

Moscow Recreation Field Management Plan

Town of Stowe

Adopted by the Stowe Selectboard 10-30-17



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A. BACKGROUND

The Moscow Recreation Field was acquired by the Town of Stowe in 1998 with funding from the Town, the Vermont Housing and Conservation Board, the Freeman Foundation, and private donations. Stowe Land Trust (SLT) and the Vermont Housing and Conservation Board (VHCB) co-hold a conservation easement on the property which protects the land from uses other than recreation, river access and open space for the use and enjoyment of the public. Stowe Land Trust is responsible for annual monitoring of the property to ensure compliance with the easement. As part of its monitoring duties, SLT will have input into any future revisions to this plan.

The primary purpose of the acquisition was public outdoor recreation. The property is also held for riparian protection, open space preservation, and educational uses. The property is intended for use by the general public in the daytime as a minimally developed ball field and picnic area. Use of the area for fishing, wading, dispersed recreation and enjoyment of nature is also encouraged.

The Town of Stowe, through its Conservation and Recreation commissions, maintains the Moscow Recreation Field as a public facility suitable for various recreational uses, primarily as ball fields, a picnic area, and access to the Little River without unduly jeopardizing its natural features.

B. PURPOSE OF THE MANAGEMENT PLAN

The purpose of the Moscow Recreation Field Management Plan is to specify management practices and permitted public uses for the property. The Plan is focused primarily on maintaining existing recreational uses, improving riparian habitat and halting the advance of invasive species on the property. Restrictions on the use of the property are summarized below and detailed in the Grant of Development Rights and Conservation Restrictions (conservation easement). The Plan should be consulted prior to initiating any alterations on the property

This Management Plan is consistent with the conservation easement on the property, co-held by Stowe Land Trust and the Vermont Housing and Conservation Board. All management activities on, and uses of, the property must comply with the easement.

C. ROLES AND RESPONSIBILITIES

A number of parties have an interest in the Moscow Recreation Field. Below is a list of the parties and a description of their roles and responsibilities.

Stowe Selectboard: As the Town's elected public officials, the Selectboard has ultimate responsibility for all decisions regarding management and use of the Moscow Recreation Field, including revisions to this plan.

Stowe Conservation Commission: The Conservation Commission acts as an advisor to the Selectboard in the management of the property. The Conservation Commission is responsible for maintaining the management plan. It is recommended that the Conservation Commission and Recreation Commission review the management plan at least every ten years, or more often as needed. If revisions are necessary, Stowe Land Trust will be consulted for the purpose of easement compliance. All revisions must have the approval of the Stowe Selectboard.

Stowe Recreation Commission: The Recreation Commission partners with the Conservation Commission in the overall stewardship of the property. Together, both boards make policy and management recommendations to the Selectboard.

Stowe Parks & Recreation Department: The Stowe Parks & Recreation Department is responsible for most of the maintenance activities on the property. The Department is also responsible for approving and scheduling events and ball field activities.

Stowe Land Trust (SLT): SLT co-holds the conservation easement on the property. It has a legal responsibility to monitor and enforce the Town's compliance with the easement.

Vermont Housing and Conservation Board (VHCB): The VHCB co-holds the conservation easement on the property. It also has a legal responsibility to enforce the Town's compliance with the easement, but defers to SLT for the primary responsibility in this role.

D. EXISTING CONDITIONS & USES

Located in historic Moscow Village, the 4.7-acre property, when acquired by the Town, contained two baseball diamonds with backstops. A graveled parking area that can handle approximately 20 cars was added in 1999 and is located at the western end of the property.

The majority of the property is maintained as a mowed field. A small pond is situated near the driveway entrance. Access is off Moscow Road, a Class 2 town highway. An expanded picnic area was created in the summer of 1999 in the southwest corner of the property. A property entrance sign was installed in 2011.



The land borders the Little River for approximately 700 feet. The property lies entirely within the 100-year floodplain. The majority of the property is within the FEMA-designated Floodway, which is a no-build zone within the Town's Flood Hazard Regulations and is also within the Fluvial Erosion Hazard Area, as mapped by the Agency of Natural Resources.

In the spring of 2013, an approximately 60-foot wide by 200-ft. long section of the river bank and riparian area was eroded into the Little River after a heavy spring rain event. A vegetated riparian area along the shoreline exists towards the western portion of the property, but was completely eliminated on the eastern portion where the river eroded the bank. Because of the erosion, the property no longer has enough area to support two baseball fields or a regulation size soccer field and is currently not used for regularly scheduled ball field events. The field is currently used primarily for dispersed recreation and occasional small events.



This former 3-foot high donor sign was completely submerged during a flood in April 2011. Floodwaters deposited up to a foot of sediment on a portion of the field that had to be removed by Parks & Recreation department staff.

There is a well-defined access path to the river that takes off from the back end of the parking area. This river access has become very popular over the years as a launch point for tubing down the river to a takeout place at the beginning of the Waterbury Reservoir. The access is also occasionally used by people panning for gold.

E. PERMITTED AND RESTRICTED USES

The following rights and restrictions are outlined in the Grant of Development Rights and Conservation Restrictions (conservation easement).

Summary of Permitted Uses of the Property

The Town has the right to use the property for all types of non-motorized outdoor recreational purposes, including, but not limited to, fishing, bird-watching, walking, snowshoeing, cross country skiing, swimming and public recreation including the use of the ball fields. Other activities allowed include the right to conduct community and public entertainment events including concerts, fairs, celebrations, and educational activities together with the right to erect tents and other temporary structures for such events.

Horticultural activities, such as community gardens and landscaping, although not specifically addressed in the conservation easement, may be permitted as long as they do not interfere with the primary purposes of the easement or result in exclusive use of the property.

The Town has the right to maintain one unpaved access drive and parking area, and to construct and maintain permanent or temporary structures reasonably necessary to support the purposes of the easement. The Town also retains the right to maintain and enhance the property for scenic, recreational, and vegetation and wildlife values, including the right to clear and maintain recreational trails. Snowmobiling and mountain biking are allowed at the discretion of the Stowe Selectboard.

Summary of Restricted Uses of the Property

In accordance with the conservation easement, there shall be no residential, commercial, industrial, or mining activities; no building or structures constructed, except those reasonably necessary to support the uses permitted by the easement (including modest structures to support public outdoor recreation and/or public outdoor education); no rights-of-way, easements, driveways, roads, or utilities lines constructed without written permission of Grantees; no signs, billboards, or outdoor advertising that are not expressly permitted in Grant; no placement, collection or storage of trash or other unsightly material; no disturbance of the surface of the property including, but not limited, to filling, excavation, removal of topsoil, sand, gravel, rocks or minerals, or change of the topography in any manner; surface mining of subsurface oil, gas, or other minerals; and manipulation of watercourses, marshes, or other water bodies which would be detrimental to water purity or which would alter water level or flow.



F. NATURAL RESOURCES

Based on a Natural Resources Inventory and Assessment prepared by Kristen Sharpless, Stowe Land Trust Conservation Program Manager, October 2016.

Purpose of the Assessment

The purpose of this assessment is to document the natural resources and their current condition on the Property and to provide recommendations for their protection. It is an update of the natural resources survey completed by Peggy Struhsacker in July 1998.

Methodology

This assessment was prepared by (1) reviewing the 1998 inventory and 1999 management plan for the Property, (2) conducting a remote assessment using existing state and town spatial data for the Property, and (3) visiting the property on October 17, 2016.

Location & Topography

The property is located on Moscow Road in the village of Moscow. It is bounded by the Little River to the south, Moscow Road to the north, a private residence to the east, and undeveloped floodplain owned by the Grace Bible Church to the west. The majority of the Property is maintained as a mown field, is flat and lies within the Little River's 100-year floodplain. It was likely originally cleared in the 1800s for agricultural use.

Geology and Soils

Sand deposited by a glacial lake underlies most of the property (Figure 1). Along with alluvium deposited by flooding events, it forms the parent material for the Ondowa fine sandy loam soil that covers the area. In general, these soils are very deep and well-drained. Before European settlement, these soils supported floodplain forests, but most were cleared for agricultural use by the 1800s.

Hydrology

The property drains directly into the Little River, which flows into the Waterbury Reservoir, then the Winooski River before reaching Lake Champlain. The geomorphic and ecological condition of the Little River where it runs next to the property is currently fair (Little River Corridor Plan, 2010 DRAFT). Due to a long history of river channel straightening and bank armoring, removal of woody riparian vegetation, loss of wetlands, and other human practices over the past 200 years throughout the Little River watershed, the river banks are eroding in places where the river is attempting to re-establish a natural meander (Figure 1).



Figure 1. River channel before (left) and after (right) 2013 flood which deposited sediment along the western portion of the Property and eroded riverbank from the eastern portion.

The pond on the property is mapped as a Class II wetland (Source: State of Vermont). However, even though it shows up on the map, the ANR Wetlands Division does not regard manmade ponds as Class II wetlands and does not regulate them. Currently, the vegetation around the pond is mowed at least once a year (Figure 2). Water from the pond drains through a culvert that passes under the access drive to the property and onto the neighboring Grace Bible Church property.



Figure 2. The pond in October (left) and March 2016 (right).

Natural Communities

A natural community is *an interacting assemblage of plants and animals, their physical environment, and the natural processes that affect them* (Thompson and Sorenson, 2005). The site and soils of the Property at one time likely supported a Silver Maple – Ostrich Fern Floodplain Forest. Species associated with this community type are all still present in the riparian area on the property, including American elm, boxelder, black willow, and butternut, (Appendix A). Additional floodplain species, including sliver maple and cottonwood, were planted by the Lamoille County Natural Resources Conservation District (LCNRCD) in 2010 as part of a multi-

year effort to control non-native, invasive plants and restore native vegetation to the riparian area. In 2009, the Town hired a consultant, Redstart Forestry, to cut back and apply herbicide to the Japanese knotweed growing in the riparian area. The LCNRCD followed up with manual control for the following two seasons. Currently, although knotweed is still present, native floodplain trees and shrubs – particularly shrub willow - dominate the vegetated riparian area (Figure 3a).

A river cobble shore community is forming in the deposition zone adjacent to the river channel (Figure 3b). This area is subject to regular flooding and ice scour, and is sparsely vegetated with sedges, perennial herbs, and small willow and cottonwood seedlings. Scattered knotweed plants are present, but are not dominant.



Figure 3. 3a: Shrub willow and other native vegetation dominate the riparian area thanks to restoration efforts in 2009-2011 (left); **3b:** A river cobble shore community is forming where sediments are being deposited next to the river channel (right).

Wildlife & Biodiversity

Another purpose for conserving the property is to protect wildlife habitat. No rare, threatened or endangered species have been documented on the property. The mown field has little to no habitat value for native species. The property’s primary habitat value lies in the riparian area along the river and – to a much lesser degree – in the pond/wetland.

Riparian Ecosystem

Riparian ecosystems are the areas of transition from aquatic to upland habitats. In this case, they have the potential to occur along the edge of the Little River and around the pond. They are sensitive places, rich in biodiversity, that serve several functions including: (1) protecting aquatic habitats by providing shade, important sources of downed dead wood and organic matter, and filtering sediments and pollutants out of surface waters; (2) supporting a high diversity of resident and migratory wildlife, particularly migratory songbirds and (3) providing critical wildlife travel corridors for terrestrial species such as mink, otter, beaver, wood turtle, and more. In Vermont, areas of riparian connectivity have been identified as being of the highest

importance for ensuring that wildlife species can move freely across the landscape in search of mates, food, and suitable habitats. All of the property lies within a mapped area of riparian connectivity along the Little River (Figure 4).



Figure 4. The property is part of a state-significant area of riparian connectivity (shown in blue) for native wildlife (Source: ANR Natural Resources Atlas).

Due to the 2013 erosion event, the riparian area on the property is currently very limited; it is vegetated only along the western half of the property. (Figure 5a). Since the vegetated portion of the riparian area was eroded away on the eastern half of the property in 2013, a portion of the field is currently mowed up to the edge of the bank (5b).



Figure 5. 5a: The vegetated riparian area on the property (area shaded in blue) and approximate location of the top of the bank (blue dashed line) (left); **5b:** The eroded and mown riparian area on the eastern portion of the property has little to no habitat value (right).

The limited extent of the vegetation in the riparian area diminishes its habitat value and ecological function. This management plan calls for maintaining a minimum of a 30-foot riparian area between the river and the field. If measured from the top of the bank, the riparian zone

would extend into the ballfield just past the row of mature trees east of the parking lot (Figure 6a). Re-establishing a 30-foot riparian area comprised of native floodplain species would significantly increase the habitat value and ecological function of the property.



Figure 6. 6a: The approximate extent of the 30-foot riparian area recommended in the management plan vs. the actual extent (left). **6b:** A high diversity of birds, including the American Redstart (pictured), use riparian ecosystems as nesting, post-fledging, and migratory habitats. Photo: Chuck Gangas (right).

The habitat value of the pond is likely limited, but could be similarly enhanced by allowing a woody riparian area to establish around its edge that would provide shade and cover.

G. INVASIVE SPECIES

Prepared by Redstart Forestry, Inc. as part of a Moscow Recreation Field Site Weed Management Plan, July 2009.

The property has established populations of introduced invasive plants including: Japanese knotweed, non-native shrub honeysuckles, phragmites, garlic mustard, and gout weed.

Japanese Knotweed has been the largest challenge to the management of the property. Knotweed is a well known invader in riparian areas that produces vegetative root sprouts capable of dominating an area very quickly, and can reproduce from very small fragments of plants. Dense thickets of knotweed completely suppress the growth and establishment of native trees and shrubs. Riparian species like turtles find knotweed inhospitable habitat. Knotweed is also poorer than native trees and shrubs at protecting stream banks from erosion and supports a reduced variety of insects that become available to fish.

In 2009, the Conservation Commission hired a consultant to chemically treat a large area of knotweed along the river bank over a two-year period. At that time knotweed covered 75-90% of the area where it occurred along the river bank. After the initial chemical treatment, native

species were planted to suppress the re-growth of the knotweed. The planted native vegetation, especially willow, has grown in thickly, but patches of knotweed shoots are beginning to reappear.

Non-native shrub **honeysuckle** is a very common invasive across the northeast. These species are most common on field and road edges but can also invade forestland. Dense thickets of honeysuckle suppress native vegetation growth and establishment. Honeysuckle has the potential to colonize the site quickly upon removal of other invasives, however, and could interfere with the establishment of native vegetation. Most of the honeysuckle that had existed on the property was washed away into the river during the spring flood of 2013.

Phragmites is an attractive grass that typically grows in wetlands and wet meadows. Introduced non-native varieties can quickly colonize large areas to the exclusion of native plants. Phragmites only occurs in a pocket west of the access road and south of Moscow Road. The percent cover is 75-90% where it occurs.

Garlic mustard is a relatively new invasive to the Stowe area. Garlic mustard is found in a variety of habitats ranging from dry roadsides to moist riparian areas, and can establish in the understory of forest settings. Like the other invasives noted here it can suppress the growth and establishment of native vegetation. Garlic mustard is lightly established along the edge of the parking lot at 10-50% cover where it occurs. Seed will remain viable for 5-7 years and if this species is to be controlled it is recommended to reduce the seed source as soon as possible. Over the past 5 years, Conservation Commission members have conducted a yearly garlic mustard harvest to keep the plant from spreading, with limited success.

Gout weed is widespread and difficult to control. Although the plant can form dense mats in areas where it is present, it receives low impact ratings for numerous considerations and does not appear to have the same degree of ecological impacts as the other invasive plants present at the Moscow Recreation Field.

H. MANAGEMENT GUIDELINES AND RECOMMENDATIONS

Management Guidelines

Field Use: Exclusive use of the field requires a Field and Facility Rental Application from the Parks & Recreation Department, to be submitted with the required fee, if applicable. The field will not be scheduled for use before 12:00 PM on Sundays due to church services taking place across the road.

Turf Care: Given the close proximity of the river and that the property is located within the 100-year flood hazard area, no chemical fertilizers, fungicides or pesticides shall be used.

Structures: Although the conservation easement allows for the construction of permanent structures that are in conformance with easement, the construction of permanent structures is not feasible given the property's location within the Flood Hazard Area and that the majority of the property is also within the FEMA-designated Floodway, as well as the Fluvial Erosion Hazard Area. Any temporary structures should be removed if there is any chance of a flood event.

Trash & Recycling: Trash and recycling containers will be provided during the summer use season.

Toilet Facility: A portable toilet facility will be provided during the summer use season.

Management Recommendations

The following management recommendations are to further the goal of improving and protecting wildlife habitat on the property in ways that are compatible with meeting the primary goal of providing community recreational opportunities on the property:

Continue to allow the river channel to migrate and the property to flood.

- Allow the river to meander; avoid the use of rip-rap.
- Expect the property to flood occasionally, and avoid the installation of infrastructure that would be damaged during flooding.

Restore riparian ecosystem along the river.

- Map and mark a minimum of a 30-foot riparian area along the river as measured from the top of the bank.
- Plant native floodplain vegetation to facilitate regeneration of native species before knotweed invades.
- Where possible, allow some tall, dead trees to remain in the riparian area to serve as perch and nesting sites.

Continue to monitor and control non-native, invasive species.

- Pull garlic mustard and new growth of knotweed annually.
- Remove scattered shrub honeysuckle.
- Make a plan for addressing Phragmites next to road.
- Monitor the site for any new invasive species. If detected, remove early to avoid spreading.

Continue inventory and monitoring of natural resources.

- Conduct bird monitoring each spring and submit observations to eBird.
- Conduct a botanical inventory of all plants at the site.

Consider new activities or uses for the property that are compatible with the purposes of the conservation easement including, but not limited to:

- Disc Golf

- Additional small-scale events
- Horticultural activities
- Winter plowing of the parking area if desired by the community
- Add picnic tables (must be chained to the ground due to location in the flood hazard area)

Appendix A: Plant List

The following plants were identified during a natural resource assessment of the property conducted by Kristen Sharpless on October 17, 2016. The list is not comprehensive.

** Floodplain species

* Non-native, invasive species

Trees & Shrubs

American elm **

Apple

Black willow **

Boxelder **

Butternut **

Cottonwood **

Green ash **

Grey birch

Pin cherry **

Red osier dogwood

Shrub honeysuckle*

Shrub willow **

Silver maple **

Speckled alder **

Sumac

White pine

Herbaceous Plants & Vines

Aster spp.

Blackberry

Burdock

Goldenrod spp.

Japanese knotweed*

Joe pye weed

Ostrich fern **

Phragmites*

Raspberry

Reed canary grass*

River grape **

Virginia creeper[‡]

REFERENCES

Little River Corridor Plan: Stowe, Waterbury, Morristown, Worcester, Bolton, Underhill and Cambridge, Vermont. 2010 DRAFT. Bear Creek Environmental, LLC. and the Lamoille County Planning Commission.

Management Plan for the Moscow Recreation Field. August 1999. Stowe Conservation Commission.

Struhsacker, Peggy. July 1998. *Moscow Ballfield Inventory Survey.*

Thompson L and E Sorenson. 2000. *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont.* University Press of New England: Hanover.

Moscow Recreation Field Natural Resource Inventory and Assessment. Kristen Sharpless, Stowe Land Trust Conservation Program Manager, October 2016.

Site Weed Management Plan for the Town of Stowe – Moscow Recreational Field. Redstart Forestry, Inc. July, 2009.