Site Study Leominster: Johnny Appleseed State Park

About this site: This Department of Conservation and Recreation owned property consists of 200-300 acres of land along the Nashua River (1) lying just to the west of Rt. 190. There is some city-owned property along its southerly border. The Park is now part of the Leominster State Forest.

Community concerns about Johnny Appleseed State Park

Dam in disrepair is very dangerous (2). Rebar found in the water that is not known to the public that can cause serious safety issues to canoes or kayaks.

Lots of invasive species, a dam that interferes with recreational use of the river, this opportunity could bring wildlife value and recreational opportunities.

There is a possibility for trails on both sides of the river that can make it up to Mechanic Street and create a loop through an existing corridor. The corridor continues through Rt. 190 into Lancaster, and can create a wildlife corridor. There is a paved trail under Rt. 190. A canoe trail could create a loop trail that circles around Rt. 190 on both sides of the highway. Cook Conservation Area east of this property is owned by Lancaster with existing extensive trails systems.

Nature-based Solutions Recommended for Leominster: Johnny Appleseed State Park

Johnny Appleseed

BSC Data Viewer link:
https://arcg.is/0mXSO51

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

1. Disrepair Dam Site
   - #27 Soft trail

   DL #16 Dam modification/controls
   - #52 Educational Interpretation
2. Johnny Appleseed (DCR)

   B **DL** #58 Invasive species management

   DL #29 Soil protection-puncheon boardwalk
3. Entrance to Johnny Appleseed (DCR)

   B **DL** #8 Pollinator Hedgerow Buffer
   - #24 Outdoor classroom/nature play

   F **DW** #17 Pervious parking walking areas
   - #53 Furnishings/gathering spaces

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 Leominster: Johnny Appleseed State Park

NbS Recommendations

- The dam that formerly impounded Lake Leominster is in disrepair. Part of the dam needs to be removed for public safety reasons. Recommend repurposing this structure on the Nashua River so that it becomes a destination rather than a safety hazard, similar to what was done at Mayor William G Flynn Point at the former dam on the North Nashua River in Fitchburg's Steamline Trail Park. A portion of the dam is interfering with recreational use of the river.
- Adding a soft trail and a puncheon boardwalk would increase public access while also protecting the soil.
- Many invasive plant species have taken over; an Invasive Species Management Plan is needed to systematically target this area.
- At the entrance to this State Park (which is owned and managed by DCR), we recommend adding a pollinator hedgerow buffer, opportunities for nature play, pervious parking and walking areas, and furnishings that would create a gathering space. Interpretive signage would contribute to increasing public understanding of NbS and the park's socio-ecological value. There is potential for trail connections through the park.
- The five acre lot below Babe Ruth Field is state-owned property, which is home to a floodplain forest in which invasive plants (especially Japanese knotweed) are taking hold. We recommend management for wildlife value and recreation.
- The City owns some acres around the borders. At the southern end, there are five acres of open space controlled by Leominster Land Trust; this could become a trailhead gateway to the park's trail system.

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.

#8 Pollinator Hedgerow Buffer

#16 Dam Modifications and Controls

#17 Pervious Parking- Walking Areas

#24 Outdoor Classroom - Nature Play

#27 Soft Trail

#29 Soil Protection Puncheon Boardwalk

#52 Educational Interpretation

#53 Furnishings

#58 Invasive Species Management

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

Soils Information for Leominster: Johnny Appleseed State Park

Leominster

Leominster's soils of high regeneration potential form a belt around the downtown area and are more clustered together than neighboring Fitchburg's. Regeneration or replication of the degraded soil function can mitigate negative impacts to Leominster's downtown and to the communities downstream.

Leominster, like neighboring Fitchburg, contains significant areas of developed and impervious landscapes compared with other communities in the Nashua River Watershed. Much of the most developed and degraded landscapes are found along the North Nashua River that flows in from northern neighbor Fitchburg. Pockets of "Highly Degraded" soils that have the potential for restored function with intensive intervention strategies are found throughout this central corridor along the river. Of the five focus communities, Leominster contains the most acreage of "degraded soil with high regeneration potential" primarily found in the suburban belt that surrounds the more urbanized downtown. The forested upland western side of town is home to the highest functioning soils in Leominster.

Sites Considered for Nature-based Solutions

Several sites in downtown Leominster near the North Nashua river have been identified as flood prone. Efforts to improve soil function in the suburban belt that surrounds the downtown can slow stormwater flows mitigate flooding. Potential sites for this kind of Nature-based Solution are Smith St. and Pierce Pond. Educational projects could be implemented there to encourage better soil management practices on the lawns and gardens of these suburban yards. Notably, there are several sites flagged for potential stormwater catchment projects that are in the same subbasin of the identified flood sites in Ashburnham and upstream of those sites. Sites in the forested uplands should be conserved/reinforced.

Priority Actions for Protecting/Enhancing Soil Health in Leominster

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

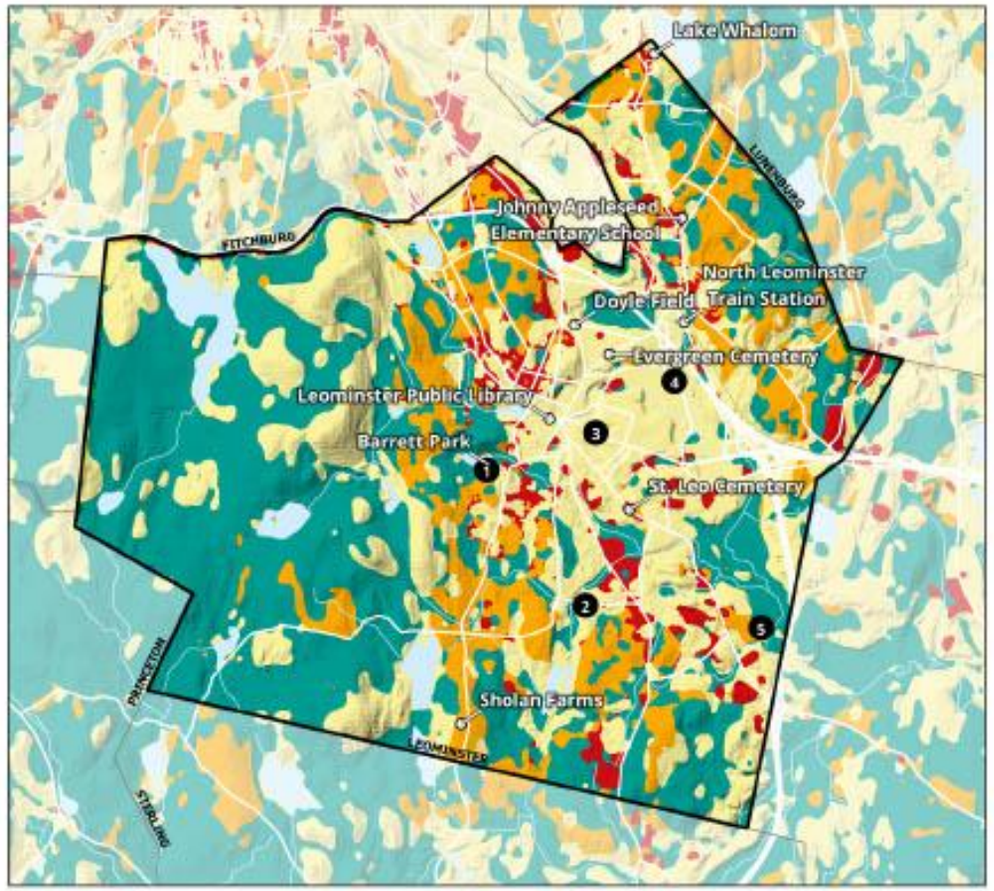
Regenerate or replicate lost soil function in highly degraded urbanized landscapes.

Example Nature-based Solutions:

- Green infrastructure (high performance tree pits, bio-swales, rain gardens)
- Parking lot renovations

#	SITE	PREDOMINANT SOIL FUNCTIONS FOR RESILIENCE			
		Highly Degraded	High Regeneration Potential	Moderate-Low Function	High Function
1	Barrett Park			◆	◆
2	Fournier Ballfields			◆	
3	Mechanic St.			◆	
4	Mall Area			◆	
5	Johnny Appleseed SP (DCR)		◆		◆

Soil Functions for Resilience



	Leominster
High Performance Soils & High Carbon Soils	7,821 ac (41.2%)
Average Function Soils	7,489 ac (39.4%)
Degraded Soils with High Regeneration Potential	2,628 ac (13.8%)
Highly Degraded Soils	1,055 ac (5.6%)

○ Landmarks

❶ Sites Considered for Nature-based Solutions

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

Nature-based Solutions Opportunity Table Leominster: Johnny Appleseed State Park

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#	Site Map Reference & Individual Site Map #s	Johnny Appleseed
	Natural Environment Restructuring	
1	River / pond bank revegetation	
3	Forest / shrubland heath management or restoration	
4	Wetland management restoration	
5	New wetland or floodplain construction / expansion	
7	Stream flow alteration	
8	Pollinator hedgerow buffer	
9	Pocket forest	
10	Soil management or restoration	**mid***
	** see Healthy Soils Report	

NbS Template #	Site Map Reference & Individual Site Map #s	Johnny Appleseed
	Built Environment Restructuring	
11	Stormwater treatment wetlands	
13	Upstream BMPs rain-garden, bio-swale	
14	Shade-habitat/ Infiltration tree plantings	
16	Dam modification / controls	**high**
17	Pervious/ hi-SRI parking/walking areas	**low**
18	Aquatic algae / invasive treatment	
19	Lighting modifications / upgrades	
22	High-performance soil specifications**	**mid***
23	PV Parking Awnings + Rooftops	

Nature-based Solutions Opportunity Table Leominster: Johnny Appleseed State Park, 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

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	Johnny Appleseed
24	Outdoor classroom/ Nature-play	mid
25	Food production and forage	
27	Soft trail	mid
28	Paved pervious trail UANT	
29	Soil protection-puncheon-boardwalk	mid
30	Pedestrian safety and bike access	
	Architectural Projects to Consider	
49	Nature-based recreational opportunities	

NbS Template #	Nature-based Solution Description	Johnny Appleseed
	Value Added Features on Projects	
52	Educational Interpretation	high
53	Furnishings / gathering space	mid
56	Volunteer opportunities	high
58	Invasive species management	high
59	Species monitoring protocol	mid
60	Habitat enhancements	

MVP site visit to Johnny Appleseed State Park

Photos by Sherry Anders

Dam in disrepair at this site on the Nashua River

Photos by Sherry Anders and Ralph Baker

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To view the interactive online Plan, please visit [nashuariverwatershed.org/Climate Resilience](nashuariverwatershed.org/ClimateResilience)