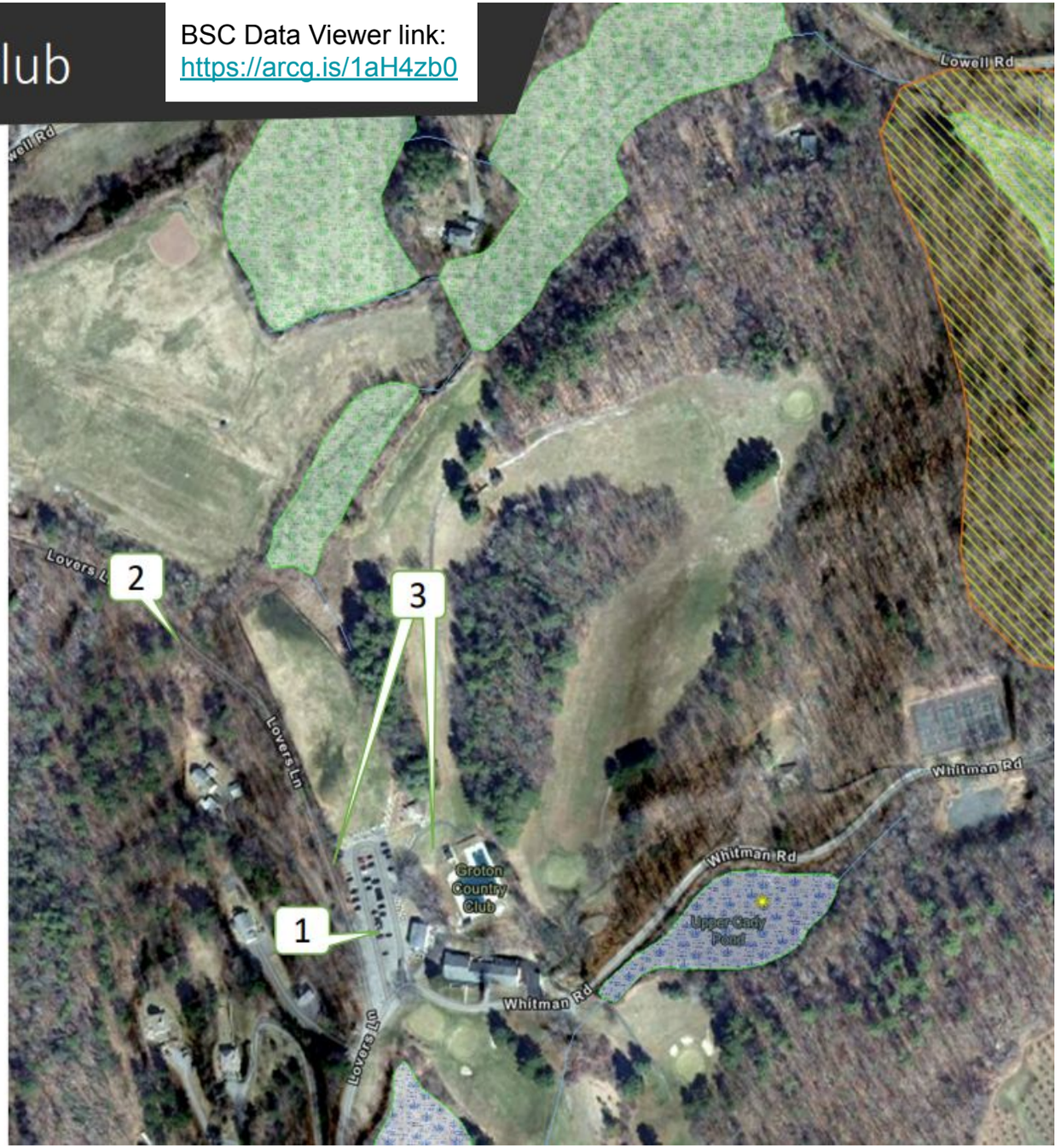
Nature-based Solutions Recommended for Groton: Groton Country Club

Groton Country Club

BSC Data Viewer link:
https://arcg.is/1aH4zb0

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

1. Groton Country Club Parking Lot and Building
   - RT #23 PV parking awnings and rooftops
2. Lovers Lane
   - DW D F #13 Upstream BMPs rain-garden, bio-swale, etc.
   - DW F #11 Stormwater treatment wetlands
3. Grass areas above the parking lot
   - B #8 Pollinator hedgerow buffer
   - D F RT #17 Pervious walking areas
   - DL B #2 Grassland meadow management restoration
   - DL B #3 Forest shrubland heath management or restoration



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 Groton: Groton Country Club

NbS Recommendations

- The large, impervious, paved parking lot would benefit from swales and rain gardens to capture and infiltrate rainwater and snowmelt.
- Although the parking lot is heavily used, it lacks shade. Consider covering portions of the parking lot with solar canopies or creating vertical structures for vines would help.
- Wildflower / pollinator plantings can be planted on the steep grassy area above the parking lot and would reduce the need for mowing and increase pollinator habitat.
- The soils in the Groton Country Club area are highly degraded; the interventions described in the Healthy Soils Report would restore soil health.
- There is a gravel parking lot near the new pickleball courts along Whitman Road to the east. This parking lot would also be a good location to consider NbS improvements to reduce erosion and increase infiltration.

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.

#2 Grassland Meadow Management-Restoration

#3 Forest Management Restoration

#8 Pollinator Hedgerow Buffer

#11 Stormwater Treatment Wetlands

#13 Upstream BMP Raingardens and Bioswales

#17 Pervious Parking- Walking Areas

#23 PV Parking- Parking Awnings

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

Soils Information for Groton: Groton Country Club

Groton

The significant acreage of soil with high regeneration potential that surrounds downtown Groton and drains to the close by Nashua River could act as key demonstration sites for improved soil practices.

The Nashua River flows northward towards Pepperell on the west side of Groton. A major watershed boundary splits the town, with a large area draining to the Nashua River and another to the Merrimack River. The side of town that drains to the Nashua River contains the community's most significant acreage of farmland and residential neighborhoods as well as most of downtown Groton. These areas are where Groton's acres of "high regeneration potential" soil are found. A key objective for stewarding healthy soils in Groton should be encouraging better management of these degraded lands through education and demonstration projects. Of the five focus communities, Groton has the lowest percentage of "high function/high carbon" soils and the highest percentage of "moderate-low function" soil.

Sites Considered for Nature-based Solutions

Several sites near downtown Groton are being considered for green infrastructure to improve stormwater management. These sites are in areas with "high regeneration potential" soils and could be key demonstration sites for better soil practices. Flooding has been identified at sites throughout the town. Regenerating water holding capacity on soils within the same sub-basins as these flood prone areas is an important planning approach to mitigate these issues.

Priority Actions for Protecting/Enhancing Soil Health in Groton

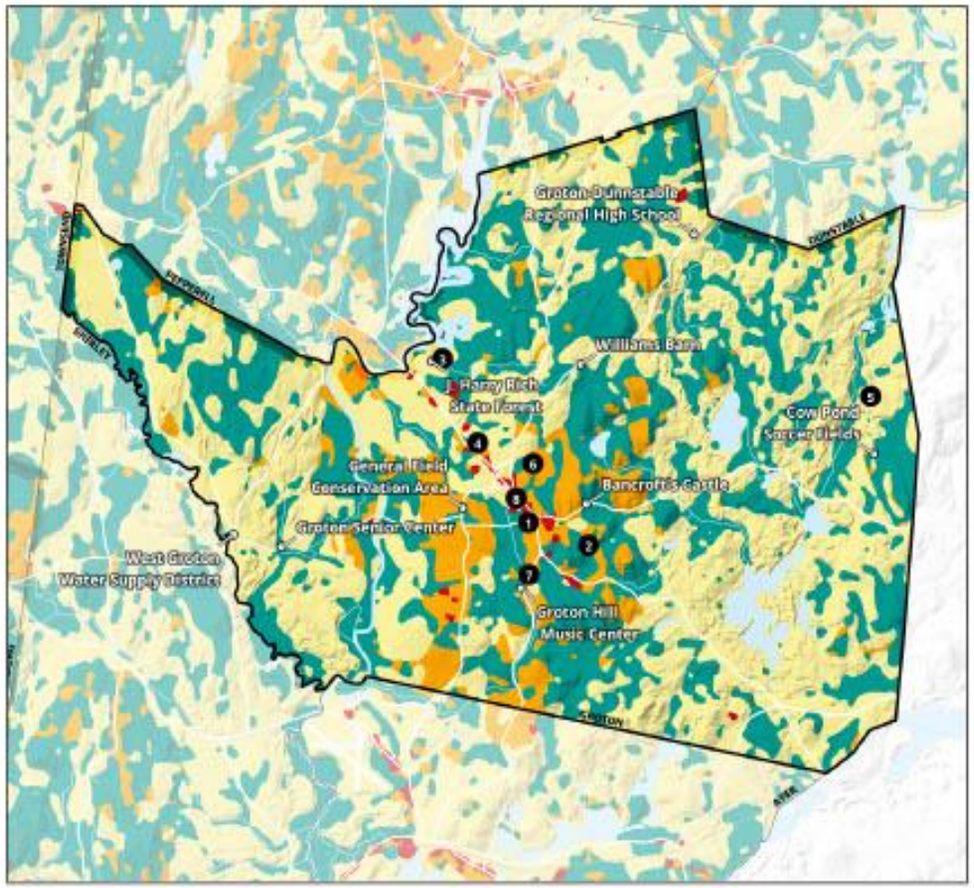
Better management of turf, lawns, gardens, and farms.

Example Nature-based Solutions:

- Education and outreach to key landowners and farmers about smart soil practices
- Pocket forests to transform biodiversity
- Planting and earthworks to restore connectivity and hydrology
- Front yard pollinator meadows
- Dual use solar
- Planning and zoning to preserve and enhance ecosystem function

#	SITE	PREDOMINANT SOIL FUNCTIONS FOR RESILIENCE			
		Highly Degraded	High Regeneration Potential	Moderate-Low Function	High Function
1	Broad Meadow		◆	◆	
2	Groton Country Club	◆	◆	◆	
3	Nod Road			◆	
4	Middle School Parking	◆			
5	Cow Pond Brook/Playing Fields & Highway Dept.			◆	
6	Willowdale		◆	◆	◆
7	James Brook				◆
8	Groton Town Hall	◆			

Soil Functions for Resilience



	Groton
High Performance Soils & High Carbon Soils	8,314 ac (38.5%)
Average Function Soils	11,315 ac (52.3%)
Degraded Soils with High Regeneration Potential	1,849 ac (8.6%)
Highly Degraded Soils	138 ac (0.6%)

○ Landmarks

❶ Sites Considered for Nature-based Solutions

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

Nature-based Solutions Opportunity Table Groton: Groton Country Club

Value	BEST	BETTER	GOOD
Feasibility	high	mid	low
Ownership	Municipal		

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	Groton Country Club
	Natural Environment Restructuring	
1	River / pond bank revegetation	**mid**
2	Grassland meadow management restoration	**low**
3	Forest / shrubland heath management or restoration	**mid**
4	Wetland management restoration	**mid**
5	New wetland or floodplain construction / expansion	**low**
6	Pond creation/ elimination / alteration	**low**
7	Stream flow alteration	**low**
8	Pollinator hedgerow buffer	**mid**
10	Soil management or restoration	**low***

* see Healthy Soils Report

NbS Template#	Nature-based Solution Description	Groton Country Club
	Built Environment Restructuring	
11	Stormwater treatment wetlands	**mid**
12	Daylighting of streams	**low**
13	Upstream BMPs rain-garden, bio-swale, etc.	**mid**
14	Shade-habitat/ Infiltration tree plantings	
15	MSCS culvert improvement	**mid**
16	Dam modification / controls	
17	Pervious parking walking areas	**mid**
19	Lighting modifications / upgrades	
20	Species crossing protections	
22	High-performance soil specifications	
23	PV Parking Awnings + Rooftops	**low**

Nature-based Solutions Opportunity Table: Groton Country Club, cont'd.

Value	BEST	BETTER	GOOD
Feasibility	high	mid	low
Ownership	Municipal		

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

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Feasibility is based on property ownership or technical access

NbS Template#	Nature-based Solution Description	Groton Country Club
	Ecological Awareness & Access Projects	
24	Outdoor classroom/ Nature-play	
25	Food production and forage	
26	Apply Indigenous knowledge	
27	Soft trail	
29	Soil protection-puncheon-boardwalk	
30	Pedestrian safety and bike access	
	Architectural Projects to Consider	
49	Nature-based recreational opportunities	**low**

NbS Template#	Nature-based Solution Description	Groton Country Club
	Value Added Features on Projects	
50	Analysis and study projects	
52	Educational interpretation	**low**
56	Volunteer opportunities	
58	Invasive species management	**mid**
59	Species monitoring protocol	
60	Habitat enhancements	**mid**

Parking lot at the Groton Country Club

Photo by Nancy Lebedzinski

Groton Country Club MVP site visit

Photo by Ralph Baker

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