

Town of Middlebury, Vermont

# TOWN FOREST RECREATION PLAN



**Vermont Town Forest**  
Recreation Planning

# Vermont Town Forest Recreation Planning

## Contents

Chapter 1: Introduction.....	4
Acknowledgements .....	4
Project Team .....	4
About the Vermont Town Forest Recreation Planning Community Assistance Program .....	5
Project Purpose and Scope .....	5
Project Process.....	6
How to Use This Plan .....	6
Community Benefits of Recreation in Town Forests .....	7
Conservation and Habitat Protection.....	7
Close to Home Recreational Opportunities .....	8
Economic Development .....	8
Health Benefits .....	9
Chapter 2: Existing Conditions .....	10
Community Profile .....	10
Summary .....	10
Town Forest Profile .....	12
Forest Overview.....	12
Land Ownership and Conservation Background .....	12
Chapter 3: Public Engagement Summary .....	23
Public Engagement .....	23
Kickoff Summit.....	23
Steering Committee Process.....	23
Visioning Workshop .....	24
Community Survey.....	24
Strategies Workshop.....	25
Implementation Summit .....	25
Chapter 4: Town Forest Vision Framework .....	26
Visioning.....	26
Management Balance.....	28
Goals.....	30
Chapter 5: Action Plan .....	31



# Vermont Town Forest Recreation Planning

Introduction .....	31
Action Plan Table .....	31
Detailed Project Pages .....	39
Existing Trail Assessment and Maintenance.....	40
Formalize Organizational and Decision-Making Structure.....	41
Signage and Maps .....	42
Management Plans.....	43
Access Paths and Connections .....	44
Leverage Partnerships .....	45
Action Plan Graphic.....	46
Chapter 6: Implementation .....	50
Town Forest Recreation Planning Toolkit .....	50
Existing Conditions Pod .....	51
Public Engagement Pod.....	52
Natural Resources Pod .....	53
Plan Development Pod .....	55
Implementation Pod .....	56
Town Forest Story Pod .....	57
Grants and Funding Sources.....	58
Federal and State Grants and Programs.....	58
State Grants and Programs .....	60
State Organizations .....	62
National Organizations.....	63



# Vermont Town Forest Recreation Planning

## Chapter 1: Introduction

### Acknowledgements

All community plans are the result of a collective effort. In the development of this Town Forest Recreation Plan many individuals provided considerable input and expertise to the outcome. The project team would like to thank them for their tremendous assistance.

### Project Team

#### Steering Committee

- ❖ Ashar Nelson
- ❖ Jen Murray
- ❖ Eric Berg
- ❖ Carl Robinson
- ❖ Tony Rifeli
- ❖ Jack Brown
- ❖ Jamie Montague
- ❖ Kathleen Ramsay
- ❖ Cindy Hill
- ❖ John Murphy
- ❖ Norman Bloom
- ❖ Mark Lapin

#### Interagency Working Group

- ❖ VT Urban and Community Forestry Program—Project Lead
- ❖ VT Agency of Natural Resources—Department of Forests, Parks and Recreation
- ❖ VT Agency of Commerce and Community Development

#### Consultant Team

- ❖ SE Group—Project Lead
- ❖ Arrowwood Environmental—Natural Resources Sub-Consultant

### OUR PARTNERS

The Vermont Urban & Community Forestry Program is a joint initiative of Vermont Department of Forests, Parks and Recreation (FRP) and UVM Extension. Working group members include FRP's Recreation Program, Agency of Commerce and Community Development, and Extension's Tourism and Marketing Program. Partners include over 40 organizations and stakeholders who have helped shape the process and deliverables.



# Vermont Town Forest Recreation Planning

## About the Vermont Town Forest Recreation Planning Community Assistance Program

Vermont has a long and proud tradition of town-owned and managed forests. Over 168 municipalities own over 67,000 acres of forestland, all open for public benefit. The values of these town forests are diverse, including watershed protection, wildlife habitat, forest products, outdoor classrooms, and neighborhood gathering places. Outdoor forest-based recreation is both a great opportunity and a growing challenge. Recognition of the economic and community benefits of forest-based recreation is on the rise. Concurrently, increased pressure from multiple recreation groups accentuate the need for planning assistance to balance the growing recreation interests and the health of the forest. In response, the Vermont Urban & Community Forestry Program and its partners received a grant from the US Forest Service to provide recreation planning assistance to ten diverse Vermont communities, and Middlebury was one of those selected!

### Project Purpose and Scope

At the broadest level, the Vermont Town Forest Recreation Planning Community Assistance Program is intended to empower communities to move forward with confidence on recreation projects in their Town Forest. This process has provided robust community involvement and comprehensive consideration of potential projects, so the community can move forward with confidence knowing that it is addressing the needs and preferences of its residents and visitors, is protecting the forest resources in its charge, and is effectively managing the forests for the resources and activities it values.



The project encompasses four key areas:

1. Developing the Vermont Town Forest Recreation Planning Toolkit to enable planning in ALL Vermont communities
2. Developing a compelling and inspiring vision to help guide the future management of the town forests
3. Developing discrete, clear and action-oriented strategies for improvement of recreation and stewardship that achieves the vision
4. Fostering implementation with support for local plan adoption, guidance for implementation, and the project toolkit



# Vermont Town Forest Recreation Planning

## Project Process

Over the past year, Middlebury has worked with a consulting firm that specializes in community planning, SE Group, in a robust planning process to develop an action-based town forest stewardship and recreation plan. The innovative planning model included a public visioning workshop, needs assessment, facilitated walks in the forests, a community survey, a public strategies workshop, and an engaged steering committee. The process has resulted in a plan that provides actionable strategies to assist the community in taking the next steps. This process has led to a Vermont Town Forest Recreation Planning Toolkit to support sustainable, forest-based recreation in town forests statewide.

## How to Use This Plan

First and foremost, this plan is intended to document the community's desires for the town forests. Through robust public engagement, the planning process identified and solidified the community's comprehensive vision, which encompasses all the primary uses of town forests: conservation, recreation, education, and timbering and forest products. When decisions are being made about the town forest, the vision outlined in this document should be referred to and should inform how the community might weigh in on the future direction of the forests.

In addition to the establishing a shared vision for the forest, this planning process has also identified a series of concrete actions the town and its partners could take to implement the community's vision for the forests in terms of recreation. Strategies for improvement of recreation could be physical enhancements—such as new trails, parking lots, or facilities—but strategies might also be non-physical improvements like enhanced maps and signage or policy-oriented strategies like creating a process for proposing and reviewing new trails or projects in the forest. Potential strategies were reviewed and prioritized by the steering committee and the public during the Draft Strategies Workshop. All strategies identified by the steering committee and project team are found within the action plan table, but the highest priority projects have also received enhanced detail in the action plan.

For each strategy, the action plans identify:

- Project description
- Action responsibility
- Timing (immediate, short, medium, long-term)
- Partners involved
- Action or planning dependencies
- Available toolkits & support resources
- Funding and grant opportunities
- Magnitude of costs (\$-\$-\$-\$-\$-\$-\$-\$-\$-\$)



Some of the strategies can be implemented directly by the town, its volunteers, and partners without additional funding or resources—others may require additional planning and design or require grants to complete. If grants or additional planning and design steps are needed, likely funding sources and implementation partners are identified in the action plan.

The Vermont Town Forest Recreation Planning Toolkit—a companion to this plan—offers guidelines, designs, case studies, best practices, and standards for the town to pursue towards realizing its vision. Whether the next step involves recruiting volunteers, writing a grant application, or building a trail, the Toolkit can help the town and its partners move forward.

The Vermont Town Forest Recreation Planning Toolkit is available on Urban and Community Forestry’s website at: <https://vtcommunityforestry.org/>

## Community Benefits of Recreation in Town Forests

Recreation in town forests provide many benefits for local residents, economies, and the natural communities of Vermont.

### Conservation and Habitat Protection

A town forest, as a protected natural area, has intrinsic conservation value. They act as habitat for local species and help conserve the area’s natural resources. Town forests can connect existing forest blocks, providing a larger, safe habitat for species. Linked habitat blocks also allow species to travel and adapt to changing conditions. The forests also protect and buffer local streams, improving water quality and habitat for aquatic species. In absorbing and filtering water, the forests improve flood resiliency and water quality across the watershed. Forests also help protect soils and biodiversity and provide a buffer against pests and disease. As a municipally owned parcel, the forest can leverage additional funds for conservation through taxes and community development grants.

A town forest also provides humans with benefits from conservation by linking people to nature and allowing them to experience a wide range of natural environments. It is becoming clearer that contact with nature is an important element of a healthy life style. Providing convenient, local access to forests and natural areas can make it easier to connect with and experience nature,



which is particularly important for the youth in our communities. According to the Institute for Social Research, the average American boy or girl spends just four to seven minutes in unstructured outdoor play each day, and more than six hours each day in front of an electronic screen (National Wildlife Federation, 2016). This is startling data that has been causing a ripple effect across the country. Nearly every industry that works with young people across the nation

# Vermont Town Forest Recreation Planning

has established initiatives to help change this statistic. From school districts and environmental education organizations to federal land managers, conservationists and the outdoor retail industry, new funding streams for outreach and programs have developed.

There are several negative long-term effects of kids' "nature deficit disorder," as coined by Richard Louv, but the two greatest impacts are general health and well-being of America's youth and the ability and desire for future generations to steward and value our public natural and wild areas, including our town forests. Although this national phenomenon is less of an issue in rural places like Vermont, convenient access to forests could help get even more young people outdoors more often.

## Close to Home Recreational Opportunities

Town forests provide trails for both residents and visitors to enjoy. Town forest trails allow walkers, bikers, runners, skiers, and snowshoers to combine exercise and a natural experience in a convenient location without having to travel far from their home. Studies have shown that close and convenient access to recreation and the outdoors can significantly increase an individual's physical activity levels (Schipperijn et al, 2017). Town forests may also connect surrounding trail systems, enhancing the community's overall trail network. Town forest recreational opportunities can also integrate recreation with outdoor education through interpretive signage and nature walks, promoting other community values of health and nature education.

## Economic Development

In Vermont, outdoor and forest-based recreation and the associated tourism are major drivers of the economy. Outdoor and forest-based recreation brings people into our communities. In the Mad River Valley, 78% of visitors have reported that trails and access to the outdoors was important in their decision to visit (MRV Moves, 2017). Trail users, both residents and visitors, will visit local restaurants and shops, bringing in tax revenue and creating jobs as well. Across our state, just four trail systems—the Catamount Trail, the Long Trail, the VAST system, and Kingdom Trails—have been found to generate over \$30.8 million annual economic activity, over \$2 million in annual tax revenues, and have supported over 365 jobs annually (VT Trails and Greenways, 2017). A single trail system in the Green Mountain National Forest—the Blueberry Lake Trails—has been found to generate \$1.8 million in annual sales, \$320,000 in annual tax revenues, and has supported 22 jobs annually (MRV Moves, 2017).

Many people when moving to Vermont will choose a location based on its natural features and recreational opportunities.





# Vermont Town Forest Recreation Planning

Nationwide, the National Association of Realtors found that 80% of Americans consider having trails and places to take a walk one of their top priorities when deciding where they would like to live. This ranked higher than even “high quality public schools” in their Community Preference Survey, which was selected by 74% of survey respondents (National Realtors Association, 2015). Access to the outdoors is increasingly being seen as a cornerstone of quality of life, particularly in rural communities, and having this access allows communities to attract and retain their workforce, which in turn helps attract and retain businesses. Therefore, an accessible town forest can be a key factor for strengthening the economic vitality of Vermont towns.

## Health Benefits

Almost all hospitals and health providers encourage patients to include some form of physical activities in their daily lives to increase many aspects of their health. By providing convenient access to the outdoors, a town forest encourages community members to walk, bike, ski, snowshoe, or run in the forest regularly.



Obesity is one of the most significant health threats today. More than two-thirds (68.8 percent) of American adults are considered to be overweight or obese. More than one-third (35.7 percent) of American adults are considered to be obese (U.S. Department of Health and Human Services, 2016). Vermont has slightly lower rates of overweight and obese adults at 57.7% overweight and 23.2% obese, but the issue is of critical importance in our state as well (CDC, 2012). Active lifestyles and physical activity help to combat obesity. Obesity exacerbates many other types of illnesses and reducing the levels of obesity leads to overall better health.

Studies have shown that trails and outdoor recreation contribute to healthy communities and lower healthcare costs for individuals and local governments. A 2004 cost-benefit analysis of using trails in Lincoln, Nebraska to reduce health care costs associated with inactivity found that for every \$1 invested in trails for physical activity, \$2.94 of public health benefits are produced (Wang et al, 2004).

Spending time in the forest’s peaceful, natural setting is also proven to be beneficial to community members’ mental health. In addition, the forest’s trees improve the air quality of the surrounding area as well.



## Chapter 2: Existing Conditions

### Community Profile

The community profile presents demographic, economic, and recreational information relevant to planning for the town forests.

### Summary

Middlebury is one of the largest towns in Vermont. The town has many college students, resulting in a very low median age. The household median income is right around the statewide average. However, the percentage of people below the poverty line is well above the average. The town and county do not have a large tourism base, but the town has a strong trail, parks, and open space system for its local population. The Green Mountain National Forest is located a few miles east of town and provides many recreational opportunities for hiking, biking, and skiing.





Population: 8,530



Median Age: 28.6



# of School Age Children: 1,141



48 % Male 52 % Female



Household Median Income: \$53,363



Residents Below Poverty Level: 13 %



2.3 % Residential Units in Seasonal/Recreational Use



12 % County Employment in Travel & Tourism



Grand List Assessed Value: \$446,844,600



Number of Parks and Open Spaces: 12



Miles of Trails: 29



# of Playgrounds: 3



## Town Forest Profile

### Forest Overview

The Middlebury Town Forest system consists of six different forest blocks. Battell Woods, Chipman Hill, and Means Woods are the three most heavily used blocks and the focus of this planning effort. The Trail Around Middlebury (TAM), runs through/along each of these forest blocks and connects the forest network.

Battell Woods is a 95-acre forest block within a mile of the village green. The parcel has a 2.63-mile network of trails open to all non-motorized uses and it is very popular amongst mountain bikers. Battell Woods is primarily an old growth, hardwood forest.

Chipman Hill is a 132-acre forest block also within a mile of the village green. With its steep slopes, it was once the college ski hill. Today it is a dense forest home to roughly five miles of trails. It has multiple scenic vistas that are popular for picnics. Hikers and mountain bikers heavily use the trails, including building and maintaining trails.

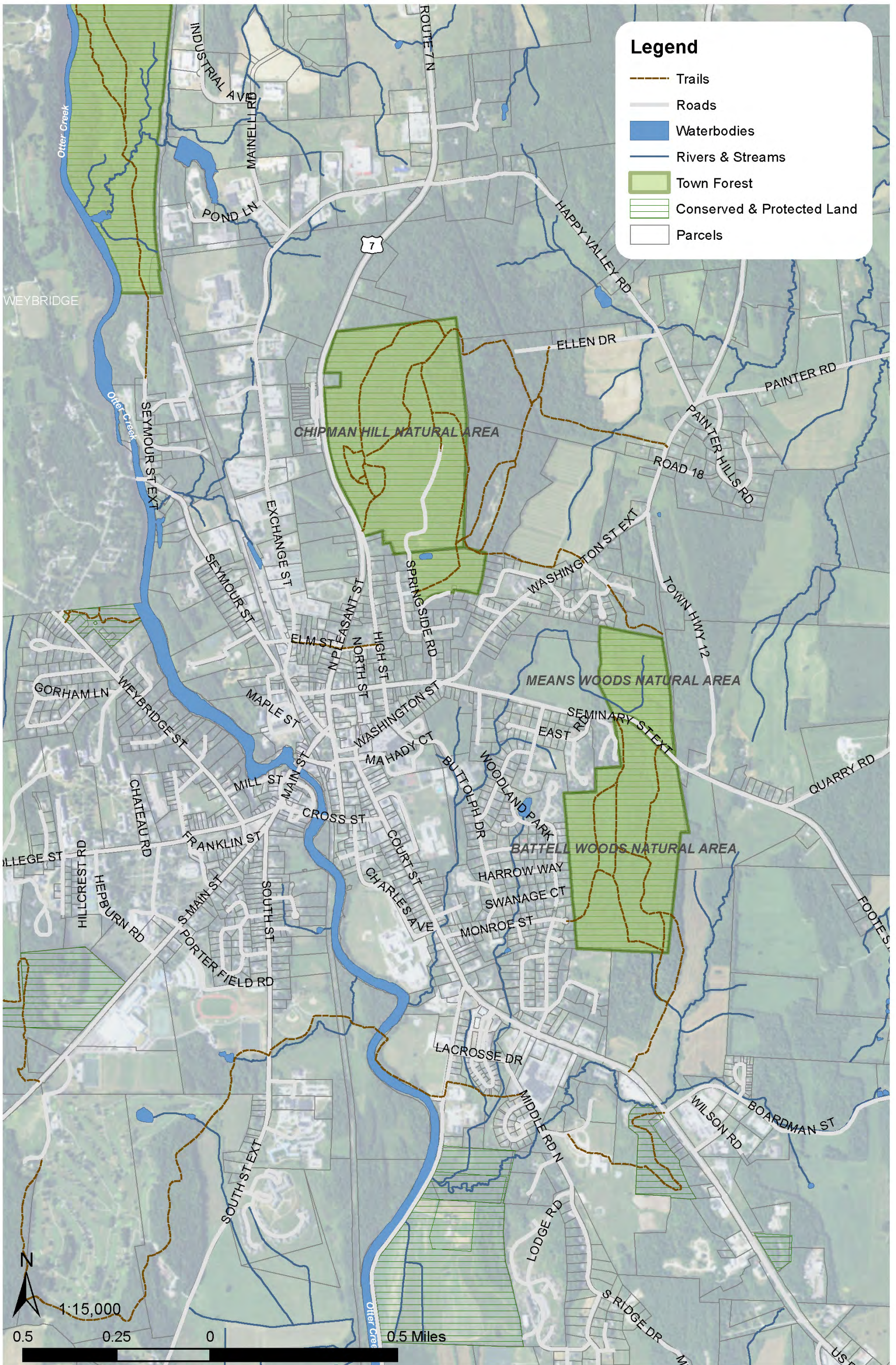
Means Woods is a small, 29.4-acre forest block that is key to forest connectivity. It is a preserved woodland between Battell Woods and Chipman Hill and within a mile of the village green. It adjoins Battell Woods and is separated by 1,000 feet of private property from Chipman Hill. The TAM trail runs along its edge and a half mile walking trail runs through it.

### Land Ownership and Conservation Background

Each forest block of the Middlebury Town Forest system is governed by a board of trustees. A Town Ordinance protects trees and plants in the forest block from removal without express permission of the trustees. There is no specific management plan for either the individual parcels or the entire forest system, although the town has expressed interest in creating such a plan.

Battell Woods and Chipman Hill were bequeathed to the town in 1915 by the will of Joseph Battell. Both forest blocks are managed by the Battell Partnership Trust. Means Woods was donated later, in 1969, under a covenant that it be kept as green space in conjunction with Battell Woods and Chipman Hill, with its woodland character preserved and “natural woodland recreation.” It is managed by the Means Woods Trustees.













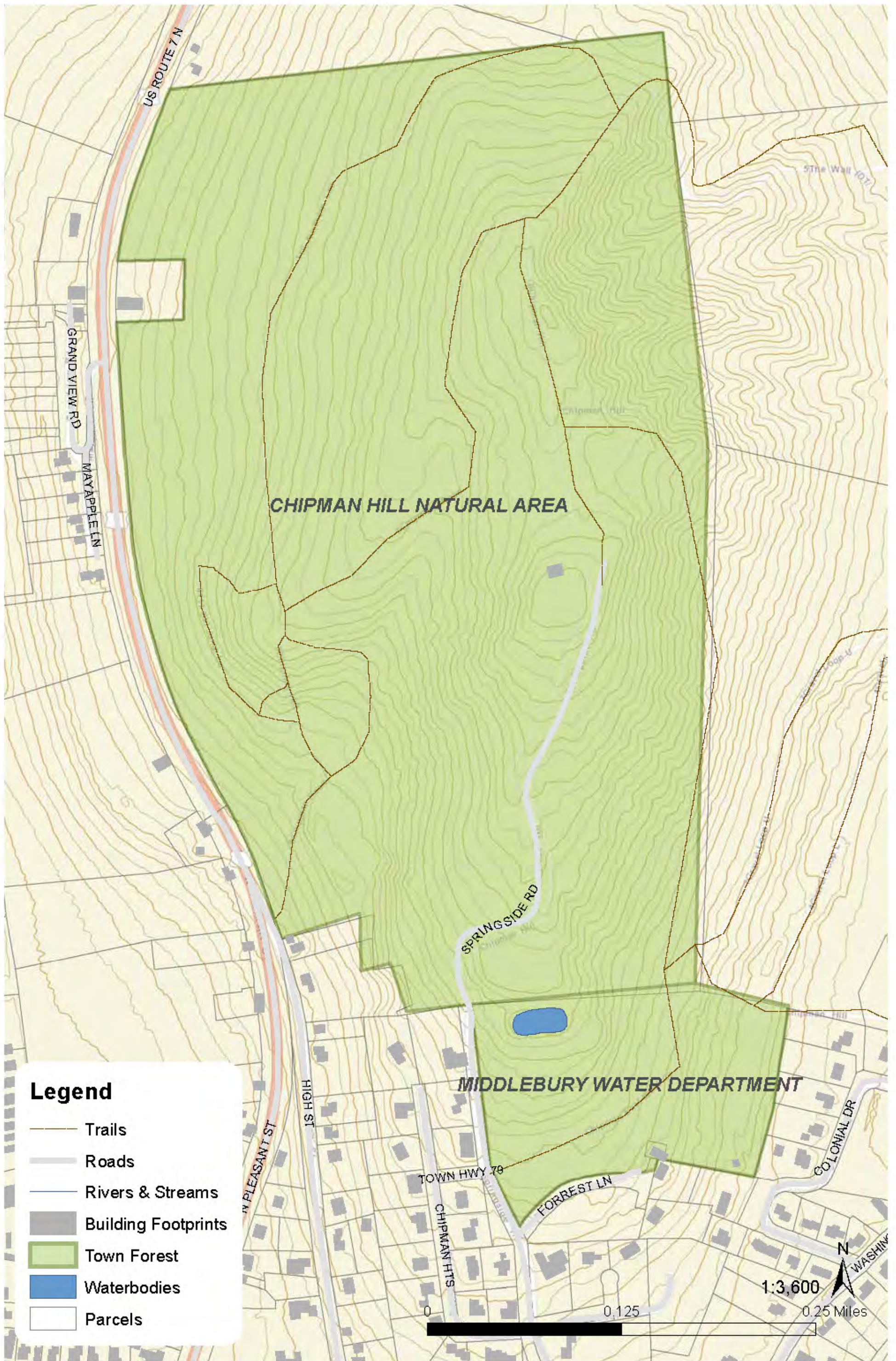




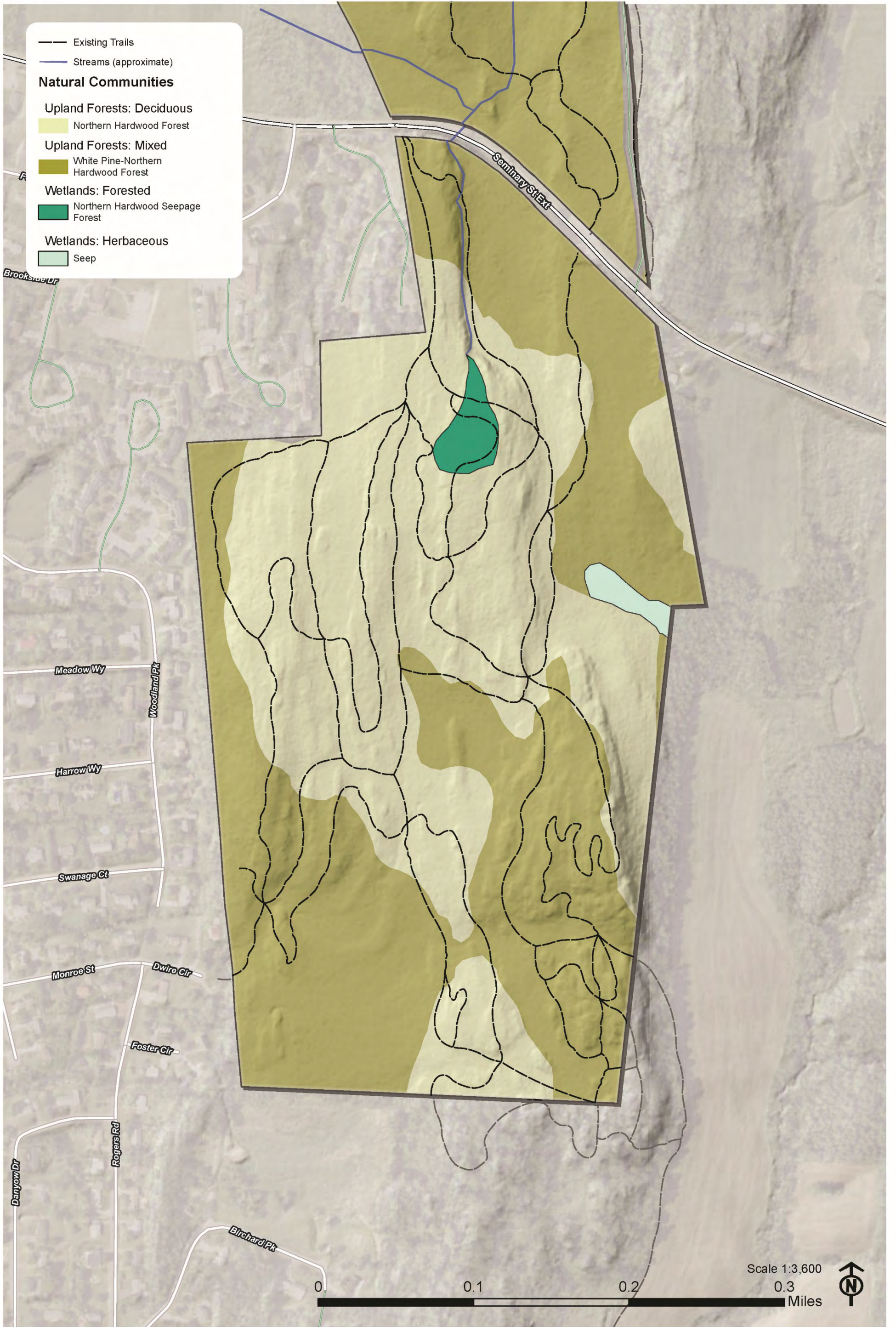
**Legend**

-  Trails
-  Roads
-  Rivers & Streams
-  Building Footprints
-  Town Forest
-  Waterbodies
-  Parcels

1:2,400   
 0 0.125 0.25 Miles

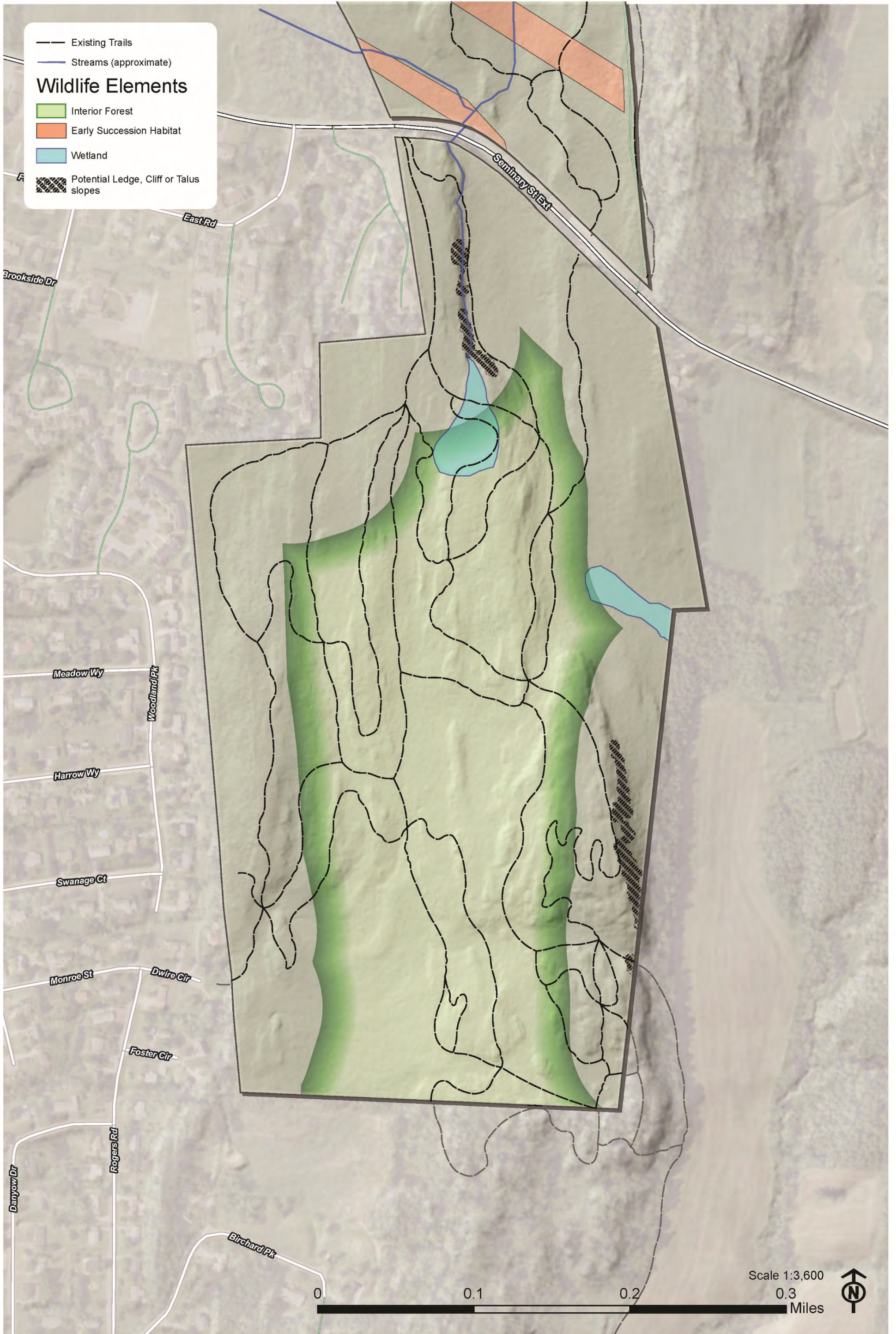
















---

## Chapter 3: Public Engagement Summary

---

To bring the “town” into town forest, a robust public engagement process was at the heart of this plan. There were multiple workshops open to the public, a community survey, and many steering committee meetings to guide the plan. Through this process, the public identified goals and strategies to enhance the forests. The public also offered feedback on the strategies and draft plans, to ensure a fit with the town and forests’ needs, interests, and capacity.

### Public Engagement

#### Kickoff Summit

A project kickoff summit with all 10 towns was held at the Bethel Town Hall on Friday, November 17, 2017. The summit introduced members of the town steering committee to the project and served as an initial opportunity to provide input. The project team provided a background of the project and an overview of the process. Through a working lunch, the committee members completed a SWOT worksheet (Strengths, Weaknesses, Opportunities, and Threats) to begin thinking about and analyzing the forests. A web survey was also available for other committee members who were not present to provide their thoughts. Facilitators led a community breakout session for the committee to speak to existing conditions, issues, and their vision for the town forests. From Middlebury, four people were in attendance.



#### Steering Committee Process

The steering committee, made up of Town of Middlebury staff and members of the Addison County Bike Club, the Battell Partnership Trust, and Means Wood Trust, was instrumental to the process. Members of the steering committee attended the kickoff summit, helped plan and spread the word about the public workshops, reviewed the project goals, draft strategies, and draft plan, and met with the project team and on their own to provide ideas and feedback throughout the process.

---

# Vermont Town Forest Recreation Planning

## Visioning Workshop

A Visioning Workshop for the Battell Woods, Chipman Hill, and Means Woods Town Forests was held at the Middlebury Town Office on January 29, 2018. The meeting was a drop-in anytime, open house format with questions about an overall vision for the town forests; the balance of recreation, education, conservation/natural resources, and forest products; the natural resources present on the site; and future activities in the town forests. Attendees wrote responses on boards, completed dot exercises, and drew their ideas and knowledge on maps. Members of the project team and local steering committee were available for one-on-one chats with attendees, and a general comment box was provided for open-ended feedback. Background/baseline information about the project, the community, and the forest, was also provided. 26 people signed in and an estimated 50-60 people were in attendance.



Background/baseline information about the project, the community, and the forest, was also provided. 26 people signed in and an estimated 50-60 people were in attendance.

Please see Appendix 1 – Visioning Process Results, which combines the findings from this meeting and the community survey.

## Community Survey

The Community Survey was launched at the public visioning workshop on January 29, 2018 and remained open through the Sunday after Town Meeting Day—March 11, 2018. The community survey asked the same questions as the public visioning workshop, in order to give the people who could not attend the meeting an opportunity to provide input. An online survey was made available. The community was made aware of the survey through a variety of methods including flyers distributed around town, press-releases and news articles, and email blasts and social media posts. In total, the survey received 56 responses.

Please see Appendix 1 for the Visioning Process Results, which combines the findings from the Public Visioning Workshop and the community survey.





# Vermont Town Forest Recreation Planning

## Strategies Workshop

A Strategies Workshop for the Battell Woods, Means Woods, and Chipman Hill Town Forests was held at the Middlebury Town Office on June 28, 2018. The meeting was a combination presentation and open house. First, the attendees learned about the project process, the toolkit, vision framework, the management plan, and draft strategies. The meeting transitioned to an open house where attendees prioritized the draft strategies on boards and had the opportunity to have one-on-one discussions with members of the project team and steering committee. Attendees also indicated locations for the draft strategies on a large map. 19 people signed in and an estimated 25-30 people were in attendance.

Please see Appendix 2 for the Strategies Workshop Results.



## Implementation Summit

Representatives from our town attended the Town Forest Implementation Summit held on November 9, 2018 at the VYCC West Monitor Barn in Richmond, VT. The summit included representatives from all 10 pilot communities and provided opportunities for networking and information sharing. Attendees learned about commonalities and major takeaways across all ten town forests, the action plans developed by each of the towns, grant opportunities, and interpretive signage. The attendees heard from a panel about management and public decision making, received a sneak preview of the Vermont Town Forest Recreation Planning Toolkit, and took a walking tour of Richmond's town forest and the VYCC trail infrastructure.



---

## Chapter 4: Town Forest Vision Framework

---

A vision framework is a critically important tool that informs the goals and direction of the town forest recreation plan. The vision framework encompasses all forest uses—not just recreation—to understand how recreation should fit in with the community’s overall intent for the forest. The vision framework is directional, descriptive, and aspirational, communicating what the community believes are its goals for the forest—how things would look if all opportunities and issues were perfectly addressed.

The vision framework includes:

1. A discussion of the management balance in the forest; and
2. A list of goals around the community’s desired character for the forest

The vision framework is broad enough to encompass a variety of local perspectives. Unlike a simple one or two sentence vision statement, a vision framework allows for more complexity to be communicated and better illuminates the community’s desired character for the forest—which is often multi-faceted.

The management balance discussion and list of goals work together to communicate the community’s overarching aspirations for the forest. Both aspects of the vision framework should align, without repeating each other. The management balance describes the community’s management priorities for the forest, while goals are a list of words or short phrases that expand upon the management balance and describe the community’s aims and actions for the desired future character for the forest. These two pieces work together and support each other to communicate the multi-faceted values of the community.

### Visioning

At the public visioning workshop and in the community survey, attendees/respondents were asked, “What word or phrase best describes your EXISTING experience with the town forests in your community?” and “What word or phrase best describes your DESIRED FUTURE experience with the town forests in your community?” The results of these exercises are demonstrated in the word clouds below. The size of the words in the word clouds corresponds to the number of times that word was used in the responses.

---

# Vermont Town Forest Recreation Planning

## Existing Experience



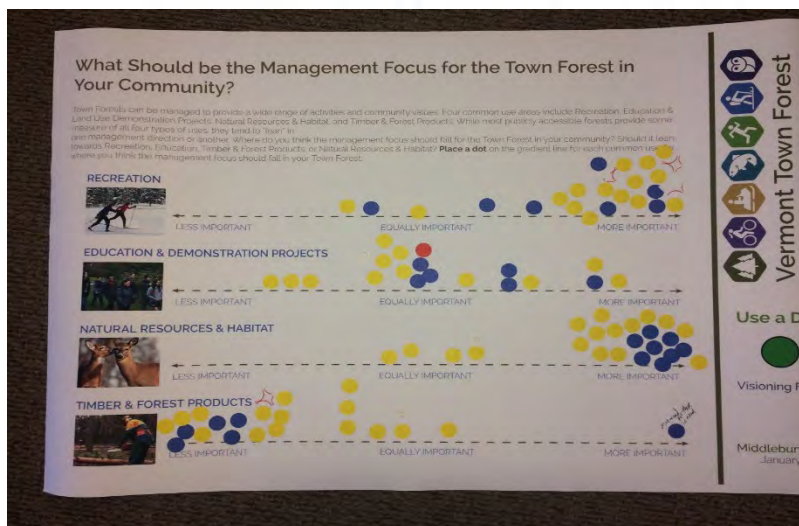
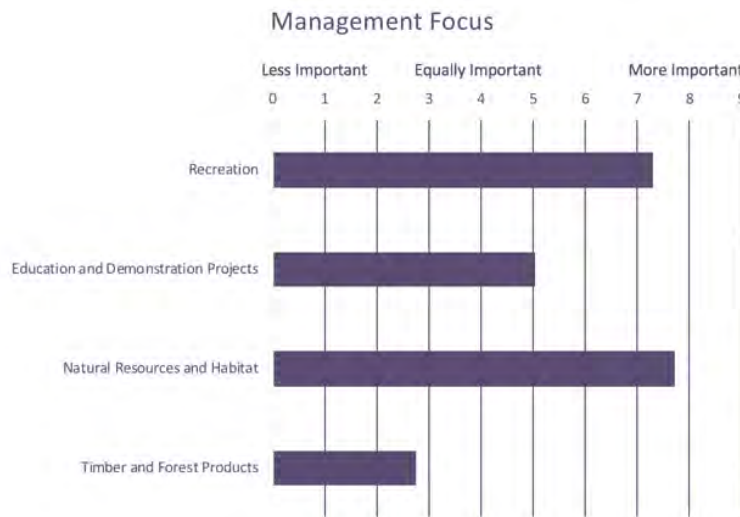
The community's language around their existing experience in the Middlebury Town Forests suggests the forests are well-used as both a natural space and for recreation. Community members repeated "accessible," "many," and "used" to describe the community's utilization of the forest. "nature," "natural," "peaceful," and "escape" suggest the type of experience people have in the forest. Towards activities in the forest, respondents frequently used the words "TAM," "trails," "exercise," and "recreation."





# Vermont Town Forest Recreation Planning

Recreation, Education, Timber & Forest Products, or Natural Resources & Habitat?” Their responses are below:



Through these interactions, the Middlebury community expressed that Recreation and Natural Resources & Habitat are the most important use areas in the management of the town forests. Education & Demonstration Projects are also important to the forests' management while Timber & Forest Products should not be emphasized in the forests' management. In addition, these three parcels are part of the larger area forested block and the balance of uses here should reflect the larger block.



# Vermont Town Forest

## Recreation Planning

### Goals

The following list of goals are statements that convey the community's aims and actions in the future management of the town forests. This list is based on the analysis of public and committee input received through the visioning process, as well as the review of the community's demographics, profile, forest information, current management and town plans, and surveys.

1. Strike the right balance between the protection of ecologically sensitive areas and development of recreational assets.
2. Minimize user conflicts through design of the trail system, education, and outreach.
3. Control invasive species throughout Middlebury area forest parcels by identifying and prioritizing areas of concern.
4. Manage the forest so as to conserve habitat for bird and wildlife habitat through initially identifying and mapping sensitive eco-regions.
5. Protect the spring ephemeral wildflowers as well as other native or rare plant species initially through a rapid ecosystem assessment to inform future forest management strategies.
6. Mitigate potential impacts to remaining quiet places through thoughtful planning and forest management.
7. Promote the local use of the forest resource so as to increase the quality of life for area residents and elevate Middlebury as a location to live, work and start a business.
8. Enhance connectivity and promote the trail system as a valuable source for transportation in and around the Middlebury area.
9. Establish an understandable and verifiable pathway, through the appropriate administrative structures, to review and approve new trails and projects and manage existing trail networks in the forest.
10. Preserve the open space of the region and integrity of the town forest.
11. Collaborate with MALT and Middlebury College to accomplish the goals herein outlined for this community resource.
12. Promote nature-based education and opportunities for learning about stewardship, history and the forest.



---

## Chapter 5: Action Plan

---

### Introduction

The Action Plan is a set of recommended strategies and projects to achieve the town's vision. These strategies and projects were developed based on the goals, needs assessment, forest walks, and input from the steering committee and community. From a larger initial list of strategies, the steering committee has selected and edited the strategies to craft an action plan well-suited to the community's interest, needs, and capacity.

The Action Plan includes an Action Plan Table, detailed "project pages" for the highest priority strategies, and an Action Plan map to graphically display the highest priority strategies.

### Action Plan Table

The Action Plan Table on the following pages includes all the strategies for the town and additional information to help with implementation. The strategies were categorized under Parking & Access; Trails; Other Facilities & Structures; Education & Programs; Events; Maps, Outreach, and Promotion; and Administrative Actions. Each strategy has the following additional information:

- A detailed strategy description
  - Responsibility – who the responsible parties are to pursue this strategy (i.e., Town, Conservation Commission)
  - Timing (ongoing, short, medium, long-term) – when the responsible party should begin pursuing this strategy
  - Partners involved – possible partners to be involved in this project (i.e., Vermont Land Trust, Vtrans, local trails groups, local schools)
  - Planning required – planning, designs, assessments, or studies that needs to happen before this strategy can be pursued (i.e., trail system design, wildlife habitat assessments)
  - Relative Cost (\$,\$\$,,\$\$\$,\$\$\$\$\$) – a ballpark estimate of what the project will cost. One dollar sign is little to no cost, two dollar signs is moderate, three dollar signs is more expensive, four dollar signs is very expensive. \$-\$\$ indicates the relative cost is between those two levels. \$/\$\$ indicates that the project can be either \$ or \$\$, depending on the chosen route (i.e., volunteer trail counts vs. electronic trail counter)
  - Funding Opportunities – potential sources of funding for the project. These could be grants, local business sponsorships, or fundraising events
  - Toolkit and Support Resources – the toolkit elements that provide guidance on pursuing this strategy. Guidance from Vtrans, the Vermont Town Forest Stewardship Guide, or other support resources can also be useful to pursue this strategy
-



# TOWN FOREST RECREATION PLAN MIDDLEBURY

Strategy or Action	Description	Responsibility	Timing (Ongoing, short, medium, and long-term)	Partners Involved	Planning required	Relative Cost (\$-\$-\$-\$-\$-\$)	Funding Opportunities	Toolkit & Support Resources
<b>1. Parking &amp; Access</b>								
Parking lot and trailhead development	Develop parking lot(s) with trailhead kiosks for Chipman Hill. One parking lot should be large enough to accommodate a school bus. Consider access to Wright Park via Exchange Street.	Town	Long-term	MALT, Trustees, Middlebury College	Parking lot design	\$\$\$	LWCF, RTP, TAP	-Trailhead Kiosk -Volunteer Designs -Parking Considerations Toolkit
Access paths and connections	Develop access paths and bike/ped connections between town forest and downtown. Consider connection from TAM or pedestrian route along Route 7. Focus on connections to schools, hospital, and recreation center.	Town	Medium-term/Long-term	MALT, Trustees, Middlebury College	Active Transportation Master Plan	\$\$\$	BCP, BPP	- Sustainable Trail Standards
Wayfinding signage	Add pedestrian wayfinding signage from downtown and adjacent neighborhoods to the forests.	Town	Short-term	MALT, Trustees, Middlebury College	Signage design	\$\$	BPP, Vtrans Signage Program	-Trail Markers and Wayfinding Toolkit -Vtrans Signage Program
<b>2. Trails</b>								
Existing trail conditions assessment and review	Study existing trails, especially unsanctioned trails, and evaluate for potential ecological harm and mitigate the site through necessary means. Decommission or reroute trails as needed.	Town & Trustees	Short-term	MALT, Middlebury College, ABC	Trail reroute & redesign	\$	RTP, RTC, VHCP, ERG	-Trail assessment forms -Natural Resource Guidance Toolkit -Sustainable Trail Standards



# Vermont Town Forest Recreation Planning

Trail maintenance	Fallen trees have been identified in Battell Woods and those on trails should be removed for accessibility. Dead wood should be left in the woods for ecological and hydrological benefit.	Town & Trustees	Short-term	MALT, Middlebury College, ABC	--	\$	RTP	-Sustainable Trail Standards
Address unsanctioned trails	Close unsanctioned trails in ecologically sensitive areas and adopt some trails. Perform trail maintenance on the newly sanctioned trail and consider turning a few trails into bike-optimized trails.	Town & Trustees	Medium-term	MALT, Middlebury College, ABC	Trail reroute & redesign	\$	RTP, RTC, VHCP, ERG	-Trail assessment forms -Natural Resource Guidance Toolkit -Sustainable Trail Standards
Safety and Signage in high risk areas	Add wayfinding signage and study the need for crosswalks, warning signs, etc. where trail intersects major roadways (i.e., Route 7). Study a potential underpass at Route 7 crossing.	Town	Long-term	MALT, Trustees, Middlebury College	Signage design, scoping study	\$\$-\$\$\$\$	BCP, BPP, Vtrans Signage Program	-Trail Markers and Wayfinding Toolkit
Trail markers and signage	Add signage in the forest for wayfinding, information, and trail etiquette. Ensure it communicates town ownership and/or trust management. Some trails are well marked, while others are not. Seek unified trail markers and signage design.	Town & Trustees	Medium-term	MALT, Middlebury College, ABC	Signage design	\$\$	RTP, RTC	-Trail Markers and Wayfinding Toolkit -Interpretation Guidance Toolkit
Plan for winter use of the trail systems	Accommodate snowshoeing, cross-country skiing and fat biking in the forest. Consider groomed winter trails as a possible option.	Town & Trustees	Short-term	MALT, Middlebury College, ABC	--	\$\$	RTP	-Sustainable Trail Standards
<b>3. Other Facilities and Structures</b>								
Pause Places	Develop a series of "Pause Places" along the trail system. These may be a rest stop, an informational stop, or both. All pause places should include a bench or appropriate rocks/boulders for seating and should capitalize on locations with the potential for views, sunsets, rest, and	Town & Trustees	Medium-Term	Program and educational partners	Historical and natural resource research, pause place design	\$\$	LWCF, RTC, RTP, RFG, AIG	- Pause Places Toolkit -Bench Volunteer Designs -Interpretation Guidance Toolkit



# Vermont Town Forest Recreation Planning

	rejuvenation. Opportunities for natural and historical interpretation should also be explored. Larger ones may include a picnic table. Some could also include public art or a 'little free library.'							
Create and maintain locations for birding and viewing wildlife.	Designate a few pause places for birding and wildlife viewing with appropriate interpretive signage and benches.	Town & Trustees	Medium-Term	Program and educational partners	Natural resource research, pause place design	\$\$	LWCF, RTC, RTP, RFG, AIG	- Pause Places Toolkit -Bench Volunteer Designs -Interpretation Guidance Toolkit
Repair old bridges and build new ones in wet areas	The west side of Means Woods has bridges which have been identified as in need of repair. Other areas in the forest may benefit from bridge construction also as they are seasonably very wet.	Town & Trustees	Short-term	MALT, Middlebury College, ABC	Bridge design	\$\$	RTP, RTC	- Sustainable Trail Standards - Sustainable Facility Standards
<b>4. Education &amp; Programs</b>								
Interpretive signage	Develop interpretive signage that support educational programs and self-guided learning. Coordinate with development of the pause places. For example, a sign about Joseph Battell in Battell Woods and the land use history of the location.	Town & Trustees	Medium-term	Program and educational partners	Historical and natural resource research, pause place design	\$\$	LWCF, RTC, RTP, RFG, AIG	-Interpretation Guidance Toolkit
Coordinate nature education, photography, nature writing and other classes	Where community members are utilizing the town forest for public nature education classes, ensure that a town forest class schedule is made publicly available	Town & Trustees	Short-term	Program and educational partners	--	\$	--	-Programming Partnerships Toolkit
Assess current forest programming	Talk to groups currently offering programming in the forest (Hogback Community College, Spirit in Nature, Otter Creek Audubon Society, etc.) about the demand for forest programming. Assess and plan future programming based on this information.	Town & Trustees	Short-term	Program and educational partners	--	\$	--	-Programming Partnerships Toolkit



# Vermont Town Forest Recreation Planning

Kids camps	Offer kids camps in the forest. Partner with Middlebury Parks and Recreation, churches and others operating camps in the area.	Town & Trustees	Medium-term	Middlebury Parks and Recreation, others	--	\$	--	-Programming Partnerships Toolkit
Ecology tours	Offer ecology tours (birdwatching, plant identification, etc.) for children and adults.	Program and educational partners	Medium-term	Town & Trustees	--	\$	VCF, VHCB, LF, BJJ	-Programming Partnerships Toolkit
Birding, nature, and wildlife classes	Offer nature classes for the public such as a birding class or scat and track identification lesson. Coordinate these lessons on the trails website and the bird and plant species list.	Program and educational partners	Medium-term	Town & Trustees	--	\$	VCF, VHCB, LF, BJJ	-Programming Partnerships Toolkit
Species identification lists	Bird, plant and mammal species identification checklists could be developed and made available at the trailhead kiosk. Should also be utilized in education experiences. Consider online or smartphone app version.	Town & Trustees	Short-term	Program and educational partners, Audubon Addison County	--	\$	VCF, VHCB, LF, BJJ	-Programming Partnerships Toolkit
Story Walk	A StoryWalk is an innovative and delightful way for children — and adults! — to enjoy reading and the outdoors at the same time. Laminated pages from a children's book are attached to wooden stakes, which are installed along an outdoor path. As you stroll down the trail, you're directed to the next page in the story.	Town & Trustees	Medium-term	Library	--	\$\$	VCF	- Story Walk Toolkit
<b>5. Events</b>								
Races in the forest	Continue to hold small-scale race events such as the TAM Trek in the forests. Consider other running, XC skiing, or mountain biking races or local-serving adventure race (Tough Mudder, Warrior Dash, etc.) in the forests.	Program and Event Partners	Short-term	Town & Trustees	Event and parking plan	\$	VCF, VHCB, LF, BJJ	-Programming Partnerships Toolkit



# Vermont Town Forest Recreation Planning

6. Maps, Outreach, & Promotion								
Update and disseminate trail maps	<p>For each of the town forest parcels it is recommended to update the map of the forest, its trails and significant natural and cultural features after the trail assessment and review is completed. Develop trail maps and print and post at the trailhead and locations around town. Also post the trail map online on a town forest website.</p> <p>Explore opportunities to engage local businesses in sponsoring map printing. Ads from local businesses can not only fund map printing, but can also help connect forest use with economic activity in the town.</p>	Town & Trustees	Medium-Term	MALT, Middlebury College, ABC	Graphic design	\$-\$\$	RTP	-Mapping and Promotion Toolkit
Showcase the trees and forest ecology of Battell Woods	Battell Woods is noted for its old hardwood forest filled with large trees. Preserve this resource through public education campaigns and promote its preservation in conjunction with MALT.	Town & Trustees	Short-term	MALT, Middlebury College	--	\$-\$\$	RTP, VCF	-Programming Partnerships Toolkit
Leverage partnerships to promote the TAM and forests	Work with MALT, the Battell Trustees, Otter Creek Audubon Society, Middlebury Mountain Club, the Conservation Commission as well as Middlebury College and other local organizations to promote awareness and conservation of the town forests.	All	Short-term	All	Meeting facilitation	\$	RTP, NPCB	-Programming Partnerships Toolkit -Mapping and Promotion Toolkit



# Vermont Town Forest Recreation Planning

Town Forest Business Roundtable	Host a Town Forest Business Roundtable to share "trail friendly business" ideas that can help support trail use in the community, connect forest visitors with local businesses, and help support Town Forest efforts.	Town & Trustees	Long-term	Local business, Chamber of Commerce	--	\$	VCF	-Trail Friendly Business Toolkit
<b>7. Administrative Actions</b>								
Formalize Organizational and Decision-Making Structure	Process will include ecological concerns and will provide all stakeholders and user groups an opportunity to propose new trails and facilities.	Town & Trustees	Short-term	MALT, Middlebury College, ABC, Conservation Commission, etc.	Review, adjustment and adoption of model process	\$	RTP, RTC, VHCP, ERG	-Model Proposal Process -Natural Resource Guidance Toolkit
Work with Middlebury Area Land Trust	As MALT has worked closely with the town in managing the forest and the TAM, engage MALT on future projects to ensure that any alterations to the TAM abide by the terms of the easement and requirements of MALT.	Town & Trustees	Short-term	MALT	--	\$	--	-Programming Partnerships Toolkit
Habitat Mapping and Inventory	Conduct detailed habitat surveys to guide future management of the forest.	Town & Trustees	Medium-term	Middlebury College	--	\$\$	CCG, MPG, ERG, VCF, VHCP, BJJ	-Natural Resource Guidance Toolkit
Create a Management Plan for each of the Town Forest parcels.	Plan for the long-term success of the forest through developing a forest management plan which can be coordinated with the management zones in the each of the forest parcels. Plan for the continued connectivity of the forested region. The 2000-10 Middlebury Comprehensive Parks and Rec. Plan calls for management plans of Battell Woods and Chipman Hill specifically.	Town & Trustees	Long-term	MALT, Middlebury College, ABC	--	\$	CCG, MPG, ERG, VCF, VHCP, BJJ	- Vermont Town Forest Stewardship Guide



# Vermont Town Forest Recreation Planning

Management zones	Consider management zones of the forest to consider and plan for all uses. Designate areas more suitable for wildlife habitat, hiking, or mountain biking, for example.	Town & Trustees	Long-term	MALT, Middlebury College, ABC	--	\$	CCG, MPG, ERG, VCF, VHCP, BJJ	-Management Zones Toolkit
Water Quality	Conduct a detailed water quality and hydrology analysis to guide future management of the forest.	Town & Trustees	Long-term	MALT, Middlebury College, ABC	--	\$	CCG, MPG, ERG, VCF, VHCP, BJJ	-Natural Resource Guidance Toolkit
Partner with Middlebury Parks and Recreation	Partner with Middlebury Parks and Recreation to utilize the Town Forests for Town recreation programs and to benefit from staff expertise.	Town & Trustees	Short-term	Middlebury Parks and Recreation	--	\$	--	-Programming Partnerships Toolkit





# TOWN FOREST RECREATION PLAN MIDDLEBURY

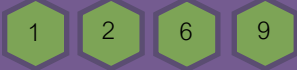
## Detailed Project Pages

The following pages provide more detail on the strategies that are mostly likely to achieve the community's vision for the forests and that have been identified by community members and the steering committee as top priorities. These project pages include the goal that the strategy responds to, a more detailed description of the rationale and process to carry out the strategy, and the other items included in the action table.

# Vermont Town Forest Recreation Planning

## Existing Trail Assessment and Maintenance

Goal #:



Estimated Cost:

\$\$\$

Timing:

Short-Term

The town forests have many miles of trails, both formal and informal. All forest trails should be assessed for sustainability and maintenance needs.

The informal trails are not formally maintained, and may require work in that department. These trails are also relatively underutilized as they are not signed or mapped. Some informal trails could be formalized to be regularly maintained and included on forest trail maps, expanding and enhancing the trail network for forest users. Given the interest in expanding the types of recreational experiences provided, some of these informal trails could also be reconstructed and “bike-optimized” with banked turns and technical features.

Some formal trails may also require rerouting/redesign to meet sustainable trail standards and most require some level of maintenance. In Means Woods, there are many bridges in need of repair. And throughout, more bridges should be constructed to protect frequently wet areas. Another maintenance issue is the many fallen trees in Battell Woods. Trees on trails should be removed for accessibility. Those that have fallen in the middle of the forest should be left for ecological and hydrological benefit.

### Responsibility:

Town & Trustees

### Partners Involved:

MALT, Middlebury College, Addison County Bike Club, local builder/users

### Planning Required:

Trail reroute & redesign

### Funding Opportunities:

RTP, RTC, VHCP, ERG

### Toolkit Resources

Trail Assessment Forms

Natural Resource Guidance Toolkit

Sustainable Trail Standards





# Vermont Town Forest Recreation Planning

## Formalize Organizational and Decision-Making Structure

Goal #:



Estimated Cost:

\$

Timing:

Short-Term

At present, there is a complicated system of management/ownership of the town forests with the Town, Conservation Commission, Battell Trustees, Means Woods Trustees, MALT, Middlebury College, ABC and others all playing a role. When individuals or groups have ideas about the forests or have expressed interest in new trails or facilities, it has been unclear who they should contact and how decisions are made. By formalizing the organizational and decision-making structure for the forests, the partners can ensure that management of the forest proceeds in such a way that protects and balances the function of the forest and human uses.

A formalized proposal process will create a clear, straightforward mechanism with a transparent decision-making structure. The formal proposal process also provides objectivity in the management of the forest and ensures careful public decision based on the community's shared values for the land. The process can also give user groups a strong sense of whether a project is likely to get approved, and if not the necessary modifications in order to receive approval.

A model project proposal form and a committee review questionnaire are included in the Vermont Town Forest Recreation Planning Toolkit.

Responsibility:  
Town & Trustees

Partners Involved:  
MALT, Middlebury College, ABC, Conservation Commission, etc.

Planning Required:  
Review, adjustment and adoption of model process

Funding Opportunities:  
RTP, RTC, VHCP, ERG

### Toolkit Resources

Model Proposal Process

Natural Resources Guidance Toolkit



# Vermont Town Forest Recreation Planning

## Signage and Maps

Goal #:



Estimated Cost:

\$\$-\$\$\$\$

Timing:

Short-Term

The maps and signage in and around the town forests should be improved to enhance the accessibility and user experience of the forest. At present, some trails are not well-marked and maps are not readily available.

A wayfinding signage system should be put in place that is unified across the town forests. The signs should communicate town ownership and trustee management. At major and confusing trail junctions, a small map of the trail system should be mounted on a sign post.

Given the many user groups and new visitors to the forest, trail etiquette signage should be added. The signage should instruct trail users about yielding to others and leave no trace.

Outside the forest, additional signage is needed at the major road crossings on the forest edges. Crossing Route 7 at the southern edge of Battell Woods can be challenging and requires TAM users to walk in the roadway to pick up the trail again. A traffic study would determine the necessary signage and crossing treatment to enhance safety. Throughout town, forest wayfinding signage, with directions and information, would encourage visitors and residents to walk, bike, or drive to the town forests.

A map of the three forest blocks should be created that shows all the trails, natural and historic features, and connections between the forest blocks. These maps should be available at the trailhead kiosks, in town, throughout the trail system and online. Ads from local businesses can help fund map printing and connect forest use with economic activity in town.

The signage and map update should occur after the existing trail assessment and decision around formalizing trails. The new formal trails should be added to the map, with signage at trail junctions.

### Responsibility:

Town & Trustees

### Partners Involved:

MALT, Middlebury College, ABC

### Planning Required:

Graphic Design, Cartography

### Funding

### Opportunities:

RTP

### Toolkit Resources

Mapping and Promotion Toolkit

Trail Markers and Wayfinding Toolkit



# Vermont Town Forest Recreation Planning

## Management Plans

Goal #:



Estimated Cost:

\$\$\$

Timing:

Medium-Term

At present, none of the Middlebury Town Forests have management plans. Management decisions are handled on an ad-hoc basis, with no long-range view of the forest and its future. Previous town planning efforts also identified this need.

A thoroughly prepared and implemented management plan results in a healthier forest that is accessible and enjoyed by the local community. The management planning process will also be of deep value to the community and can help to establish the organizational structure for each forest between the Town, the Trustees, and their partners.

The forest management plan can be built off this plan, taking advantage of the community visioning work that has been done. The town should work with the county forester and the trustees of the forests to inventory each parcel and set management objectives and actions. Further biological assessments and mapping should also be conducted for this plan, possibly with Middlebury College students. Water quality goals can also be explored.

The management plan should include management zones, separating the different areas of the forest by use. For example, one section of the forest may be designated wildlife habitat while another may be more suitable for recreation uses, with a denser network of trails.

Responsibility:

Town & Trustees

Partners Involved:

Conservation  
Commission,  
Middlebury College,  
MALT

Planning Required:

Natural resource  
inventory and  
mapping, meeting  
facilitation

Funding

Opportunities:

CCG, MPG, ERG,  
VCF, VHCP, BJJ

### Toolkit Resources

Management Zones Toolkit

Vermont Town Forest Stewardship Guide

Natural Resource Guidance Toolkit



# Vermont Town Forest Recreation Planning

## Access Paths and Connections

Goal #:



Estimated Cost:

\$\$\$\$

Timing:  
Medium-Term/  
Long-Term

All three Middlebury Town Forests in this plan are within a mile of the town center. However, there is no good route between the town center and the college to these forests.

The town should create a series of access paths and bike/ped connections (which some have coined the “Trail In Middlebury (TIM)”) that links the forests, local destinations, and the town center for pedestrians and cyclists. The system should be a combination of sidewalks, designated bike routes and multi-use paths. Designated bike routes will be the initial step, with signage and road markings on Route 7 and Seminary Road. There should be frequent and unified signage that direct pedestrians and cyclists to the forests and signage for drivers, proclaiming the roadway a designated bike route and that cars must give space when passing. The town may want to consider creating designated bike routes on neighborhood streets, rather than Route 7.

For pedestrians, sidewalks do exist for most of the route to the forests. However, along Seminary Road and Route 7 south of the town center, the sidewalks end before the town forests. The town should extend the sidewalk network to the forests to enable safer pedestrian access.

To encourage use of the new system and visits to the forest, a trailhead kiosk should be placed in the town center with maps and other information. Long-term, the town should explore opportunities to create multi-use paths as a safe, separate route to the forests.

The recommendations listed above will require significantly more planning in order to implement. The town should pursue the grants listed to the right for the planning and construction of the active transportation system.

### Responsibility:

Town

### Partners Involved:

MALT, Trustees,  
Middlebury College

### Planning Required:

Active  
Transportation  
Master Plan

### Funding

Opportunities:  
BCP, BPP

### Toolkit Resources

Trail Markers and  
Wayfinding Toolkit

Land Conservation and  
Recreational Access



# Vermont Town Forest Recreation Planning

## Leverage Partnerships

Goal #:



Estimated Cost:

\$

Timing:

Short-Term

The Town of Middlebury is fortunate to have many organizations and groups around conservation, education, and recreation in the community. These organizations provide stewardship, promotion, and programming in the town forests, but their efforts are not always coordinated.

The Middlebury Area Land Trust (MALT) is an important partner for the town forests. MALT conserves many acres of land in and around Middlebury, constructed and maintains the TAM, and hosts forest programming on the TAM and conserved lands. MALT also has a strong network of trail maintenance crews and other volunteers that the town forests should work with for other trails on the town forests.

Middlebury College also presents many opportunities for successful partnerships. Middlebury College students and faculty could conduct biological studies, staff trail maintenance crews, and partner with the forests for events and programming (i.e., professors leading tree identification walks, posting forest events on the college calendar).

The trustees should also work with the Middlebury Parks and Recreation Department for programming in the forest. These programs would make forest-based recreation more accessible, bringing children and adult participants into the forest. The trustees would also benefit from the Parks and Recreation staff expertise.

Other potential partnering organizations include: Otter Creek Audubon Society, Middlebury Mountain Club, and the Addison Bike Club.

Responsibility:  
Trustees & Town

Partners Involved:  
All

Planning Required:  
Meeting facilitation

Funding Opportunities:  
RTP, NPCB

### Toolkit Resources

Programming Partnerships Toolkit

Mapping and Promotion Toolkit



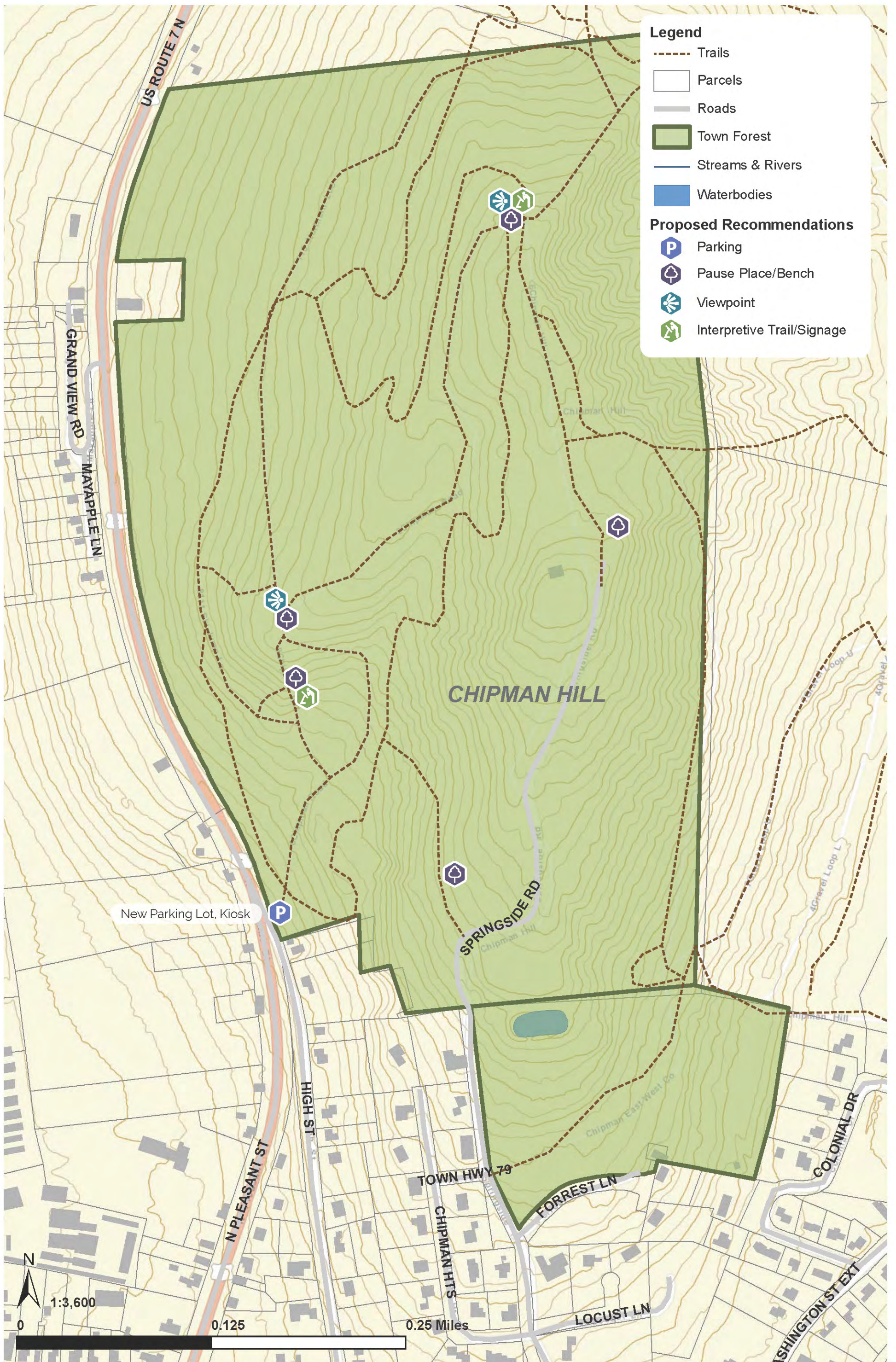
# Vermont Town Forest

## Recreation Planning

### Action Plan Graphic

The following diagram shows conceptual locations for the high priority strategies with a spatial component. These locations are based on the community's pinpointing of strategies at the workshop, the natural resources of the forests, the facilitated forest walks, and the project team's understanding of the right spacing and locations for these strategies. The locations on this map are generalized and, in most cases, further planning and design will be necessary before construction.



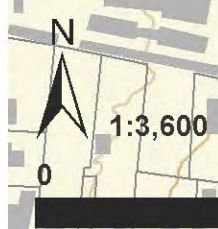


**Legend**

- Trails
- Parcels
- Roads
- Town Forest
- Streams & Rivers
- Waterbodies

**Proposed Recommendations**

- Parking
- Pause Place/Bench
- Viewpoint
- Interpretive Trail/Signage



**Legend**

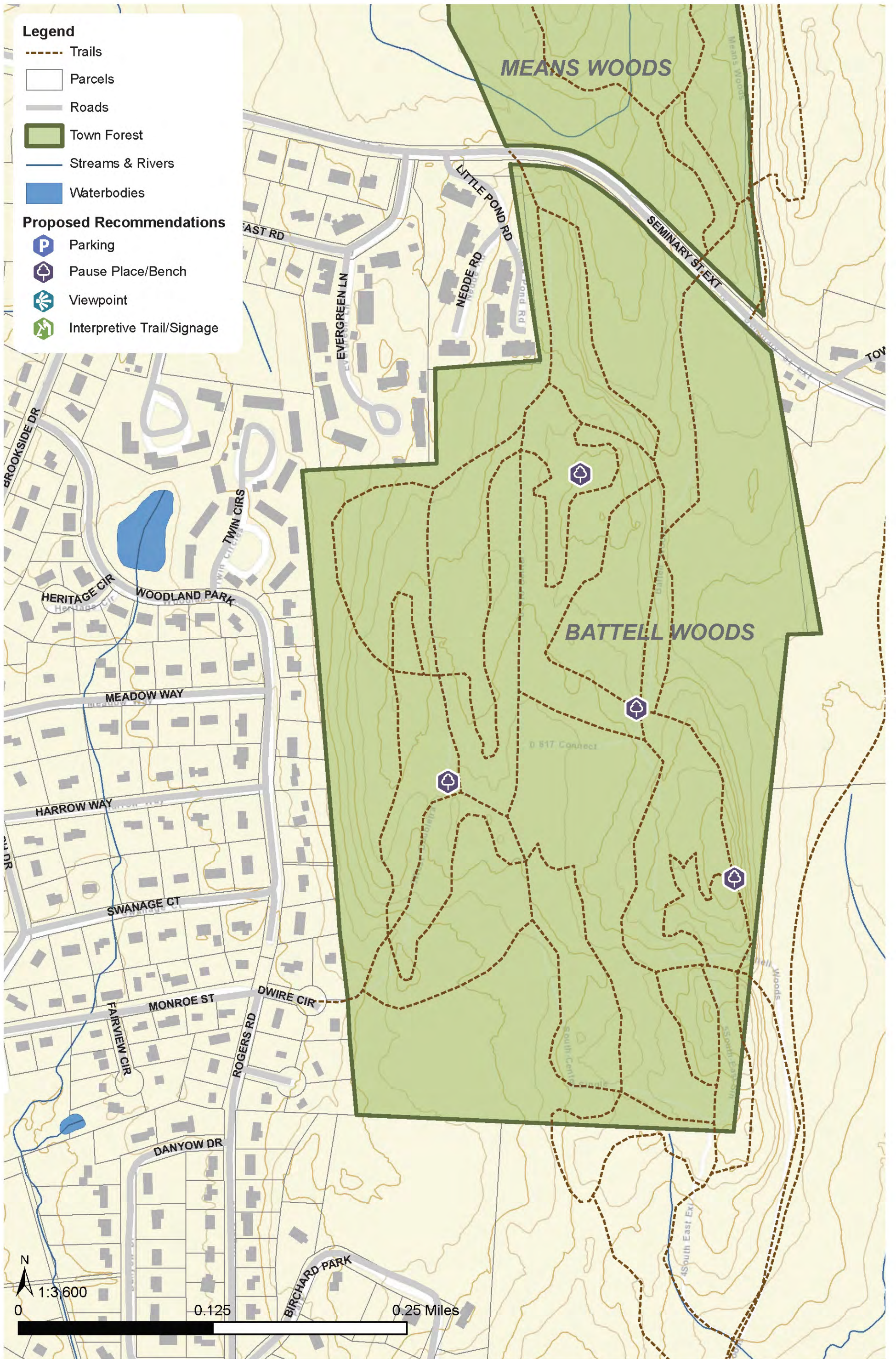
- Trails
- ▭ Parcels
- Roads
- ▭ Town Forest
- Streams & Rivers
- ▭ Waterbodies

**Proposed Recommendations**

- Parking
- Pause Place/Bench
- Viewpoint
- Interpretive Trail/Signage







## Chapter 6: Implementation

### Town Forest Recreation Planning Toolkit

The Vermont Town Forest Recreation Planning Toolkit has been developed in concert with this plan and the nine other town forest recreation plans currently underway through the overall US Forest Service grant. The intent behind the toolkit was to build up a replicable process and a set of tools that could be used for both the professionally-facilitated process with the first ten communities, of which Middlebury is one, and for other towns to do their own recreation plans after this project has ended.

Perhaps more importantly for Middlebury, the toolkit includes a number of guidance documents, designs, case studies, best practices, and standards the Town can use to implement strategies identified in this plan. The action plan table and detailed project pages identifies the most relevant toolkit resources for each strategy. In addition, the full list of toolkit resources is described below.

The toolkit is organized through six (6) specific “pods.” These include an existing conditions and assessment pod, a public engagement pod, a natural resource pod, a plan development pod, an implementation pod, and a stories pod. Each are described below.

The Vermont Town Forest Recreation Planning Toolkit is available on Urban and Community Forestry’s website at: <https://vtcommunityforestry.org/>



## Existing Conditions Pod

The existing conditions and assessment pod provides a checklist to communities to identify background information and municipal plans that should be considered in developing their plan. This pod also includes trail counting forms and extrapolation sheets modified for Vermont from the National Bike and Pedestrian Documentation Project materials. Trail and facility assessment checklists are also included, so the baseline conditions of the town forests can be well understood. Information about available resources such as VT UCF and the county foresters are also provided. Instructions on how to use the VT Center for Geographic Information (VCGI) interactive map viewer to produce basic maps is also included in this pod.



## Public Engagement Pod

The public engagement pod provides a series of promotional material templates, such as flyers and press releases, and public meeting materials, like informational boards and handouts, that communities can use to explore concepts and constraints with the public. Informational board templates provide opportunities to both present information and gather feedback through write in questions, dot exercises and similar interactions. Surveys and visioning materials that allow towns to identify their priorities for use of their forests are an integral part of this pod. Finally, guidance and best practices on how to facilitate steering committee and public meetings round out the range of materials available in this pod.



## Natural Resources Pod

The natural resources pod, developed by Arrowwood Environmental, includes guidance for using ANR's Natural Resource Atlas for general resource mapping, a process for inventorying natural resources in the forest, workshop and survey questions for natural resources, and a model process for proposing and evaluating new trails or facilities. Most importantly, the natural resources pod also includes the Natural Resources Guidebook and associated activities and resources matrix. The guidebook includes information and links to relevant regulatory documents and contact information at both the State and Federal level for each of the following natural resource areas: Vernal Pools, Deer Wintering Areas (DWA), Ledges/Cliffs/Talus, Mast Stands, Interior Forest, Significant Natural Communities, Wetlands, Rare, Threatened or Endangered Species, Floodplain Forests, Streams/Rivers, Early Succession Forests, and Lakes and Ponds. The guidebook also includes an activities matrix for each of these resources that provides compatibility, management information and recommended buffers for a range of activities and facilities, including: Hiking Trails, Biking Trails, X-C Ski Trails, ATV trails, Snowmobile Trails, New Access Roads, Structures/Buildings, Parking Lots, Forestry/Logging, Camping, Sugaring, and Extraction (gravel, sand).



## Example Content from the Natural Resources Guidebook

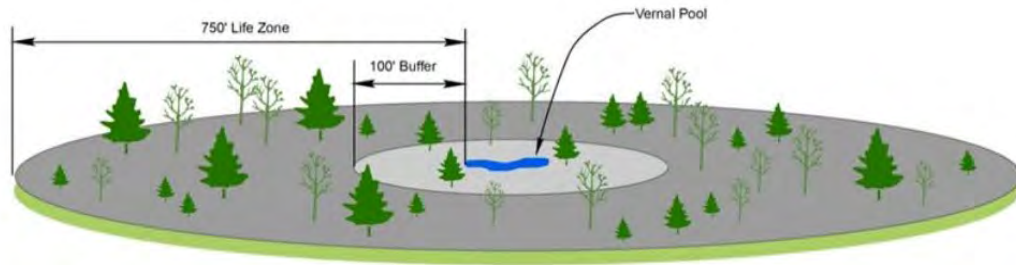


Figure 1. Vernal Pool management zones

### Vernal Pool Management Matrix

Activity	Compatibility in Pool*	Compatibility in 100' Buffer*	Compatibility in 750' Buffer*	Comments (seasonal restrictions, buffers, mgmt.)
Hiking Trails	N	Y	Y	Avoid creating ruts or standing water
Biking Trails	N	Y	Y	Avoid creating ruts or standing water
Ski Trails	N	Y	Y	Avoid creating ruts or standing water
ATV trails	N	N	Y	Avoid trails through wet areas. Avoid creating ruts or standing water. Close trails during spring migration period.
Snowmobile Trails	N	Y	Y	Avoid trails through wet areas. Avoid creating ruts or standing water. Close trails during spring migration period.
New Access Roads	N	N	Y	Avoid roads through wet areas. Avoid creating ruts or standing water. Close roads during spring migration period.
Structures/ Buildings	N	N	Y	See guidelines in text and links provided. Only appropriate if most of buffer remains forested.
Parking Lots	N	N	Y	See guidelines in text and link provided. Only appropriate if most of buffer remains forested. Runoff needs to be managed.
Forestry /Logging	N	N	Y	Some forestry activity compatible with vernal pools, see text and links provided.
Camping	N	N	Y	Camping may be compatible in larger buffer zone. See general guidelines in text.
Sugaring	N	Y	Y	Refer to forestry guidelines in text and links provided.
Extraction (gravel, sand)	N	N	N	Extraction can disrupt local hydrology and negatively impact nearby pool. See development guideline in text and links provided.

\* In many cases, an activity is deemed compatible only if the management recommendations listed in the comments, text and links provided are adhered to.



## Plan Development Pod

The plan development pod can help facilitate the development of a Town Forest Recreation Plan by other interested communities, or update this existing recreation plan. The pod includes templates and guidance on crafting a vision statement for a town forest as well as case studies of each of the 10 selected communities and their plans highlighting the process they undertook. The plan development pod also includes a recreational improvements strategy database that allows communities to search sample implementation actions based on resources, topics or activities. This database includes all strategies contained in the 10 established plans, and their relative cost. Template action plan tables and bubble diagram map guidance is also included.



## Implementation Pod

The implementation pod contains a number of tools to aid in implementation of this plan. In addition to a list of available grant, funding and support resources relevant to town forests, the pod also includes grant writing best practices to help make sure you get the necessary funds to move forward. Design guidance and standards for building sustainable trails and facilities for a wide range of user types is also provided. Guidance on acquiring additional lands or easements is also included. Volunteer designs, materials lists, and construction instructions are also provided in this pod.





## Town Forest Story Pod

The town forest story pod includes personal narratives and how-to webinars from participants in the 10 town forest process on what it actually takes to be a volunteer managing a town forest in your community. The stories share tips, tricks, and pitfalls to help keep you on course, as told by others on the same role!



## Grants and Funding Sources

For most of the strategies and projects in this plan, moving them forward will require financial resources. Luckily, Middlebury and the town budget do not have to go after it alone. There are many grants and alternative funding sources that can help provide the necessary funding. Perhaps the best approach to move a project forward is to select a project with strong community support, secure grant funding, and leverage local resources and volunteers.

The description of each grant below suggests the types of projects the grant funds, the required match from the town if necessary, and a link for more information. Some grants have been identified in the Implementation Matrix using their respective abbreviation.

## Federal and State Grants and Programs

### Land and Water Conservation Fund State and Local Assistance Program (LWCF)

The Land and Water Conservation Fund (LWCF) state assistance program provides matching grants to help local communities enhance the outdoor recreation resources on public land. LWCF funding has benefited nearly every county in America, supporting over 40,000 projects. The grants create parks and open spaces, protect wilderness and forests, and provide outdoor recreation opportunities. Eligible projects are acquisition of land for parks and public outdoor recreation or development and/or renovation of existing facilities for outdoor recreation. This 50:50 matching program is the primary federal investment tool to ensure that families have easy access to public, open spaces. In Vermont, LWCF is administered by Vermont Department of Forests, Parks & Recreation.

<http://fpr.vermont.gov/recreation/grants/lwcf>

### Surface Transportation Block Grant Program (STBG)

The State Surface Transportation Program (STP) is the main program of Federal Transportation Funds, managed by VTrans, for transportation improvements on state highways. Possible projects include recreational trails, pedestrian and biking enhancements, sidewalks, and signed routes.

<https://www.fhwa.dot.gov/specialfunding/stp/>

### USDA Rural Development Loan and Grant Assistance (RD)

USDA Rural Development (RD) forges partnerships with rural communities (defined as towns and villages with less than 20,000 inhabitants), funding projects that bring housing, community facilities (including trails and active transportation facilities), business guarantees, utilities and other services to rural America. This program provides funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community. Relevant to this plan, possible projects include transportation facilities, parks, and community gardens



<http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program>

### National Park Service Rivers, Trails, and Conservation Assistance Program (RTC)

The National Park Service Rivers, Trails, and Conservation Assistance (RTC) program supports community-led natural resource conservation and outdoor recreation projects across the nation. Their national network of conservation and recreation planning professionals can partner with community groups, nonprofits, tribes, and state and local governments to design trails and parks, conserve and improve access to rivers, protect special places, and create recreation opportunities. Current projects include trail rehabilitation, interpretive trails, connector trails, trail master plans, trails collaboratives, and rail trail connectors. No monetary grants are made.

<https://www.nps.gov/orgs/rtca/index.htm>

### FHWA Recreational Trails Program (RTP)

The Recreational Trails Program (RTP) provides funds to communities for development and maintaining recreational trail projects. Grants are awarded to well-planned projects that help to develop, protect, and maintain trails and trail systems that improve connections in the community, livability, user-ability, and are maintained for public recreational use. RTP funds support a wide range of trail activities including hiking, mountain biking, walking, running, cross-country and backcountry skiing, nature-based interpretive trail use, equestrian, snowmobiling, and off-road motorized recreation. Funds can be used for the following types of projects: construction of new trails or trail connections; construction of new trailhead areas/parking facilities; construction of trailside facilities; maintenance, renovation, or restoration of trails; improvements to signage or trail structures along the trail; assessments of existing trail conditions for accessibility and improvements; equipment; and trail-related educational projects (i.e., information about trail safety, appropriate trail use, environmental protection, etc.). The program is administered by the Vermont Department of Forests, Parks and Recreation in the Agency of Natural Resources, in cooperation with the Vermont Agency of Transportation.

<http://fpr.vermont.gov/recreation/grants/rtp>

### Transportation Alternatives Program (TAP)

The Transportation Alternatives Program (TAP) is a grant program administered by VTTrans that provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, sidewalks, and bicycle infrastructure. These funds will cover a maximum of 80% of the project with the remaining portions most likely coming from the project-sponsoring organization or town. The FY 2019 funds are reserved for environmental mitigation projects.

<http://vtrans.vermont.gov/highway/local-projects/transport-alt>



## VTrans Bicycle and Pedestrian Program (BPP)

The Vermont Bicycle and Pedestrian Program (BPP) provides funds managed by VTrans for scoping, design, and construction of bike and pedestrian facilities, sidewalks, shared-use paths, and bike lanes. A local match is required but varies based on the type of project.

<http://vtrans.vermont.gov/highway/local-projects/bike-ped>

## Vermont Community Development Program (VCDP)

The Vermont Community Development Program provides Community Development Block Grants (CDBG) to all Vermont towns and cities, aside from Burlington. The grant provides financial and technical assistance to identify and address local needs in housing, economic development, public facilities, public services, and handicapped accessibility modifications. The four types of grants are Accessibility Modification Grants (AM), Implementation Grants (IG), Planning Grants (PG), Scattered Site Grants (SS). These grants must primarily benefit persons of low and moderate incomes.

[http://accd.vermont.gov/strong\\_communities/opportunities/funding/vcdp](http://accd.vermont.gov/strong_communities/opportunities/funding/vcdp)

## **State Grants and Programs**

### Vermont Community and Urban Forestry Council Grants (Caring for Canopies Grants, CCG)

These Caring for Canopies Grants (CCG) are awarded to municipalities to aid in taking the necessary actions to developing and sustaining a community-wide tree program, including tree plantings, inventories, maintenance, and planning. There are two grant categories, Caring for the Canopy and Canopy Mini. Caring for Canopy is for projects that help move a community's tree management program towards a sustained level while Canopy Mini is for smaller projects to help move a tree management program forward. The grants range in size from \$500 to \$5,000 and require a 50% match.

<https://vtcommunityforestry.org/programs-0/financial-assistance/caring-canopy-grants>

### Municipal Planning Grant Program (MPG)

The Municipal Planning Grants (MPG) are Vermont State grants for a wide range of municipal planning projects including land use plans, zoning and subdivision bylaws, trail networks and walking and biking improvements, resiliency planning, economic plans, and village and neighborhood planning. The range of the grants is from \$2,500 to \$20,000 with a required 10% match.

<http://accd.vermont.gov/community-development/funding-incentives/municipal-planning-grant>



## Recreational Facilities Grants Program (RFG)

The Recreational Facilities Grants (RFG) program provides matching state grants for capital costs associated with the development and creation of community recreational opportunities. This program provides last gap funding for shovel ready projects and does not support any ongoing fundraising initiatives. The program requires a 100% match and awards are capped at \$25,000.

<https://bgs.vermont.gov/commissioner/building-communities-grants>

## ANR Ecosystem Restoration Grant Program (ERG)

The ANR Ecosystem Restoration grant program gives grants for design and construction projects that target nonpoint sources of pollution that cause or contribute to the state's surface waters.

<http://dec.vermont.gov/watershed/cwi/grants#Ecosystem%20Restoration>

## Northern Border Regional Commission Grants (NBRCG)

The Northern Border Regional Commission invests in community and economic development projects in economically distressed counties in Vermont, Maine, New Hampshire, New York. In Vermont, the eligible counties are Essex, Orleans, Caledonia, Lamoille, Franklin, and Grand Isle. Projects must focus on the following program areas: transportation infrastructure, basic public infrastructure, telecommunications infrastructure, workforce develop, entrepreneurship and business and technology development, resources and open space conservation, recreation and tourism, and renewable and alternative energy.

<http://accd.vermont.gov/economic-development/funding-incentives/Northern-Boarder-Regional-Commission>

## Better Connections Program (BCP)

The Better Connections Program seeks to align state and local investments to increase transportation options, build resilience, and strengthen economic vitality in Vermont's community centers, through an annual grant program administered by Vermont Agency of Transportation (VTrans), in partnership with the Vermont Agency of Commerce and Community Development (ACCD). Municipalities annually compete for approximately \$200,000 in projects funds. A 10% local cash match is required. The program supports implementation-focused, municipal planning initiatives that: provide safe, multi-modal and resilient transportation systems that supports the Vermont economy; support downtown and village economic development and revitalization efforts; and lead directly to project implementation. The program has been used for trails and active transportation master plans, village connection planning and other multi-modal planning efforts.

<http://vtrans.vermont.gov/planning/projects-programs/better-connections>



## VOREC Community Grant Program

The Vermont Outdoor Recreation Collaborative (VOREC) is launching a community grant program for outdoor recreation in Vermont municipalities. The grant is designed to help communities leverage their local outdoor recreation assets and applying communities must have completed some prior planning or mapping of outdoor recreation assets, have identified outdoor recreation as a component of their local economy through previous plans, and have a dedicated staff and/or volunteers to ensure long-term success of the project. The funds can be used for consultants, small scale outdoor recreation infrastructure improvements, materials or equipment to support outdoor recreation programs, marketing relating expenses, community based outdoor recreation planning, and securing public access through acquisition of land, easements, or rights-of-way. Communities are also responsible for making products and deliverables that could be adapted and reproduced by other communities in the state. The program is administered by FPR in partnership with ACCD and VOREC and offers grants between \$10,000 and \$100,000.

[https://fpr.vermont.gov/VOREC\\_Community\\_Grant](https://fpr.vermont.gov/VOREC_Community_Grant)

## **State Organizations**

### Vermont Community Foundation – General Grants (VCF)

A variety of grants are available to support projects to improve environmental sustainability, cultural heritage, social justice, historic preservation, and vitality of Vermont communities. The different types of grants offered include: Place-Based Grants, Arts Endowment Fund, Special and Urgent Needs, and Nonprofit Capacity Building (see below). Each place-based grant is only available to a specific region of the state. For information about which grants are available for your community, please see the website below.

<http://www.vermontcf.org/Nonprofits/AvailableGrants.aspx>

### Vermont Community Foundation – Nonprofit Capacity Building (NPCB)

The Nonprofit Capacity Building program is small grants to support the cost of consultants to facilitate discussions related to strategic planning, financial sustainability funding, or facilitating a merger. These grants are meant to supplement other funding. This grant is available to both nonprofits and municipalities.

<https://www.vermontcf.org/NonprofitsGrants/AvailableGrants/NonprofitCapacityBuilding.aspx>

### VHCB Local Conservation Projects (VHCP)

The Vermont Housing and Conservation Board provides funding to conserve natural areas, recreation lands, and historic properties. For public outdoor recreation projects, VHCB provides loans to enable the project to leverage other funds or grants in cases where local efforts to obtain sources of funding have been exhausted. The available funds vary based on whether the parcel has



statewide significance. For conserving locally-significant land, other sources must provide 1/3 of the project funding. VHCB also provides funding for feasibility analysis, project-specific capacity (i.e, engineering work, historic preservation analysis, and hazardous materials analysis).

<https://vhcb.org/our-programs/conservation/apply-for-funding>

### Lintilhac Foundation (LF)

The foundation's central purpose is to support organizations that are making sustainable, positive change for Vermont's environment and its people. Grants are available in three core giving areas, water quality, energy, and conservation. The conservation giving is primarily to backcountry recreational access to lands and integrative land use planning.

<http://www.lintilhacfoundation.org/application-guidelines/>

### Vermont Arts Council Animating Infrastructure Grant (AIG)

The Animating Infrastructure Grant (AIG) funds projects that integrate public art into existing or proposed infrastructure improvements, which could include buildings, recreational paths, parks, bridges, small-scale renewable energy projects, and water treatment facilities.

<http://www.vermontartscouncil.org/grants-and-services/organizations/animating-infrastructure>

### Ben & Jerry's Foundation (BJF)

The Ben & Jerry's Foundation funds multiple grants programs to help communities in Vermont. The Vermont Economic Justice Program gives grants to non-profits working to address the economic, social, and environmental impacts of poverty. The Vermont Community Action Team Grant is a small grant awarded to non-profits, schools, and municipalities. The Community Action Teams provide general or project support. The CATs fund the following types of community programs: social services organizations, cultural, recreational, arts programs, and community celebrations.

<https://benandjerrysfoundation.org/vermont-grant-programs.html>

## National Organizations

### PeopleforBikes Community Fund (PBCG)

The PeopleforBikes Community Grant Program (PBCG) provides funding for important and influential projects that build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, and large-scale bicycle advocacy initiatives. PeopleforBikes will fund engineering and design work, construction costs, and reasonable volunteer support costs. The maximum grant award is \$10,000 and the grant cannot make up more than 50% of the total project budget.

<http://www.peopleforbikes.org/pages/community-grants>



## Robert Wood Johnson Foundation Grants (RWJF)

The Robert Wood Johnson Foundation (RWJF) provides grant funds to improve the health and health care of all Americans. For town forest projects, RWJF awards grants for projects creating healthier communities. This funding has gone towards walking and bicycling facilities and upgrading underutilized green space.

<https://www.rwjf.org/en/how-we-work/grants-and-grant-programs.html>

## Trails Connecting People with Nature: A program of the Sierra Club's Nearby Nature Initiative (TCPN)

Trails Connecting People with Nature is a Sierra Club initiative that works to ensure that access to the outdoors is increasingly equitable and available to all communities. The Sierra Club Foundation awards one year trail grants ranging from \$5,000 to \$20,000 towards trail creation or maintenance projects that engage new leaders and provide opportunities for communities to connect with nature.

<https://content.sierraclub.org/ourwildamerica/nearby-nature>

