

COMMUNITY FOREST STEWARDSHIP PLAN

for the

Rumford Community Forest

Rumford, Maine

Inland Woods + Trails and the Community of Rumford



Prepared by
Julie Renaud Evans, Program Director and
Kendall Gray, Program Coordinator
Northern Forest Center
June 2024



Front Cover Photo taken by Red Hill, LLC

The acquisition of the parcels of land in this plan known as the Rumford Community Forest was financially supported by the U.S. Forest Service, specifically the Community Forest and Open Space Program. This federal funding, and partnership with the Forest Service, requires compliance with Federal Civil Rights Laws.

“In accordance with Federal law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, disability, and reprisal or retaliation for prior civil rights activity. (Not all prohibited bases apply to all programs.)

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible State or local Agency that administers the program or USDA’s TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information is also available in languages other than English.

To file a complaint alleging discrimination, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office or write a letter addressed to USDA and provided in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250- 9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

This institution is an equal opportunity provider.”

Acknowledgements

The Rumford Community Forest Stewardship and Management Plan was a collaborative effort between Inland Woods + Trails, the Northern Forest Center, the Trust for Public Land, the Town of Rumford, and contracted recreation, ecology, and forestry professionals. Additionally, it reflects a 13-month planning process hosted by the Town of Rumford Planning Board with input from interested citizens through monthly meetings and a public survey.

Rumford Community Forest Planning Committee

The following individuals are contributing professionals to Rumford Community Forest planning:

- Gabe Perkins, Executive Director, Inland Woods + Trails
- Karla Leandri Rider, Development + Communications Coordinator, Inland Woods + Trails
- Julie Renaud Evans, Program Director, Northern Forest Center
- Kendall Gray, Program Coordinator, Northern Forest Center
- Lynnette Batt, Project Manager, Trust for Public Land

The members of the Planning Committee participated in monthly meetings to develop the mission and vision of the forest and to ensure that the stewardship plan reflects local priorities and values.

- Andrew Arsenault, Rumford resident
- Jeff Arsenault, Rumford resident
- Roger Arsenault, Rumford resident
- Lynnette Batt, Project Manager, Trust for Public Land
- Matthew Chapdelaine, Planning Board Member, Town of Rumford
- Richard Coulombe, Code Enforcement Officer, Town of Rumford
- Greg Deane, Rumford resident
- Ed Easter, Board President, Inland Woods + Trails
- Julie Renaud Evans, Program Director, Northern Forest Center
- Kendall Gray, Program Assistant, Northern Forest Center
- Karla Leandri Rider, Development + Communications Coordinator, Inland Woods + Trails
- Ryan Nichols, Rumford resident
- George O’Keefe, Economic Development Director, Town of Rumford
- Travis Palmer, Planning Board Chair, Town of Rumford
- Todd Papianou, Mountain Valley High School
- Gabe Perkins, Executive Director, Inland Woods + Trails
- Jeff Sloan, Board Vice President, Inland Woods + Trails
- Jon Starr, Rumford Polar Bears Snowmobile Club
- Bob Stickney, Rumford Polar Bears Snowmobile Club
- Derek Tabor, Planning Board Member, Town of Rumford
- Brie Weisman, Rumford resident
- Karen Wilson, Board Member, Inland Woods + Trails

Contracted Professionals

The following consultants worked with the Planning Committee to create the ecological assessment, forest management plan, and recreation report which served as the basis for the Rumford Community Forest Stewardship Plan.

- Dr. Rick Van de Poll, Principal, Ecosystem Management Consultants
- Bill Haslam, Maine Licensed Forester, American Forest Management, Inc.
- Steve Kasacek, Trail Development and Education, Outdoor Sport Institute

Table of Contents

Executive Summary.....	5
Introduction.....	6
General Property Description	7
Community Involvement	11
Ownership Objectives	14
Community Benefits	19
Forest Property Overview	23
Infrastructure.....	23
Plans for Utilization or Demolition of Structures.....	24
Soils.....	26
Water Resources	29
Natural Communities	29
Wildlife	34
Cultural Resources	35
Recreation	36
Recreation Use Types - Bike and Pedestrian.....	36
Zones.....	37
Forest Management	39
Forest Stand Descriptions.....	39
Other Forest Considerations.....	43
Forest Health	43
Climate Change	43
Carbon.....	44
Mature Forests.....	44
Forest Protection	46
Recommendations.....	47
Implementation Strategy	52
Conclusion	54

List of Maps

1. Aerial View Map
2. Ecological Protection Zones Map
3. Forest Stands Map
4. Infrastructure Map
5. Natural Communities Legend
6. Natural Communities Map
7. Recreational Trails Map
8. Regional Conservation Lands Map
9. Soils Legend
10. Soils Map
11. Trail Infrastructure Map
12. USGS Topographic Base Map
13. Wetlands and Water Resources Map

Appendix

1. American Forest Management – Forest Management Plan
2. Ecosystem Management Consultants – Ecological Assessment
3. Outdoor Sports Institute – Recreation Plan
4. Community Survey Results
5. Land for Maine’s Future Agreement
6. Planning Board Vote for Planning Process
7. Rumford Community Forest Planning Committee
8. Location of Proposed New Road Spur Map

Executive Summary

The Rumford Community Forest is a 446-acre tract of land located in Rumford, Maine. The property includes 414 acres of forest and 32 acres of wetlands and streams which provide valuable wildlife habitat and maintain quality water supply for town residents.

In the fall of 2022, Red Hill, LLC and Inland Woods + Trails began discussions on the future of the parcel for conservation and recreational use; it was formerly permitted for 257 residential and condominium lots. In May 2023, Inland Woods + Trails, the Northern Forest Center, and the Trust for Public Land began a 13-month public planning process with the Town of Rumford and other interested citizens from the region. The Northern Forest Center facilitated monthly community planning meetings hosted by the Town of Rumford Planning Board to develop community priorities and vision for the project. The Trust for Public Land led real estate due diligence and fundraising efforts, ultimately securing two grants from the U.S. Forest Service Community Forest Program, Land for Maine's Future, and others. Together these funds supported acquisition costs and additional funds were raised to support stewardship of the parcel and other project costs. On February 28, 2024, Inland Woods + Trails officially became owner of the property and will continue to manage the property in coordination with the Town of Rumford. The Rumford Community Forest is conserved in perpetuity and is managed for community benefits.

The Rumford Community Forest is envisioned to complement the existing work of Inland Woods + Trails whose mission is to connect towns to anchor destinations throughout western Maine. The organization manages existing trail networks such as Pennacook Area Community Trails which link to Mountain Valley High School in Rumford. The property is located between downtown Rumford and Black Mountain of Maine. Mahoosuc Land Trust's Rumford Whitecap Mountain Preserve is located three miles away by trail.

The property's conservation values are notable, including Scotty Brook and its associated wetlands, extensive beaver ponds, a black ash swamp, and large hemlock near the brook. The community plans to steward this property in such a way to protect habitat, protect water quality, and allow the forest to mature to improve forest health, diversity, and resiliency.

As part of the planning process, experts in forestry, ecology, and recreational planning were engaged to evaluate conditions and opportunities and to offer recommendations to the Planning Committee. This stewardship plan was written to reflect the property's site and ecological conditions along with the community priorities for use and management including recreation, education, and natural resource protection.

Introduction

Town of Rumford

The town of Rumford is situated in Oxford County in western Maine and encompasses an area of almost 70 square miles. It is bordered by the towns of Milton and Peru (south), Mexico (east), Roxbury and Andover (north), and Bethel, Hanover, and Newry (west). (See [USGS Topographic Base Map](#))

Rumford was settled in the late 1700's as a farming community, but since the 1880's has been the site of a major paper making mill, currently owned by ND Paper Company. The town has a current population of just under 6,000. The Androscoggin River flows west to east through town, and U.S. Route 2 highway parallels it. The area is characterized by forested mountains and hilly upland topography, along with large floodplains along the Androscoggin River and smaller areas along its main tributaries, the Concord, Swift, and Ellis Rivers. The highest point of elevation is atop Black Mountain at 2,340 feet and the lowest point is 400 feet along the Androscoggin River. (*From the 2013 Rumford Comprehensive Plan Update*)

History of the Property

(Excerpted from the Forest Management Plan, Appendix 1)

The Rumford Community Forest is made up of two tax lots derived from different ownerships throughout the land's history. Tax Map 206, Lot 2 is the larger of the two and was put together in the 1960's by Thomas Dickson, Sr. and Thomas Dickson, Jr. That land was then sold to Webb River Land Co., which then became Timberlands, Inc. Webb River and Timberlands were land management companies that managed their properties for timber, typically cutting moderate volumes from lots and re-entering relatively frequently with repeat harvests. When Timberlands ended, Lakeville Shores, Inc. became owners and appeared to be the owners that harvested the lot heavily. Since the ownership changed to Cissel Enterprises, LLC in 2003, no substantial timber harvesting has been done on this lot. This ownership history has resulted in a roughly 20-year-old forest across most of the lot.

Tax Map 210, Lot 13 is a small lot adjacent to the Isthmus Road in the southwest corner of the property. It was owned as part of a larger property by the Nisbet family since at least the 1950's. Cissel Enterprises, LLC added this lot to the larger property they owned in 2005. The lot provides access to the road without having to cross Scotty Brook. (See [Aerial View Map](#))

Project Beginnings

In terms of conserved land and recreational trail connectivity, this tract is seen as a key parcel that connects downtown Rumford with Black and Rumford Whitecap mountains. In the fall of 2022, the owner, Red Hill, LLC worked with Inland Woods + Trails (as the intended landowner) to initiate conversations to create a community open space. With the Town of Rumford interested, they approached the Trust for Public Land and Northern Forest Center to coordinate and execute the purchase and activation plan. The Trust for Public Land was the lead in the real estate due diligence and the fundraising lead. The Northern Forest Center coordinated the public planning process and management plan draft. Inland Woods + Trails assisted in all facets and as of February 28, 2024 became the official landowner of the Rumford Community Forest.

General Property Description

Current Ownership

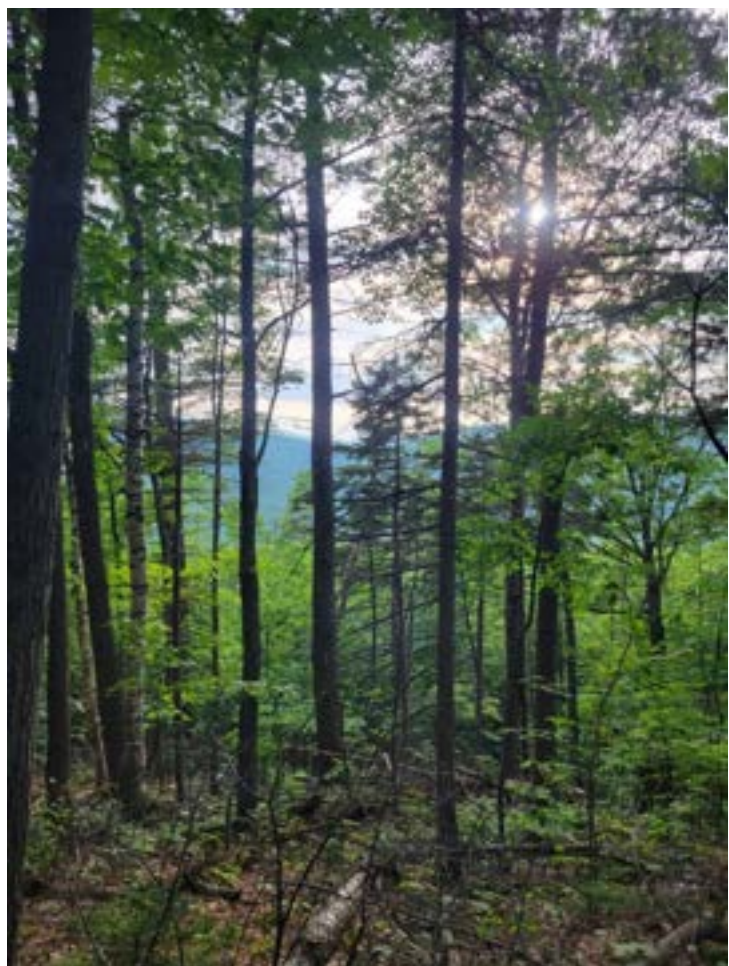
The Rumford Community Forest property was purchased in 2024 by the 501c3 non-profit corporation Inland Woods + Trails. The property is owned in-fee by Inland Woods + Trails in partnership with the Town of Rumford to be used and managed as a Community Forest.

General

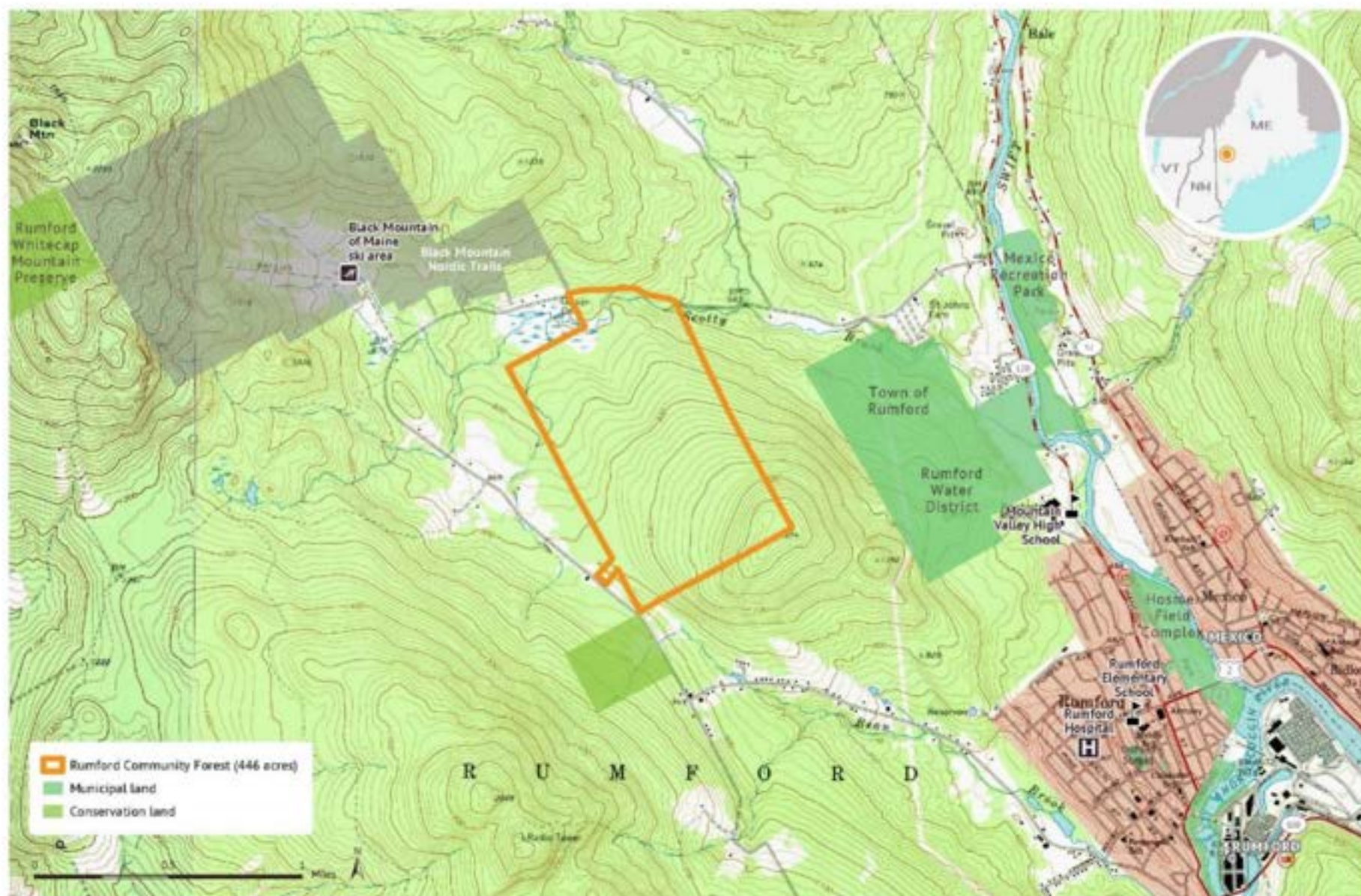
The parcel is 446 acres in size and located on Isthmus Road in the eastern portion of town, just northwest of the village center (see [Aerial View Map](#)). There are two points of access (southwest and north) on the road. Isthmus Road is a rural neighborhood with scattered residences and an access road to Black Mountain of Maine. The property is zoned as General Development, but with extensive stream and wetland protection areas along Scotty Brook identified in the town's Resource Protection ordinance. The property can be considered gently sloping with some steep areas towards the summit, the elevation ranges between 592 feet at Scotty Brook and 1,372 feet in the southeast corner at the summit. It has a north facing aspect. (See [Regional Conservation Lands Map](#))

Description

Given the harvesting history, this parcel is currently heavily stocked with relatively young trees. Larger older trees are found in the northern riparian zone and wetlands of Scotty Brook. Over 50 acres are comprised of wetlands including a main marsh, two wet forested swamps, and a beaver flowage in the southwest corner of the lot. Forest cover consists of a few defined natural communities with aspen, American beech, and red maple as primary trees species with red oak, eastern hemlock, and yellow birch representing the next most common trees found. Special areas to note include a vernal pool near the summit and a black ash swamp. Detailed descriptions of these areas are in the full Ecological Assessment, Appendix 2. Besides Scotty Brook, there are two perennial streams and one intermittent stream on the parcel.



Looking north from Rumford Community Forest

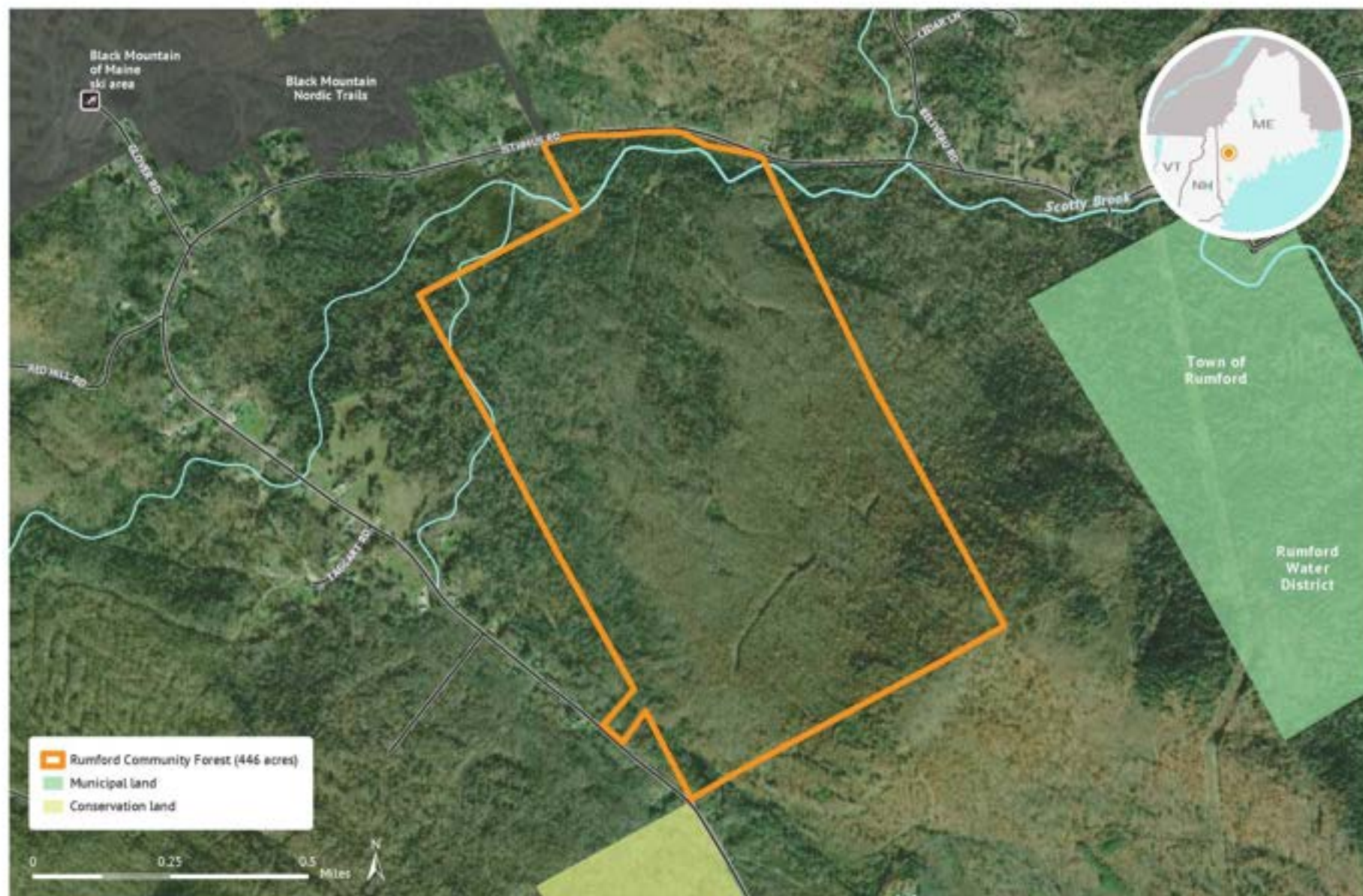


USGS Topographic Base Map

RUMFORD COMMUNITY FOREST, OXFORD COUNTY, MAINE

May 14, 2024. Copyright © Trust for Public Land. Trust for Public Land and Trust for Public Land logo are federally registered marks of Trust for Public Land. Information on this map is provided for purposes of discussion and visualization only. www.tpl.org



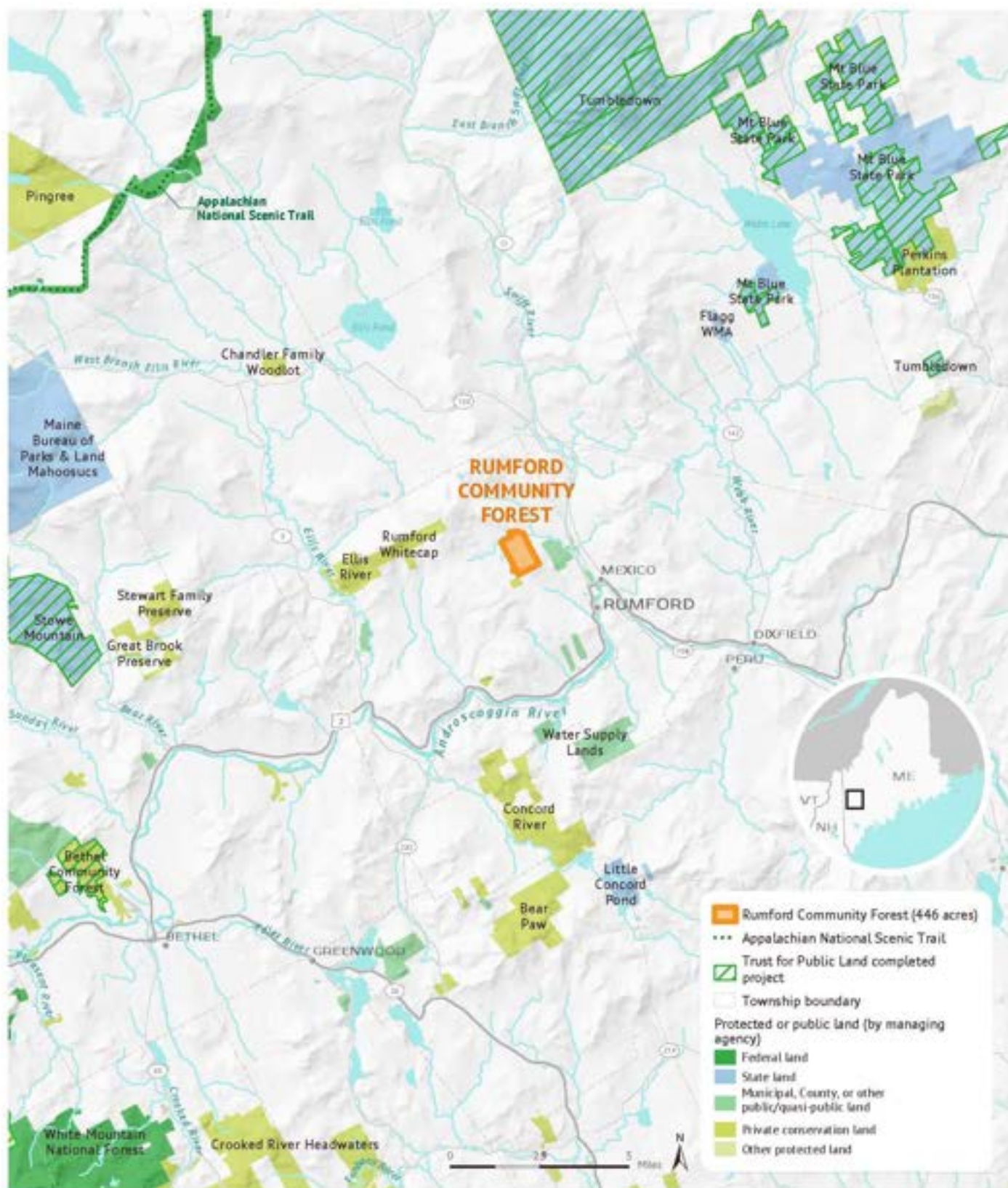


Aerial View

RUMFORD COMMUNITY FOREST, OXFORD COUNTY, MAINE

May 14, 2024. Copyright © Trust for Public Land. Trust for Public Land and Trust for Public Land logo are federally registered marks of Trust for Public Land. Information on this map is provided for purposes of discussion and visualization only. www.tpl.org





Regional Conservation Lands

RUMFORD COMMUNITY FOREST, OXFORD COUNTY, MAINE

May 14, 2024. Copyright © Trust for Public Land. Trust for Public Land and Trust for Public Land logo are federally registered marks of Trust for Public Land. Information on this map is provided for purposes of discussion and visualization only. www.tpl.org



Community Involvement

An important element of any Community Forest is to have public participation in the planning and management of the property. In this way, locals are welcomed to the table, their voices are heard, and input is given into how decisions are made for a new shared resource.

Town Approach

April 2023 – Rumford Planning Board voted to serve as convenor of the community engagement process for the acquisition of the property for a Community Forest. (See Minutes, Appendix 6)

Planning

Planning Committee

May 2023 - June 2024 – Rumford Planning Board hosted monthly planning meetings for 13 months, with attendance averaging 13 people per meeting. The core planning group numbered 17 which included both planning board members and interested participants. These meetings were open to the public and facilitated by the Northern Forest Center. The meetings were held in-person and included guest speakers such as:

- “Forest Management Planning,” by Mike Richard of the Maine Forest Service
- “Managing a Community Forest,” by Ed Easter of Inland Woods + Trails
- “Trail Planning,” by Steve Kasacek of Outdoor Sports Institute
- “Forest Inventory Results,” by Bill Haslam of American Forest Management
- “Ecological Assessment,” by Dr. Rick Van de Poll of Ecosystem Management Consultants
- “Buck’s Ledge Community Forest,” by Marcel Polak and Jane Chandler, Town of Woodstock, and Kirk Siegel of Mahoosuc Land Trust

Site Visits

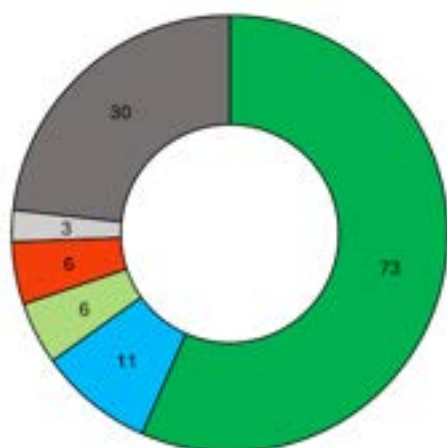
Project leaders hosted five site walks with approximately 30 people participating in total.



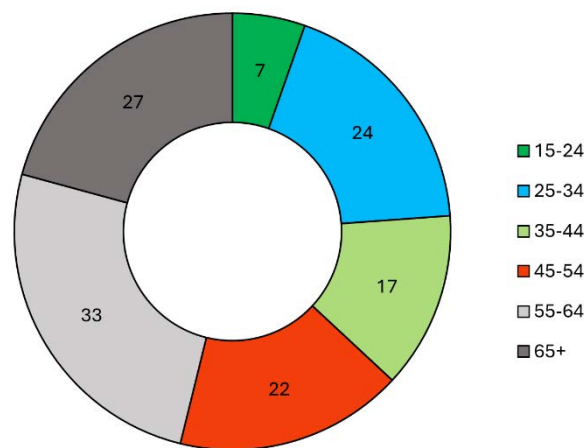
Site visits to the property – Summer and Fall 2023

Community Survey

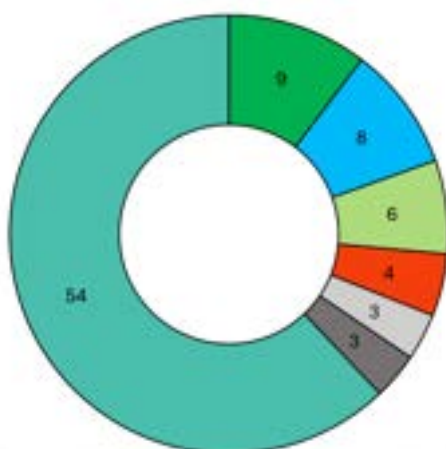
Through a print and online survey administered over several weeks, the Planning Committee collected input on recreational interests and general values of the community. (See Community Survey Results, Appendix 4) Respondents were asked to provide their level of interest (high, medium, low, none) for various amenities and services for the Community Forest. Through general outreach via social media and the Rumford Planning Board, 128 individuals responded to the survey. Of those respondents, over 88% lived within a 50-mile radius of the Town of Rumford (see graph below) and 69% had already heard of the proposed Rumford Community Forest. There was a near even split between male and female respondents and a relatively even representation of age categories (see graph below). Additional outreach went out to the Ellis River Riders, Inc. (equestrian), gathering 87 responses. Of those respondents, 26% lived in Rumford, Andover, or Wilton (see graph below) and 52% had already heard of the project. Responses in this second outreach skewed more in demographics, with 86% identifying as female and 85% as older than 35 years of age (see graph below).



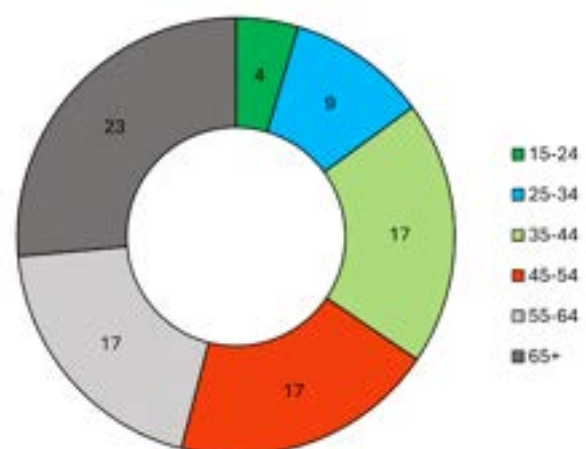
General Survey: Where do you live?



General Survey: Age Group



Equestrian Survey: Where do you live?



Equestrian Survey: Age Group

Other Outreach

- The project email list consisted of 120 people, who received at least monthly updates.
- Throughout the planning year, the project was covered in seven news articles and one WGME Television feature.
- Social media posts were hosted by supporting organizations Inland Woods + Trails, the Northern Forest Center, and the Trust for Public Land, with total posts of 40 on Facebook, 40 on Instagram, 1 on LinkedIn, and 1 on X.
- Project representatives attend four significant community events to promote and publicize the project. These included Rumford Spring Fest, Gravel Event held at Black Mountain of Maine, Rumford Pumpkin Fest, and Black Mountain of Maine where 334 people enjoyed a free night of skiing sponsored by Inland Woods + Trails.

Ownership Objectives

Development of owner objectives for a community forest takes some foundational work and many thoughtful conversations.

Rumford Comprehensive Plan Update - 2013

Here are four excerpts from the Vision section of Rumford's Comprehensive Plan (2013):

1. Rumford will have retained its heritage and the asset people enjoy. These include amazing architecture, friendly neighborhoods, outdoor recreation opportunities, a walkable community, excellent municipal services and reasonable cost of living.
2. Outdoor recreation opportunities will have been retained and expanded in some cases to serve residents and provide an economic boost.
3. Natural resources and features will have continued to be important to residents and visitors alike.
4. There will be new enthusiasm in town that will make things happen.

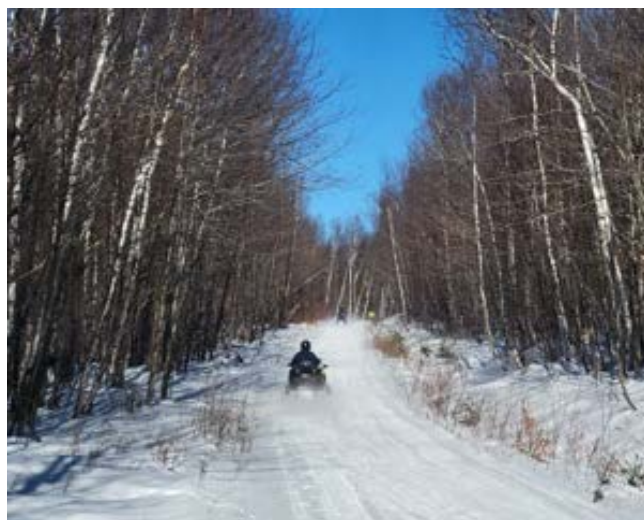
Deeper into the Plan, Rumford specifically calls out these Natural Resource goals:

- Pursue public/private partnerships to protect critical natural and important resources such as through purchase of land or easements from willing sellers.
- Maintain fishery and wildlife resources through habitat preservation or enhancement.
- Provide areas for current and future generations to access important natural resource areas.

Outdoor Recreation goals include:

- Work with public and private partners to extend and maintain a network of trails/routes for motorized and non-motorized uses that, when possible, connect with regional trail systems.
- Work with Mahoosuc Land Trust and other conservation organizations to pursue opportunities that will protect important parcels of open space or recreational land.
- Encourage the continued use and availability of hiking trails.
- Maintain a system of snowmobile and ATV trails.
- Acquire important public open space/recreation sites.
- Promote outdoor recreational opportunities in economic opportunity strategies.

The establishment of the Rumford Community Forest contributes to the Town's goals in all these areas.



Results of Community Engagement

Community input captured in the previous section provided an important opportunity for both Inland Woods + Trails and the Planning Committee to consider the values and interests of Rumford residents and other interested parties.

Community Survey

Through the Planning Committee's community survey, respondents were asked to provide their level of interest (high, medium, low, none) for various amenities and services – 215 individual respondents, including 87 from the regional equestrian community. For recreational assets, individuals valued walking/running, snowshoeing, and exploring as primary activities on the Community Forest. For values, the individuals ranked providing recreational opportunity, conserving wildlife habitat, and preserving scenic view from town highest. Those that received the highest and medium votes are listed below. (See Community Survey Results, Appendix 4 for the entire list and a further breakdown)

What are your outdoor recreation interests that you'd like to see on the Rumford Community Forest?	
1	Walk, run
2	Snowshoe
3	Explore
4	Wildlife viewing
5	Nordic skiing
<i>Note: Additional outreach went to the regional equestrian community, collectively equestrian ranked 8th.</i>	
What would you value most about the use of the Rumford Community Forest?	
1	Provides recreational opportunity
2	Conserves wildlife habitat
3	Preserves scenic view from town
4	Protects special ecological areas
5	Protects from development

Setting Priorities

During an in-person work session, the Planning Committee identified priorities for the Rumford Community Forest across four areas: infrastructure, recreation, education, and forest resources. Each committee member ranked the five most important amenities or services per category then results for tallied and weighted by importance.

Infrastructure		Education	
1	Hiking and running trails	1	Interpretive signage
2	Mountain biking trails	2	Stewardship, management
3	Kiosks, information, signage, maps	3	Outdoor leadership, careers
4	Access for all trails	4	Trail building
5	Restrooms	5	History of native people

Recreation		Forest Resource	
1	Hiking and running	1	Special ecological areas
2	Mountain biking	2	Water quality
3	Nordic skiing	3	Old-growth stands
4	Backcountry, glade skiing	4	Wildlife habitat
5	Kid-friendly woods and trails	5	Endangered species

Vision and Mission

As part of the public planning process the Planning Committee developed and adopted vision and mission statements. These statements provide voices to the community's values and priorities and ensure that management of the Community Forest aligns accordingly.

Vision

"The Rumford Community Forest exemplifies a stewardship approach that prioritizes biological diversity, natural beauty, and protection of sensitive ecological areas while reflecting local values of exceptional recreational and educational opportunities."

Mission

"Inland Woods + Trails, in partnership with the Town of Rumford, manages the Rumford Community Forest for people and nature alike. Recreational trail networks are designed and built for diverse experiences, resiliency, and connectivity to other systems. The property is used as an outdoor classroom to teach students, visitors, and the community about the natural world. Sustainable management will be flexible in order to protect habitats, provide wood for revenue and projects, and to complement other community needs."



Planning Committee meetings at Rumford Town Hall

Funder Requirements for Stewardship

Land for Maine's Future

The Rumford Community Forest acquisition was funded in part by the Land for Maine's Future Grant Program. There is a Project Agreement (see Appendix 5) between Inland Woods + Trails and Land for Maine's Future enumerating the mandates and conditions for the Rumford Community Forest, this is a simplified list:

- Primary purpose is protection of public access to recreational lands for traditional recreational pursuits, including hunting, trapping, fishing, and hiking.
- Additional purposes include protecting public water supply, public access to open space, natural communities, wildlife and their habitat, and other purposes identified in project application.
- Special terms and conditions
 - a. No subdivision.
 - b. Hunting, fishing and trapping may not be prohibited on the property.
 - c. Ensure the premises are available for access by the general public for daytime low-impact outdoor recreation, nature observation, and study.
- Management plan shall be submitted to the State and updated every ten years; any major revisions shall be submitted to the Designated State Agency for review.
- Specific structure allowances are outlined in the Agreement including those needed to support recreational use.

U.S.D.A. Forest Service Community Forest and Open Space Conservation Program

Funds were also received from the U.S.D.A. Forest Service Community Forest and Open Space Conservation Program which requires the following (from Federal Register Vol 86, No. 62, April 2, 2021):

- Completion of this plan, submitted to the U.S. Forest Service, and periodically updated.
- Public access.
- Property to be managed consistent with purposes of the program.
- If property is sold or converted there are payment penalties and future ineligibility to consider.
- Every five years a statement must be submitted confirming no sale, conversion, or inconsistent use.
- Property owners are subject to spot review by the U.S. Forest Service.

Summary of Landowner Objectives

In summary, this property will be managed as a model of environmentally sound public land stewardship, reflective of the ecology, landscape, and culture of the northern forests of New England. Inland Woods + Trails, in partnership with the Town of Rumford, will manage the Rumford Community Forest to:

- Maintain public access.
- Protect the natural qualities and integrity of the land and its natural communities.
- Enhance and protect wildlife habitat and biodiversity that supports native flora and fauna.
- Protect water resources including Scotty Brook, related riparian areas, and wetlands.
- Specifically in forest treatments, protect ecological sensitive areas and wildlife habitat and allow some areas to be left untreated and able to advance into mature conditions.

- Eventual forest management will emphasize the growth of older trees for shade, habitat, enjoyment, and ability to grow long-rotation, high quality, solid wood forest products that contribute to the local wood products economy.
- Provide mix of recreational opportunities for many interests and abilities.
- Provide long-term outdoor classroom and experiential learning opportunities.
- Protect cultural and historic features on the property.
- Approach management activities with intention of building climate resiliency for the parcel and the community.

Community Benefits

Economic Benefits

Rumford is recovering from long-term disinvestment by the forest products industry. Though there is an active paper mill in town which employs hundreds, there has been general decline for decades due to shifts in the industry, a sequence of mill owners, market changes for types of paper, and general improvements in automation and efficiency. The Town's recovery process has been ongoing and dates back to the creation of the Northern Oxford Task Force for Economic Development (NOTED) in the 1990's. From that point forward, several long-term intentional efforts were begun by the community to diversify the economy through outdoor recreation, energy generation, recapitalization of multi-family housing, and infrastructure rehabilitation. The Town is now growing again both economically and in population. The Town has substantial capacity for growth in visitors, particularly through outdoor recreation tourism.

Economic Development Strategy

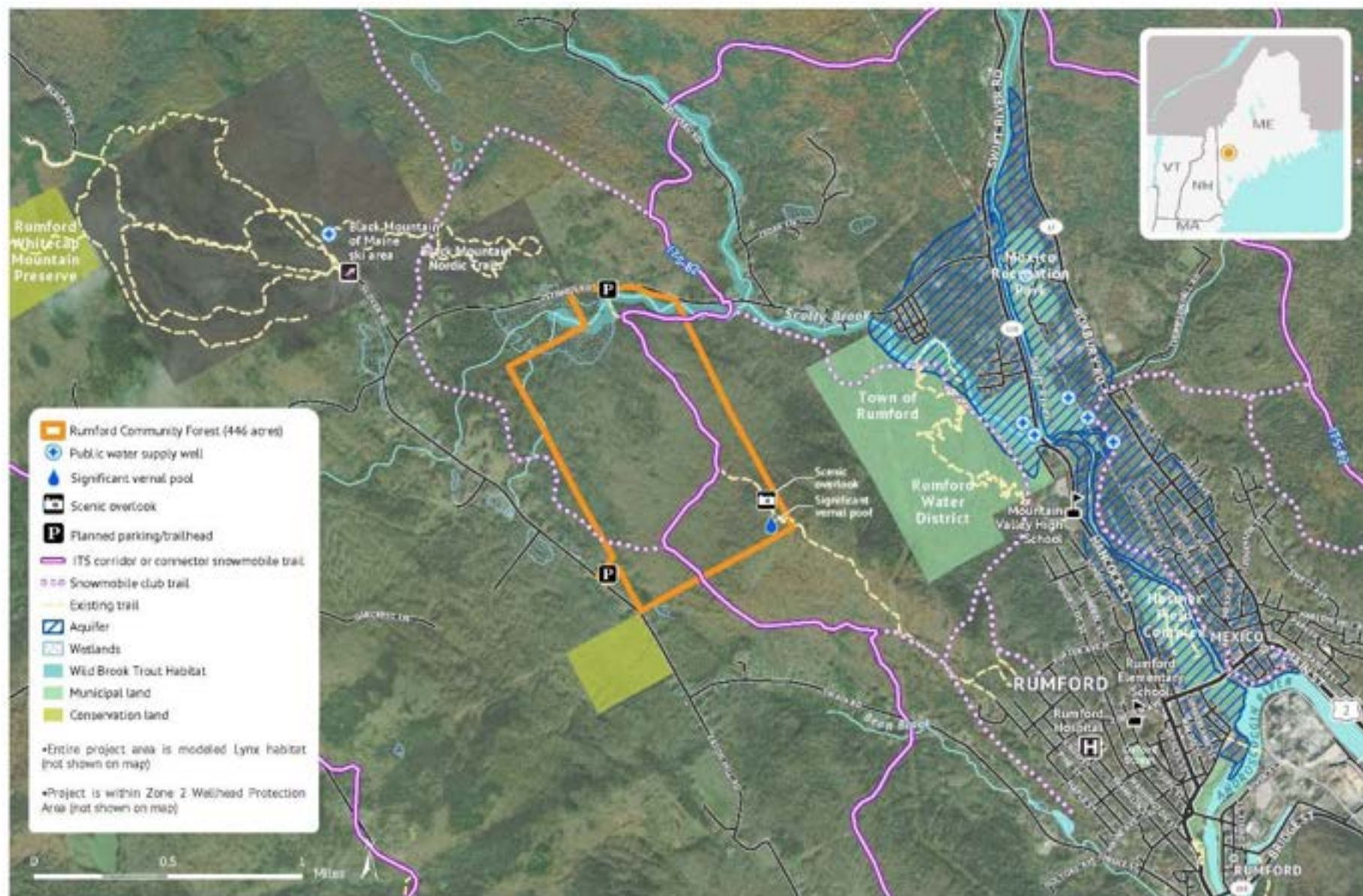
The Town actively pursued acquisition of the Rumford Community Forest property as part of an economic development strategy. First, to secure and protect a highly visible forest tract from development; second, to create a recreational asset with investments in trail infrastructure; and third, to provide support for Black Mountain of Maine. Removing uncertainty regarding the future of this land makes a longer-term vision possible for Black Mountain and all other associated and adjacent recreation assets. Further recreational benefits, particularly in recreational connectivity, are addressed in the Recreation section. (See [Trail Infrastructure Map](#))

Timber

Timber production is currently a low priority for the Rumford Community Forest. The present age and condition of the timber will require time for growth and investment in forest treatments before commercial harvesting is viable. In the meantime, Inland Woods + Trails is working with the New England Forestry Foundation, Forester Bill Haslam of American Forest Management, Inc., and the Natural Resource Conservation Service on planning for implementation of forest health improvements over the next five years. These cost-share contracts are excellent ways to actively manage a forest in advance of a timber harvest, even with the forest in the growth phase. Eventually as the forest matures, there will be potential for silvicultural treatments and harvesting, but revenue will not be realized for decades.

Non-Timber Forest Products

There are no current plans for selling non-timber forest products.



Rumford Trail Infrastructure

RUMFORD COMMUNITY FOREST, OXFORD COUNTY, MAINE

May 14, 2024. Copyright © Trust for Public Land. Trust for Public Land and Trust for Public Land logo are federally registered marks of Trust for Public Land. Information on this map is provided for purposes of education and visualization only. www.tpl.org



Environmental Benefits

Clean Water and Flood Control

Scotty Brook flows through this parcel, eventually joining the Swift River (within 2 miles) and then into the Androscoggin River (within 1 mile). As discussed in the Ecological Assessment by Van de Poll (see Appendix 2), the brook and related wetlands provide critical flood control benefits. This area is specifically identified by the Town as a Resource Protection Zone, recognizing the flood control and water quality benefits provided. There was significant flooding in both the Swift and Androscoggin Rivers in December 2023, highlighting the importance of natural flood mitigation by protecting wetlands in the watershed.

Carbon Sequestration and Storage

With protections in place and sustainable long-term forest management, this Community Forest will both sequester and store carbon. These are both necessary to mitigate the effects of climate change.

- **Sequestration** – The process of removing carbon from the atmosphere for use in photosynthesis, resulting in the maintenance and growth of plants and trees. In the Northeast, carbon sequestration typically peaks when forests are young to intermediate in age (30-70 years old); however, they continue to sequester carbon through their entire life span.
- **Carbon Storage** – The amount of carbon that is retained in a carbon pool within the forest (branches, trunks, roots, soil, etc.). Storage levels increase with forest age and typically peak when the forests are very old (>200 years old) (“Forest Carbon: An essential natural solution for climate change”, Catanzaro and D’Amato 2019).

Wildlife Habitat

As discussed further in the plan, as well as in both the Ecological Assessment by Van de Poll and the Forest Management Plan by Haslam there are important habitats on this Community Forest to be protected and will greatly benefit wildlife at both the local and regional scales. (See Ecological Assessment, Appendix 1 and Forest Management Plan, Appendix 2)

Recreational Benefits

Hiking

This property is easy to get to for Rumford residents. There are plans for family friendly walking trails and an accessible trail for all to enjoy Scotty Brook and the wetlands. Trail development and maintenance will also be used to engage youth and community volunteers in service projects on their Community Forest. (See Recreation Plan, Appendix 3)

Fishing

Perennial streams on the property provide anglers with a very popular cold-water fishery.

Hunting

The entire property is open for hunting.

Connectivity

As discussed more fully in the Recreation section, the Rumford Community Forest holds large potential for connecting regional recreational trails. Notable connections include downtown Rumford, the ITS Snowmobile Trail network, Black Mountain of Maine, the Pennacook Area Community Trails connecting to Mountain Valley High School, and Rumford Whitecap Mountain Preserve owned by the Mahoosuc Land Trust

Experiential Forest-Based Learning

There is excellent potential for experiential forest-based learning in the Rumford Community Forest and both town officials and the Planning Committee have prioritized education programs for this property. The Planning Committee believes educational programs should serve all ages, including K-8, secondary, and adults in the community. The property is within three miles of both elementary and high schools. Two teachers served on the Planning Committee and there is considerable enthusiasm for this idea to engage students in a learning experience about natural systems, trail design and maintenance, and overall stewardship of the land.

Replicable Model

It is the intention of Inland Woods + Trails and the Planning Committee that this property be a replicable model of effective forest stewardship for private landowners. The focus on protection of water resources and wildlife habitat, and thoughtful integration of recreational use will be inspirational for other landowners in the region. The vision for the Community Forest includes broad community participation, so it is our expectation that some of this management philosophy, as well as the technical forest stewardship information, will be disseminated into the community.

Forest Property Overview

Infrastructure

To manage 446 acres of land requires development and maintenance of a road system and regular maintenance of exterior boundaries. There will also be recreational features, trails, and special places that need to be built and cared for. This section briefly presents an inventory of roads, bridges, log yards, and boundary lines and describes expected maintenance needs. (See [Infrastructure Map](#))

Property Access

There is frontage and access on Isthmus Road in two locations, but neither of these currently have effective access to the interior of the lot. At the north end there is a road, but the bridge to cross Scotty Brook has been removed but will be replaced to access the property. There are plans to replace the bridge in the near future. The access in the southwest corner of the lot does not have a road, but there is a pullout from the paved road that could be developed into a small parking area primarily for pedestrian access.

Planned Public Access

In accordance with the requirements from funders Land for Maine's Future and the U.S. Forest Service's Community Forest and Open Space Conservation Program, the Rumford Community Forest will be open for public access and use.

Parking

For overall access, especially for recreation use, parking off Isthmus Road will be important. There is an existing parking area on the southwest corner of the parcel, which can easily hold four to six vehicles. New parking will be developed on the north side where the access road and bridge will be reestablished.

Roads

Wood access roads are often built and maintained for the extraction of wood products, general property maintenance, and recreational access. With expanding recreational use, access for emergency responders is important to consider. On this property, there is one main internal road that begins where the bridge used to be and heads south (but uphill) into the interior of the property. This roadbed provides good access to most of the lot and has three areas that have been used as wood landings in the past. The north fork appears to need more gravel if it is to be used in the summer and fall. Overall, the road system has not been maintained for some time and has had washouts of the gravel surface all along the sloped portions. Investment in road upgrade maintenance is important to maintain good access for many uses. Regular road maintenance considerations include road grading, rock raking, roadside brushing or mowing, culvert inspection/repair/replacement, maintenance of ditches to ensure proper water drainage, and spot graveling for repair. Adding a western fork midway up the slope on the main interior road will provide better access to the northern interior of the lot. (See extensive road discussion including road design

suggestions in the Forest Management Plan, Appendix 1 and see Location of the New Road Spur Map, Appendix 8)

Bridges

With extensive wetlands along Scotty Brook, new bridges will need to be built for access. Primary road access from Isthmus Road at the north will be the first and largest bridge needed. Plans are underway for construction in 2024 or 2025.

Yards

Old landing areas provide great wildlife habitat and provide openings and different ground cover than the shady forest. Periodic mowing will keep these as permanent openings.

Boundaries

A new property survey was completed for this property in 2023. However, the forester reports that the boundaries are only in fair condition, with long stretches of wooded boundaries unclear. A portion of the boundary also crosses the wetlands with little evidence showing. Lines should be checked and maintained on a regular basis. (For more details about boundary maintenance, see the Forest Management Plan, Appendix 1)

Plans for Utilization or Demolition of Structures

There are no existing structures on the Rumford Community Forest parcel and, therefore, there are no plans for utilization or demolition of structures. A conservation agreement with the State of Maine from the Land for Maine's Future funding includes appropriate protective measures to ensure the land is held open and undeveloped in perpetuity.



Rumford Community Forest Infrastructure Map

Access

Site of Old Bridge Crossing

Old Landing Area

Old Landing Area

Old Landing Area

Access and
Parking



Map created by Bill Haslam
Map Date: April 22, 2024
This map is not a survey

Data Sources: USDA,
MaineGIS, Field Data

Legend

- Internal Road
- Forest Stand Boundary
- Ownership lines
- Streams

Forest Property Overview (continued)

Inland Woods +Trails and the Planning Committee engaged the professional services of a Maine Licensed Forester, a Forest Ecologist, and a Trail Design firm to assist in the assessment and description of the property. Here is a summary of forest conditions reported by these professional advisors. Three full and separate reports are in the Appendix for more details and for reference.

- Appendix 1: Forest Management Plan prepared for Rumford Community Forest by Bill Haslam, Licensed Forester, American Forest Management, Inc.
- Appendix 2: Rapid Ecological Assessment of the Rumford Community Forest by Rick Van de Poll, Ph.D., Ecosystem Management Consultants.
- Appendix 3: Rumford Community Forest Trails Recommendations by Steve Kasacek, Outdoor Sport Institute

Soils

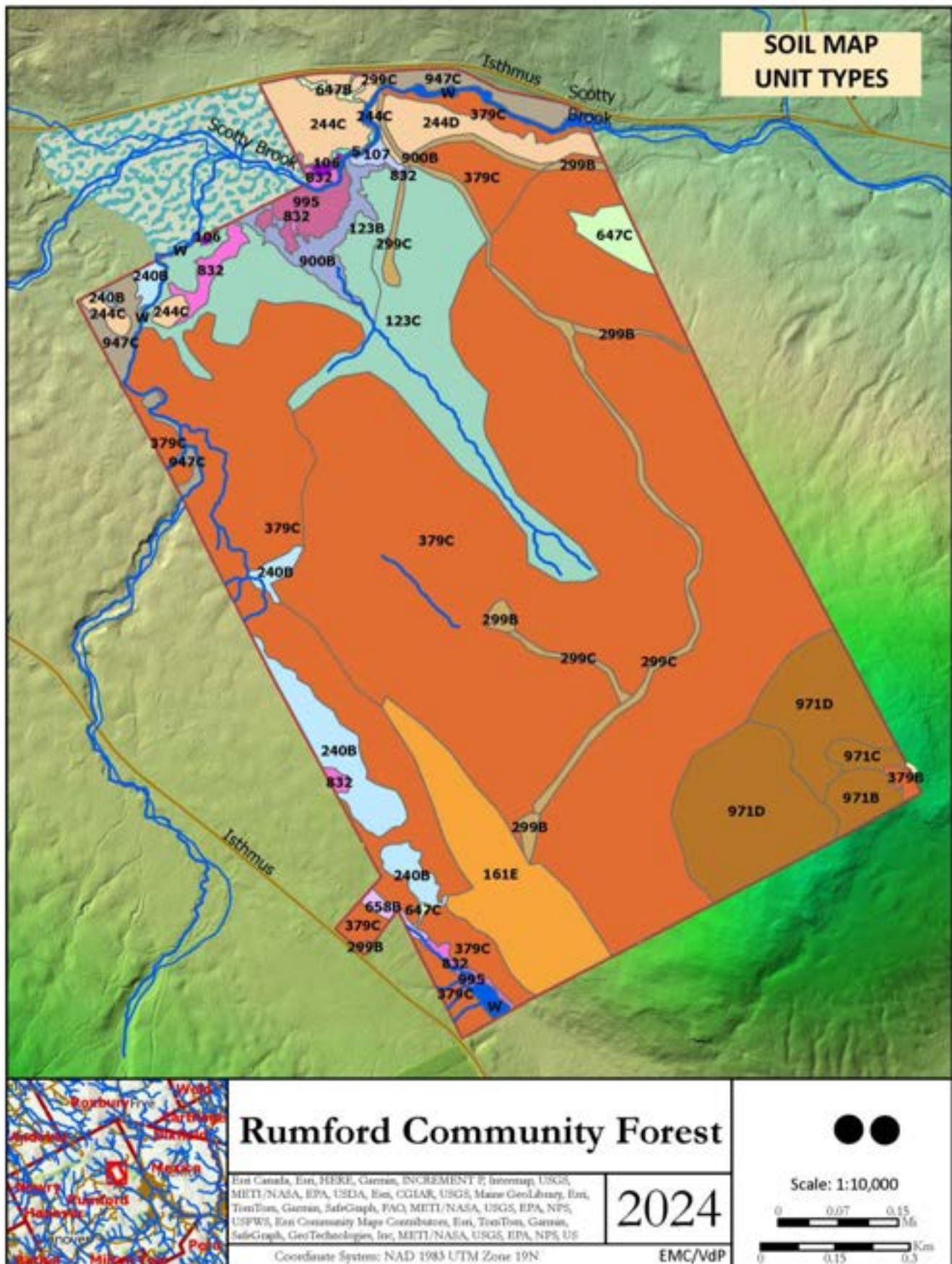
Soils are mapped by the U.S.D.A. Natural Resources Conservation Service. Soil types are referenced by number and include a topographic reference that is depicted by a letter. There are five possible classifications, with A meaning level ground and E referring to the steepest areas with slopes over 25%. Percent slope is a measure of elevational change (“rise”) over distance along the ground (“run”); a 25% slope corresponds to a 25-foot change in elevation over a 100-foot horizontal distance (“rise over run”). These are the soils on the Rumford Community Forest property, with some mix of stoniness, drainage, and steepness.

- Peru-Marlow association
- Brayton-Peacham complex
- Lyman-Tunbridge-Monadnock complex
- Colonel fine sandy loam
- Vassalboro-Wonsqueak association

Soils are important in managing timber from two perspectives, one being productivity and the other being management limitations. Naturally, some soils are simply more fertile than others, and, therefore, are more productive. Productivity standards define which species will compete best on any given soil type and are useful when developing silvicultural prescriptions for specific stands. Also, certain soil types have management limitations that must be considered; these limitations are typically defined by soil characteristics, such as wetness and erosion potential. For instance, an area with wet soils should be harvested in the winter when the ground is frozen to avoid damage to the soil. Conversely, drier soils can usually be safely harvested in the summer without negative disturbances. These considerations are also important in defining management and silvicultural decisions. (See [Soils Map](#) and [Soils Legend](#))

The largest proportion of this lot consist of soil types in the Peru-Marlow association making up 50% of the woodlot. These soils are very deep, stony to very stony and are moderately well drained with loam throughout the profile. These soils are very productive and are great for growing hard maple, red oak, yellow birch, and white ash. The Brayton-Peacham complex which is located on the west side of the lot is a very deep, poorly drained soil. It is best for growing hardwoods with a mix of softwood. The Lyman-Tunbridge-Monadnock complex consists of very deep, well drained soils. The species mix on these soils should be hard maple, red oak, and white pine. The north end of the lot near Scotty Brook is made up of the Colonel fine sandy loam and Vassalboro-Wonsqueak association and are poorly drained with the latter being soils typically found in bogs.

A fuller description of both site geology and soils is within the Ecological Assessment by Van de Poll. (See Appendix 2)



Appendix 3.5
SOIL MAP UNIT LEGEND



Water Resources

Water is abundant on the Rumford Community Forest property. It has Scotty Brook (a third order stream), 52 acres of three types of wetlands, three perennial streams, and one intermittent stream. These water resources impact forest plant composition and wildlife habitat, provide critical water quality filtration and flood control properties for human use, and can be visually appealing and pleasant for humans. (See [Wetlands and Water Resources Map](#))

The ecologist reported that the main marsh associated with Scotty Brook (northwest corner) is comprised of a mix of tussock sedge meadows surrounded by an alder-dominated scrub-shrub marsh, and a border of balsam fir and red maple. This meadow serves as an important floodwater retention zone for Scotty Brook and Swift River flowages. Along the western boundary of the parcel are two forest swamps hosting black and/or brown ash, an important cultural wood used in basketmaking. The southwestern corner hosts a large beaver flowage with active beavers. Beavers provide habitat diversity for several uncommon wildlife species. Scotty Brook runs along the northern section of the parcel. It is generally known to have a good flow and is prone to flash flooding during extreme precipitation events.

The ecologist stated, “In sum, the movement of water across this property and the wetlands that serve to drop sediment, transform nutrients, and stop floodwaters deserve the greatest amount of management attention of any ecological system on the Rumford Community Forest.”

Natural Communities

Geology, soils, water, climate, and human use determine species composition on any piece of land.

Repeated harvesting for the last 100 years, and likely farming before that, has disrupted natural communities and impacted the present species composition on this property. According to the Ecological Assessment on this property, there are five main forest natural communities found here:

1. **Beech-Birch-Maple Forest** – Most prevalent at 50% of the property – a mix of northern hardwoods with American beech and red maple as dominant tree species – found across the entire middle of the property.



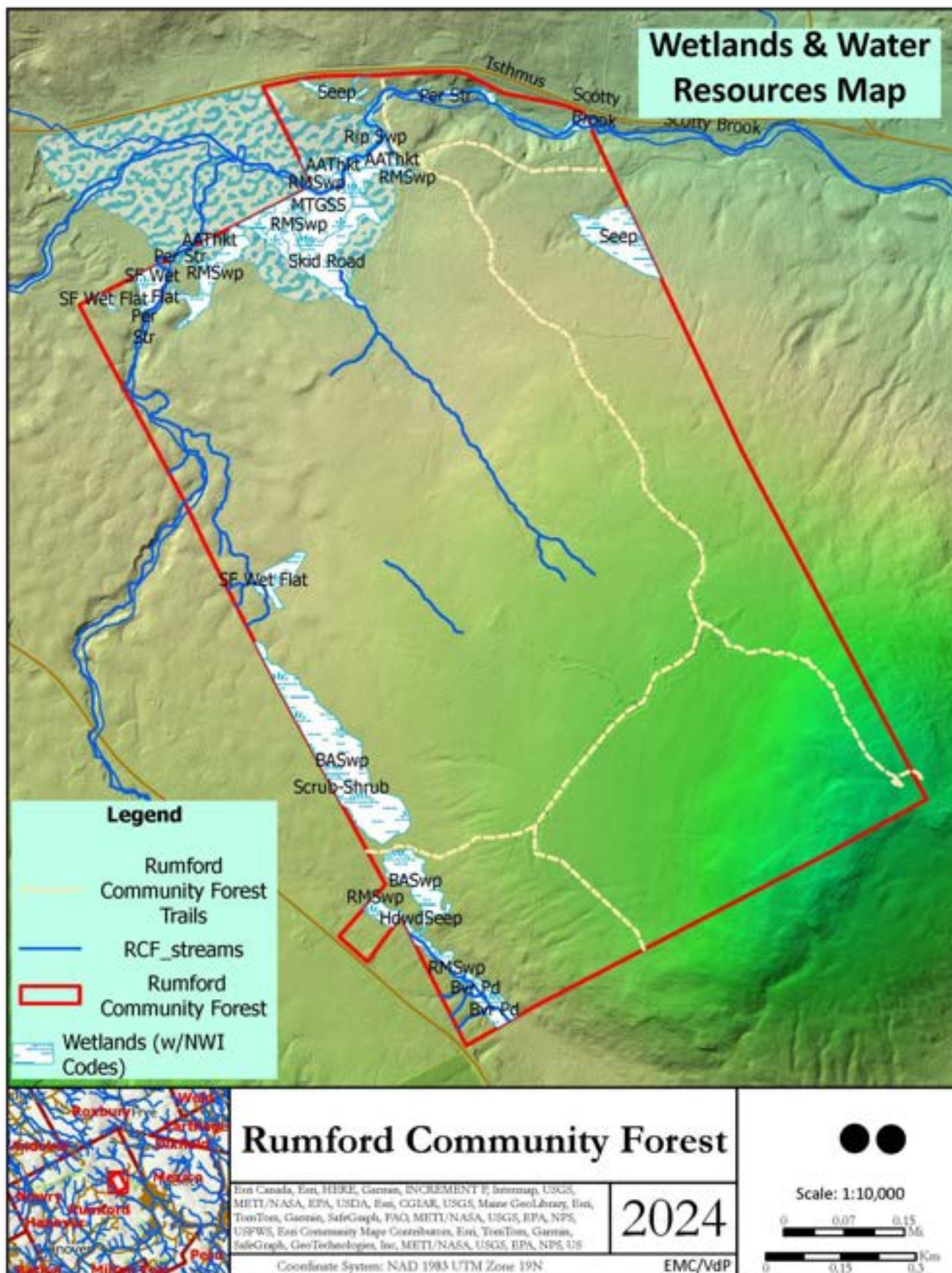
Scotty Brook – Fall 2023

2. **Red Oak-Northern Hardwood- White Pine** – 25% of the property – a mixed type very much affected by past logging – the red oak is abundant on the western slopes while the white pine is doing well on the more droughty soils to the east near the summit. Along the streams and in the northwest boundary where there is cool air drainage and shallow wet soils hemlock is substantial in the canopy.
3. **Oak Pine Forest** – 19 acres at the summit in the southeastern corner of the property – red oak and white pine dominate the canopy
4. **Spruce-Fir-Northern Hardwood** – Wetter soils along the streams and high water tables on the north end support a mix of softwoods and hardwoods – red spruce, balsam fir, yellow birch and sugar maple are found here. This is important habitat for snowshoe hare, moose, and wintering deer.
5. **Black Ash Swamp** – Approximately 10 acres along the western boundary – black ash is the dominant tree with smaller amounts of red maple, American elm, and quaking aspen. This is considered a forested wetland type.

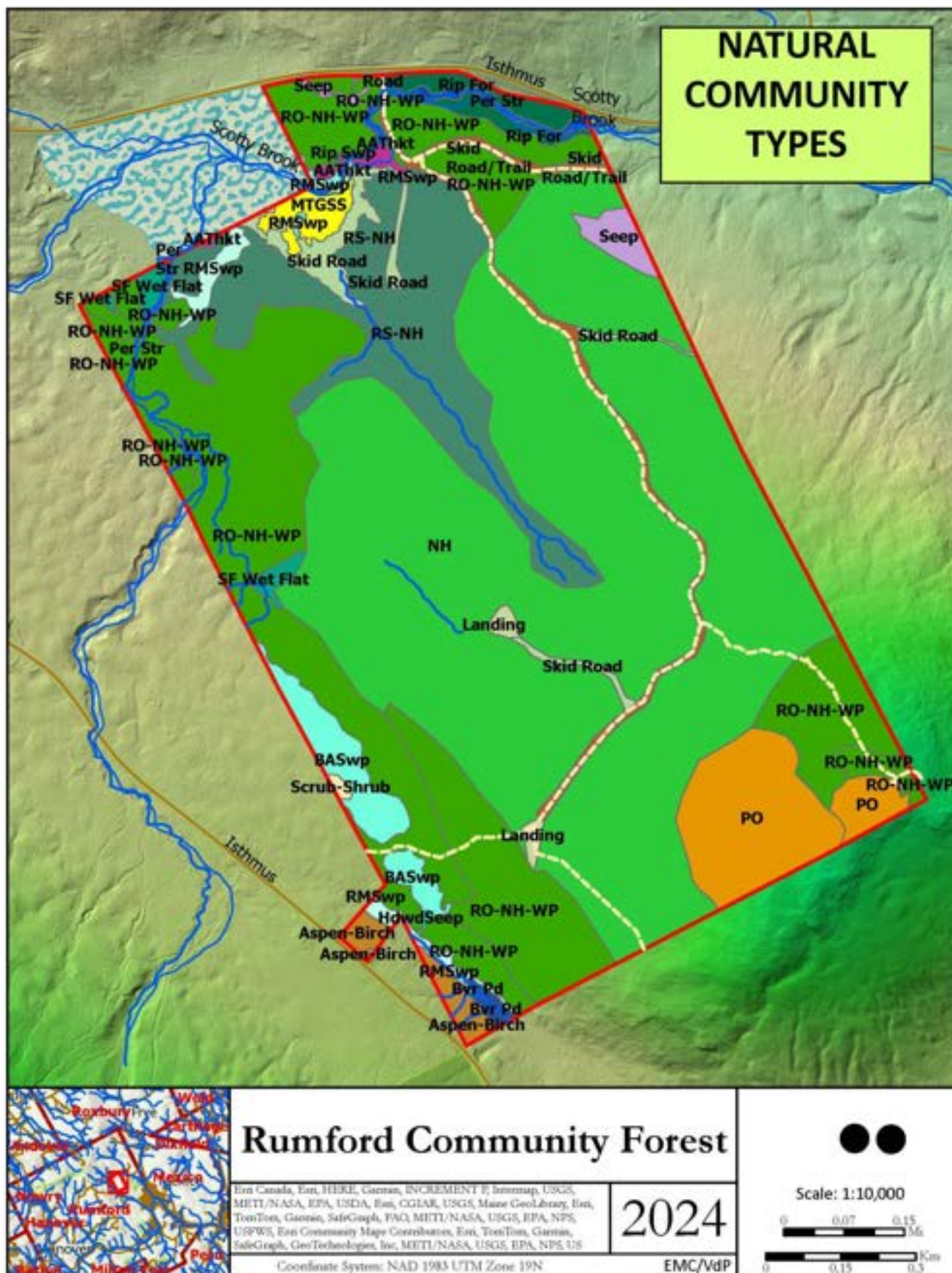
Smaller wetland communities are clustered around Scotty Brook, including the core open wetland called the Mixed Tall Graminoid Scrub Shrub Marsh, the Alder Alluvial Thicket, Riparian Forests/Wetlands, and the seasonally flooded red maple swamp. Wetlands make up 12% of this property. (See [Natural Communities Map](#) and [Natural Communities Legend](#))



Beaver Pond near southern boundary



Appendix 4.1



Appendix 5.1

Appendix 5.2

NATURAL COMMUNITIES LEGEND

Legend	
RCF Natural Communities	
Natural Community Name	
 Road - Access Road	 RO-NH-WP - Red Oak-No. Hardwood-White Pine Forest
 AATHkt - Alder Alluvial Thicket	 Red Oak-No.Hardwoods-White Pine Forest
 Aspen-Birch - Aspen-Birch Forest	 Rip For - Riparian Forest
 Beaver Pond	 Rip Swp - Riparian Wetland
 NH - Beech-Birch-Maple Forest	 Scrub-shrub - Scrub-Shrub Swamp
 BASwp - Black Ash Swamp	 RMSwp - Seasonally Flooded Red Maple Swamp
 Seep - Forested Seep	 Skid Road
 Hdwd Seep - Hardwood Seepage Swamp	 Skid Road/Trail
 Landing	 SF Flat - Spruce-Fir Flat
 MTGSS - Mixed Tall Emergent-Scrub Shurb Marsh	 SF Flat - Spruce-Fir Wet Flat
 PO - Oak-Pine Forest	 RS-NH - Spruce-Northern Hardwood Forest
 Per Str - Perennial Stream	 Rumford Community Forest Trails
 RMSwp - Red Maple Swamp	 RCF_streams
	 Rumford Community Forest

Wildlife

The Ecological Assessment, in Appendix 2, has an extensive discussion of wildlife on this property, both observations during field work and lists of expected species given this type of forest in Maine. The ecologist noted sightings or evidence of amphibians, reptiles, fish, birds, and mammals. The wetlands and uplands on this property provide a mix of habitats for a variety of animals. The Ecological Assessment notes observations of 10 out of 12 possible amphibians, 1 of 9 possible reptiles, and 3 of 6 possible fish species during site visits. Additionally, 36 bird species were observed, which is adequate for the late season field visit, with more than 80 species expected in this mix of habitat. Van de Poll also reported 24 species of mammals recorded with approximately 17 other species expected.

Important notes for management include

- Redback salamanders and red spotted newts were missing due to lack of large rotten coarse woody material on the forest floor.
- There was no evidence of porcupine since they prefer older, larger trees for denning.
- Little evidence of foxes, both red and gray, which may be due to lack of fields or open areas usually filled with their prey of mice and moles; or perhaps disease or trapping pressure is impacting their population.

The Forest Management Plan, in Appendix 1, includes wildlife reports from Maine's Department of Inland Fish and Wildlife and Maine's Natural Areas Program, including a review by the Beginning with Habitat program. Significant details include:

- The wetlands of Scotty Brook area in the Northwest corner of the property are considered an Inland Waterfowl and Wading Bird Habitat. This designation requires specific setbacks and volume removal limitations for forest harvest activity.
- Scotty Brook provides cool and well oxygenated waters for wild brook trout habitat. Care should be taken to protect this water. It is also mapped as a potential habitat for Atlantic salmon.
- Vernal pools are critical habitats for amphibians and reptiles and require protection.
- No other natural resources of statewide significance have been documented in this area.



Coyote prints (left) and beaver lodge (right)

Cultural Resources

There is a cellar hole on the property, mid slope along the main internal road. This should be protected and perhaps noted with interpretive signage for educational purposes. Researching early settlement here would make an excellent student learning project.

Recreation

Outdoor recreation is a critical component of a Community Forest. It is also a critical component of the economy of the State of Maine. According to data compiled by the Outdoor Industry Association, Maine ranks 5th in the nation with 4.2% of its economy, more than double the national average, for percentage that outdoor recreation contributes to the state's economy.

Rumford is no stranger to outdoor recreation serving as a key part of its economy and livelihood. For generations, it has hosted Olympic qualifiers, NCAA national championships, state ski meets, and was host to hotels and lodging for rusticators in the late 19th century. Today, hiking on Rumford White Cap and Mount Zircon, skiing at Black Mountain of Maine, and both paddling and fishing on the Ellis, Swift, and Androscoggin Rivers are important recreation assets for the community.

When considering uses for the Rumford Community Forest, the planning team contracted with the Outdoor Sport Institute to conduct a recreation plan for the forest. Outdoor Sport Institute has a mission to make human powered outdoor sport accessible, sustainable, and meaningful for everyone. When contracting with Outdoor Sport Institute, the planning team acknowledged that while the Rumford Community Forest has a piece of the Interconnected Trail System (ITS) for snowmobiling, there is no managed non-motorized trail-based recreation offerings currently on the property. To represent the whole community, the planners hired Outdoor Sport Institute to conduct research and “develop a community-led outline, vision, and list of action items for implementation and maintaining the Rumford Community Forest.” (See the Recreation Plan, Appendix 3)

Prior to hiring, Inland Woods + Trails provided Outdoor Sport Institute with geospatial data and a set of broad goals to interpret into the plan.

Partners and the public identified a few major objectives for recreation on the Rumford Community Forest:

1. Provide diverse recreation opportunities for all people
2. Ensure recreation meets ecological goals
3. Allow for easy and simple phasing of development

Recreation Use Types - Bike and Pedestrian

In discussions facilitated by Outdoor Sport Institute at the January 2024 Planning Committee meeting, an agreement was made to focus on option three (see below) as this option strikes a good balance between biking, hiking, and shared use while allowing for large undeveloped sections of the forest to remain as woods.

Other notes from the Outdoor Sport Institute plan include:

- Parking area development to accommodate multiple vehicles at the two parking areas.

- Site conditions mirror the ecologic and forest management plans-locations of seeps, brooks, in addition to slopes on the property and the “usable elevation relief for trail development is about 700 feet.”
- Most of the property slopes are around 20% with isolated pockets of 40%+ slopes. This is important to note because as Outdoor Sport Institute notes, “Trail building is feasible on a wide range of slopes, but ideally occurs on 20-60% gradients.” The Rumford Community Forest has excellent slopes for diverse trail development. Slopes lean toward the gentle end, which facilitates better visitor accessibility. Advanced techniques such as borrow pitting, lift-and-tilt, and more may be required to create durable and enjoyable trail treads on low angle slopes.
- Existing road networks are generally unsuitable for many recreation users goals due to fall line alignments that capture runoff and are generally designed for timber harvesting not recreation.
- Prevalence of hardwoods in the forest also provides better conditions for trail development.
- Similar to the other plans for forestry and ecology, the forest’s soils are discussed. With recreation in mind, the mostly fine sandy loam found in the forest is well suited to trail building that will “create long lasting and enjoyable trail experiences.”

The full Recreation Plan is presented in Appendix 3.

Zones

Based on soil, topography, and trail objectives, Outdoor Sports Institute breaks the property down into seven distinct zones with recommendations for each zone.

- **Scotty Brook Cascades** – Small, 10-acre zone ideally suited for parking and trailhead infrastructure and a 500’ accessible trail to an overlook of the cascades along the brook with a short hiking trail moving further downstream beyond the overlook. Since there is a recommendation for a trailhead in this zone, most trails start from this zone.
- **Beginner Low Slopes** – This zone rising just uphill of Scotty Brook provides gentle low elevation opportunities for beginner terrain of about 1.5 miles with a bike optimized descending component recommended for half of the trail.
- **Hiking and Nature** – This zone is suitable for hiking-only trails along the western edge of the property. Soils here are best suited to less intense activities like hiking. Total trail miles of 1.5 should be expected.
- **Rocky Steep Slopes** – Ideal for providing advanced trail opportunities including bike-only descents. Additionally, an extension of the hiking trail from the Hiking and Nature zone should be incorporated into this zone.
- **The Summit** – Small in scale – 10 acres – a short, shared use loop is recommended for this zone but with careful consideration made for the vernal pool with a setback of 75 feet recommended. This zone could also include the hiking trail and climbing trails from other zones.

- **Southwestern Access** – This zone is ideal for getting people access to the property from a different vantage point. The infrastructure may be more intense with a boardwalk over a small unnamed stream and wet areas with 100-500 feet of boardwalk.
- **General Slopes and Forest** – This zone as recommended by the Planning Committee and community would be minimal in terms of its trail infrastructure. This is so that this large, 200-acre block would be protected from too much human powered use. However, this zone does offer access to the other zones.

Forest Management

Note – Much of this is covered in the full Forest Management Plan prepared by Maine Licensed Forester Bill Haslam of American Forest Management, Inc. which is presented in its entirety in the Appendix 1.

Forestry is a specialized integrated science for managing a forest to protect ecologically sensitive areas, habitat, and water resources, store carbon, and create diversity for climate resiliency. It also addresses the human uses of a forest, predominantly the management of trees for harvest to make wood products and the use of the forest for recreational and educational purposes.

Forest Stand Descriptions

(See [Forest Stand Map](#))

- **Stand 1** (27 acres) – Stand 1 is in the southwest corner of the property where the lot extends to Isthmus Road and extends upslope after you cross the Bean Brook, which includes the beaver bog at the south end of the stand. It is a twenty-year-old stand with some larger trees than are generally found on the lot which gives this stand a higher overall basal area at 113 square feet per acre, of which 34% is acceptable growing stock. The tally also indicated a present stocking of 307 trees per acre. The mean stand diameter of the stand is 8.2 inches. Dominant species are American beech, northern red oak, and black cherry with small amounts of sugar maple, white ash, yellow birch and eastern white pine. Regeneration in the seedling and sapling class is lacking due to the small pole sized class with high crown closure in the stand – there is not enough sunlight reaching the ground. Site index is overall good for growing high quality northern hardwoods.
- **Stand 2** (147 acres) – Stand 2 is located on the upper slopes of the hill and includes the summit. As you gain elevation, the mix of trees changes from more beech and red maple to oak and yellow birch, more white birch, then oak on the ledgy upper elevation and summit. This change in composition results from soil depth and composition and some elevation and exposure factors. There is at least one small vernal pool in the upper reaches of the stand. Three openings (old wood landings) are along the old road system. This is also the location of the old homestead site where there are many white ash, brown ash, and elm trees growing.

Stand 2 is a 20-year-old hardwood stand with a basal area of 57 square feet per acre, of which 21% is acceptable growing stock. The tally also indicated a present stocking of 197 trees per acre. The mean stand diameter of the stand is 7.3 inches. Dominant species are American beech, northern red oak, and red maple with small amounts of aspen, white birch, yellow birch, sugar maple, white ash, balsam fir and eastern hemlock. Understory vegetation includes seedling and sapling sized beech, plus ferns. Site index is overall good for growing high quality northern hardwoods with a mix of northern red oak.

- **Stand 3** (67 acres) – Located in the northwest corner of the lot, Stand 3 is mainly 20 years old with some remnant older stems. It has less beech than drier upslope stands, and more ash due to wetter soils. Parts of the stand are more mixed-wood than hardwood with fir, spruce and white pine, but overall hardwood dominates in this stand. Soils are poorly drained and somewhat poorly drained, and it borders two open wetlands along the boundary.

This stand does have some remnant older stems. The basal area in Stand 3 is 64 square feet per acre, of which 42% is acceptable growing stock. The tally also indicated a present stocking of 199 trees per acre. The mean stand diameter of the stand is 8.0 inches. Dominant species are red maple, balsam fir, yellow birch and white ash with small amounts of aspen, white birch, sugar maple, American beech, white birch, eastern white pine, eastern hemlock and red spruce. Regeneration in the seedling and sapling class is primarily balsam fir, with non-woody ferns and shrubs in wetter areas. Site index is fair for this site and best for growing high quality northern hardwoods (yellow birch, white ash and red maple).



Vernal pool near summit

- **Stand 4** (164 acres) – Stand 4 is another young stand of about 20 years old which occupies the mid- to lower slope of the lot, with the main woods road running uphill/south on the eastern side of the stand. Soils are moderately well-drained with several shallow intermittent brooks flowing for parts of the slope through the stand. These slightly wetter soils favor species that grow better in wetter soils – such as white ash. Aspen is abundant in this stand – more so than any other stand on the lot. Parts of the stand are dense small stems and others have some slightly larger canopies.

The basal area in Stand 4 is 60 square feet per acre, of which 31% is acceptable growing stock. The tally also indicated a present stocking of 219 trees per acre. The mean stand diameter of the stand is 7.1 inches. Dominant species are aspen and American beech, with small amounts of eastern hemlock, red maple, sugar maple, white ash, northern red oak, white birch, and balsam fir. There is little tree regeneration, but abundant ferns in the understory. Site index is excellent for growing high quality northern hardwoods with a mix of northern red oak.

- **Stand 5** (32 acres) – This is the most distinctive stand on the lot as it was cut more lightly during the last harvest. Stand age is roughly 70 years old. It is a mixed-wood stand with both softwoods and tolerant hardwoods present. Most trees are at least 50 feet

Black ash swamp

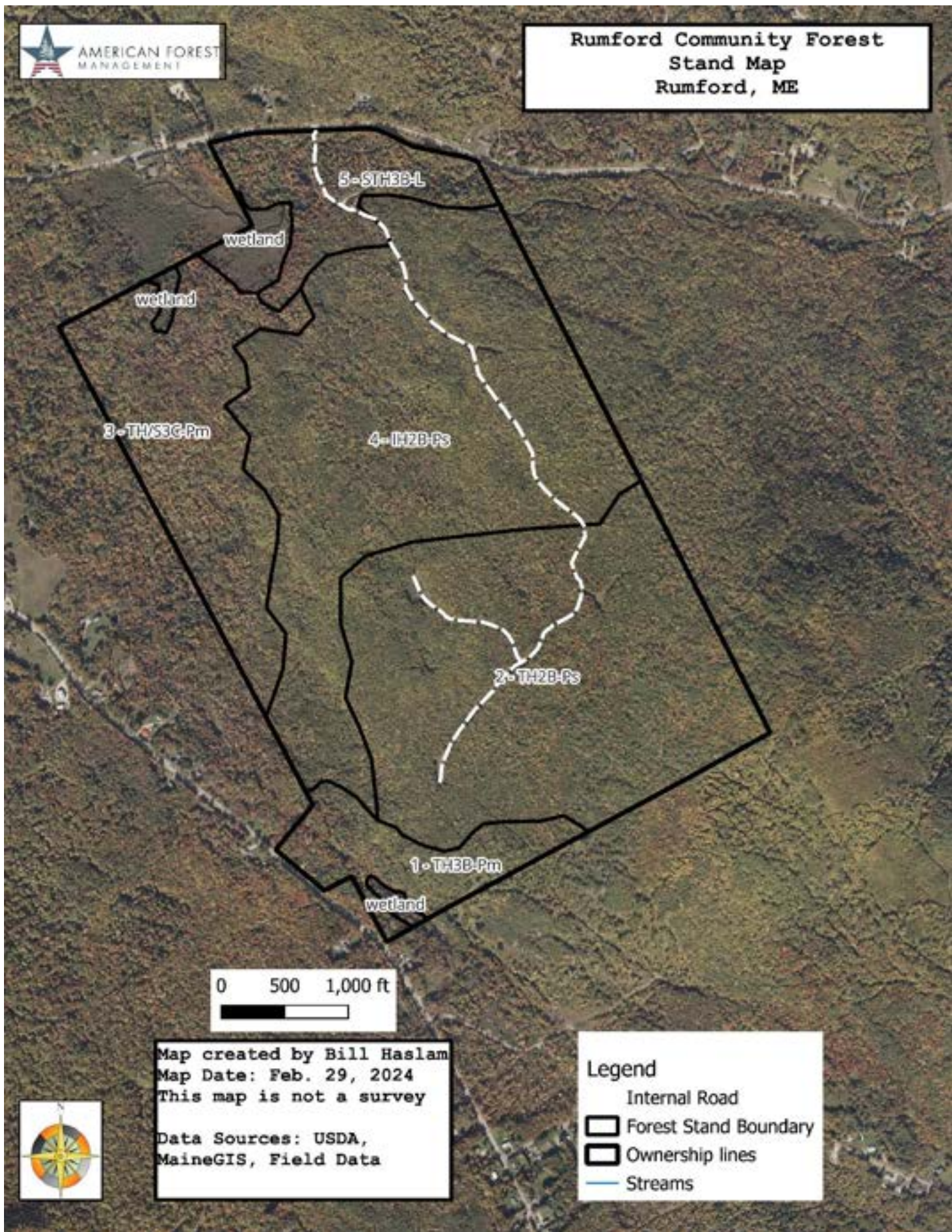


tall, and there is 61% to 80% crown closure with mainly sawlog-sized stand development. There are more stems in the 12-to-16-inch diameter classes than any of the other stands on the property. The stand straddles Scotty Brook, which provides important shade for the brook. The canopy is multi-layered in much of this stand. This stand has the best aesthetic value of any of the forested acres on the lot, and provides some wildlife cover, although it is unfortunately close to Isthmus Road. This lot would be the best candidate for developing a larger age class of trees.

The basal area in Stand 5 is 82 square feet per acre, of which 55% is acceptable growing stock, 200 trees per acre. The mean stand diameter of the stand is 8.7 inches. Dominant species are eastern hemlock, red maple, and balsam fir with small amounts of American beech, yellow birch, and eastern white pine. Regeneration in the seedling and sapling class is patchy, primarily young balsam fir and eastern hemlock where there are small gaps in the canopy. Site index is overall good for growing high quality northern hardwoods with a mix of northern red oak thus growing white pine on the site will be difficult to maintain.



Rumford Community Forest
Stand Map
Rumford, ME



Map created by Bill Haslam
Map Date: Feb. 29, 2024
This map is not a survey

Data Sources: USDA,
MaineGIS, Field Data

- Legend
- Internal Road
 - Forest Stand Boundary
 - Ownership lines
 - Streams

Other Forest Considerations

Forest Health

Health conditions in a forest can affect species mix, diversity, and quality of trees for products. Trees are vulnerable to a variety of insects and diseases and climate change is providing excellent conditions for insects and diseases to spread because of decreased winter conditions and warmer, wetter summers. Only a few insects and diseases cause tree mortality, but symptoms such as defoliation can impact a tree's health and vigor. The most devastating insect and disease outbreaks often occur when non-native pests are introduced into locations where they have no natural enemies. Throughout North America, exotic insects such as balsam woolly adelgid, gypsy moth, pear thrips, Asian long horned beetle, and emerald ash borer have all caused growth loss and mortality. Exotic diseases such as Dutch elm disease, chestnut blight, and butternut canker have virtually eliminated their host species. Abiotic stressors include drought, ice storms, soil compaction, and saturated soils from excessive precipitation. Most of these health issues are manageable through good forest management including periodic silvicultural activities.

The Forest Management Plan reports that the Rumford Community Forest property is in good health. The forester reported seeing Beech Bark disease, which is very common in New England forests. It causes poor form of beech trees and less production of beech nuts, a valuable food for wildlife. There is no treatment, but the report indicates this is a low-level concern at this time.

Both the forester and the ecologist recommend keeping an eye out for Emerald Ash Borer which is expanding through New England after devastating the ash in the lake states a decade ago. It was found just 10 miles from Rumford and travels by air and wind (flying). The property has a very small amount of ash, the trees are small, and not in the dominant canopy. This is good news as the insect tends to land and infest the largest ash trees in a forest. The brown and black ash on the property are an important cultural asset, used to make baskets. It will be important to stay vigilant in watching for signs of Emerald Ash Borer on the parcel.

Invasive plant species can be a problem for forest health. Luckily, both the forester and the ecologist did not observe any invasive plants on the property. With expected heavy recreational use with users bringing boots and bikes to the property, this is another area where the landowner must stay vigilant. For road construction, all equipment coming onto the property should be washed and inspected beforehand.

Climate Change

Climate change is affecting our New England forests. Effects we are seeing today include hotter summers, shorter and milder winters with less snow cover, high annual precipitation often in extreme storm events, and more frequent drought conditions. All of these are stressors for our flora, fauna, and natural systems. Forest management decisions we make today are informed by possible future climate conditions. Two primary practices for addressing climate change are:

1. Keep forests as forests so that they can continue to sequester and store carbon.
2. Manage for climate resiliency so that impacts of climate change are minimized.

Resilience is the ability of a forest to recover or adapt following disturbance or change. According to the Resilience Mapping Tool of The Nature Conservancy, this property ranges from less resistant to slightly resistant. Its bedrock geology (fully described in the Ecological Assessment, Appendix 2) and its shallow soils make this property fairly

vulnerable to impacts of climate change. Above ground there are forest vegetative and other characteristics that define a healthy, resilient forest such as:

- Species diversity.
- Trees of different sizes and ages.
- Irregular gaps in the canopy.
- Healthy regeneration - many seedlings and saplings.
- Limited invasive species.
- Stressors do not cause catastrophic impacts.

To increase forest resiliency these are some of the recommended approaches:

- Protect soil and water.
- Focus on regeneration and young trees.
- Create complexity – mix of species, ages, and sizes.
- Increase amount of dead and down material – trees and logs.

Carbon

Forests play a critical role in the carbon cycle. Forests naturally capture carbon dioxide from the atmosphere (sequestration), which is then stored as carbon in live trees, downed woody debris, and the soil. Carbon can be stored for decades and centuries in living trees or in durable wood products like furniture or building frames until it is released when it decays or is burned.

Maintaining or increasing the amount of carbon that can be stored by your woodlot can help to reduce atmospheric carbon dioxide emissions and the effects of climate change in the future.

Many traditional forestry practices and management actions will align with carbon goals. Here are some practices to consider:

- Designate reserves to protect site features, species, or conditions to help retain carbon.
- Reserve large trees which both store carbon and contribute to complexity.
- Enhance diversity of tree species.
- Increase complexity.
- Implement thinning practices.
- Allow natural regeneration or plant in areas of low density.
- Increase amount and distribution of deadwood, both standing and downed.
- Extend length of time between harvests.
- Minimize damage to trees and soils caused by equipment and recreational use.
- Cultivate and harvest timber that can be utilized in durable, long-lived products.

Many of these are discussed more fully in the Forest Management Plan in Appendix 1.

Mature Forests

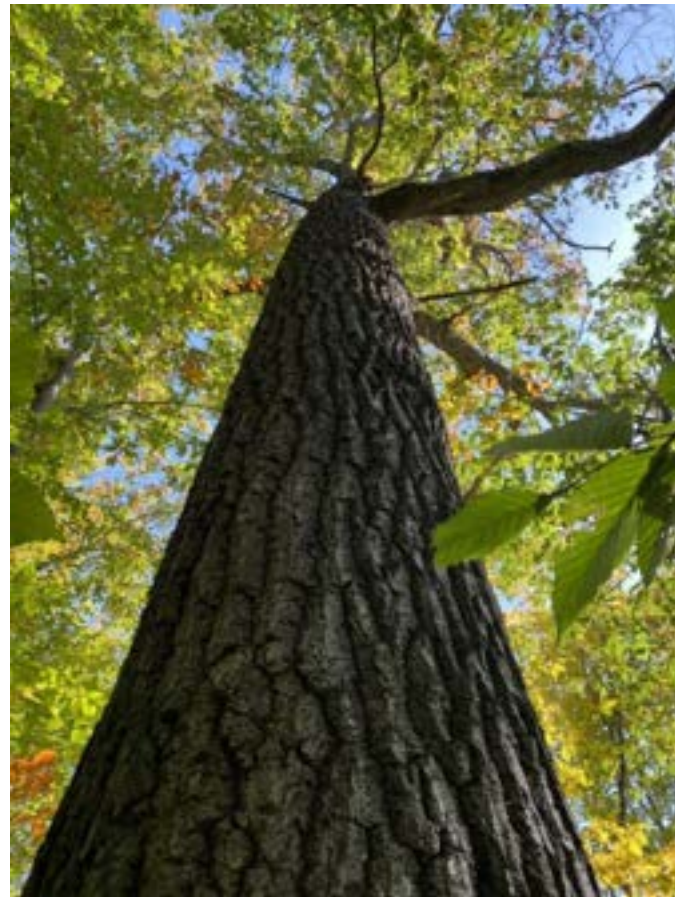
The Rumford Community Forest Planning Committee discussed at length their desire to let this forest grow into mature or old conditions since there is a lack of this forest age type in the region. The following is excerpted from “Restoring Old-Growth Characteristics in New England’s and New York’s Forests,” by Anthony D’Amato and Paul Catanzaro.

Our current forests are much different from the forests our native plants and wildlife adapted with over thousands of years. Some plants, lichens, mosses, fungi, and invertebrate species are dependent on old-growth characteristics that are currently lacking or less abundant in our second growth forests. Also, many

species—particularly native birds, including some woodpeckers, warblers, and thrushes, as well as certain mammals, such as fishers and martens—have been shown to reach greater abundance in forests with old-growth characteristics, such as large trees with cavities and complex canopy structures. These abundant populations, called “source populations,” are crucial for populating or repopulating surrounding habitats and are therefore central to the long-term viability of our native species. In the context of climate change, it is widely recognized that although they do not sequester carbon as quickly as younger forests, old-growth forests store the greatest amount of carbon. As such, mitigating climate change requires increasing the representation of forests with old-growth characteristics and functions on some parts of the landscape, while encouraging a diversity of other forest age classes on others. Finally, forests with old-growth characteristics support cultural traditions, providing human wellness benefits and the opportunity for spiritual renewal. These human values, in addition to the tangible ecosystem services these forests provide (water storage and filtration, localized cooling/climate buffering), underscore the importance of these forests to our well-being and even survival.

As we grapple with the challenges posed by global change, including changing climate conditions and a proliferation of non-native insects and diseases, there is great uncertainty regarding what conditions might provide the opportunities for forests to adapt to these changes and sustain the many benefits we currently derive from them. Encouraging more of the forest structure and species composition found in old-growth forests helps us keep every piece of the puzzle that our forests naturally evolved with, undoubtedly conserving crucial adaptation pathways and refugia that may provide opportunities for species and processes to persist under changing conditions. Therefore, restoring these once common habitats is of central importance to conserving the full suite of our region’s native plants and animals and maintaining key ecosystem services, like carbon storage and water filtration, now and into a highly uncertain future.

Not surprisingly, the current recommendations for creating old growth characteristics in a forest are similar to the tools for climate resiliency described above. Essentially, through management activities, the landowner can create an older, more diverse, and complex forest. Characteristics of an old growth forest include presence of large and old trees, spatial variation in tree density and tree size, abundant downed deadwood in various sizes and stages of decay, large diameter standing dead trees (snags), multiple canopy layers, established regeneration, and many plant communities (beyond trees). The Rumford parcel is lacking in most of these as discussed in the Forest Management Plan.



Large red oak tree

Forest Protection

Protection from Development

Inland Woods + Trails has an agreement with the State of Maine for the perpetual protection of this property from development. The purpose of the agreement includes protecting public access for recreation, including traditional uses of hunting, trapping, fishing and hiking and secondly to protect public water supply, natural communities, and wildlife habitat. Details covered in the agreement include:

- No subdivision.
- Allow Public Access, including hunting, fishing, and trapping without fee charges.
- Property cannot be sold or transferred without working with the State.
- Management Plan requirements.
- Structures and Improvements.

The full Land for Maine’s Future agreement is in Appendix 5.

Protection of Endangered and Threatened Species

Other than the Wading Bird Habitat and Scotty Brook as Wild Brook Trout habitat discussed in the wildlife section, the State of Maine Department of Inland Fisheries and Wildlife reported “there are no records found of natural resources of statewide significance have been documented in the review area. The “unconfirmed presence” for Endangered, Threatened, or Special Concern Animals; Rare, Threatened or Endangered Plants; or Rare/Exemplary Natural Communities may be due to a lack of comprehensive data rather than the absence of those resources.” The report is in the Forest Management Plan in the Appendix 1.

Management activities will be planned with Endangered and Threatened species in mind, though none have been identified on the property to date.

Protection Against Forest Fire

The Inland Woods + Trails and the Town should consider prohibiting open campfires on this property.

Recommendations

Three experts provided assessment reports, including recommended activities or options within the specialties of Ecology, Forestry, and Recreational Trail Development based upon site conditions and multiple discussions by the Planning Committee. This is a summary of all recommendations in these plans.

From the Ecological Assessment

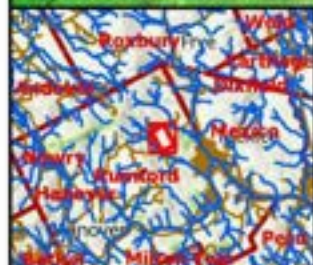
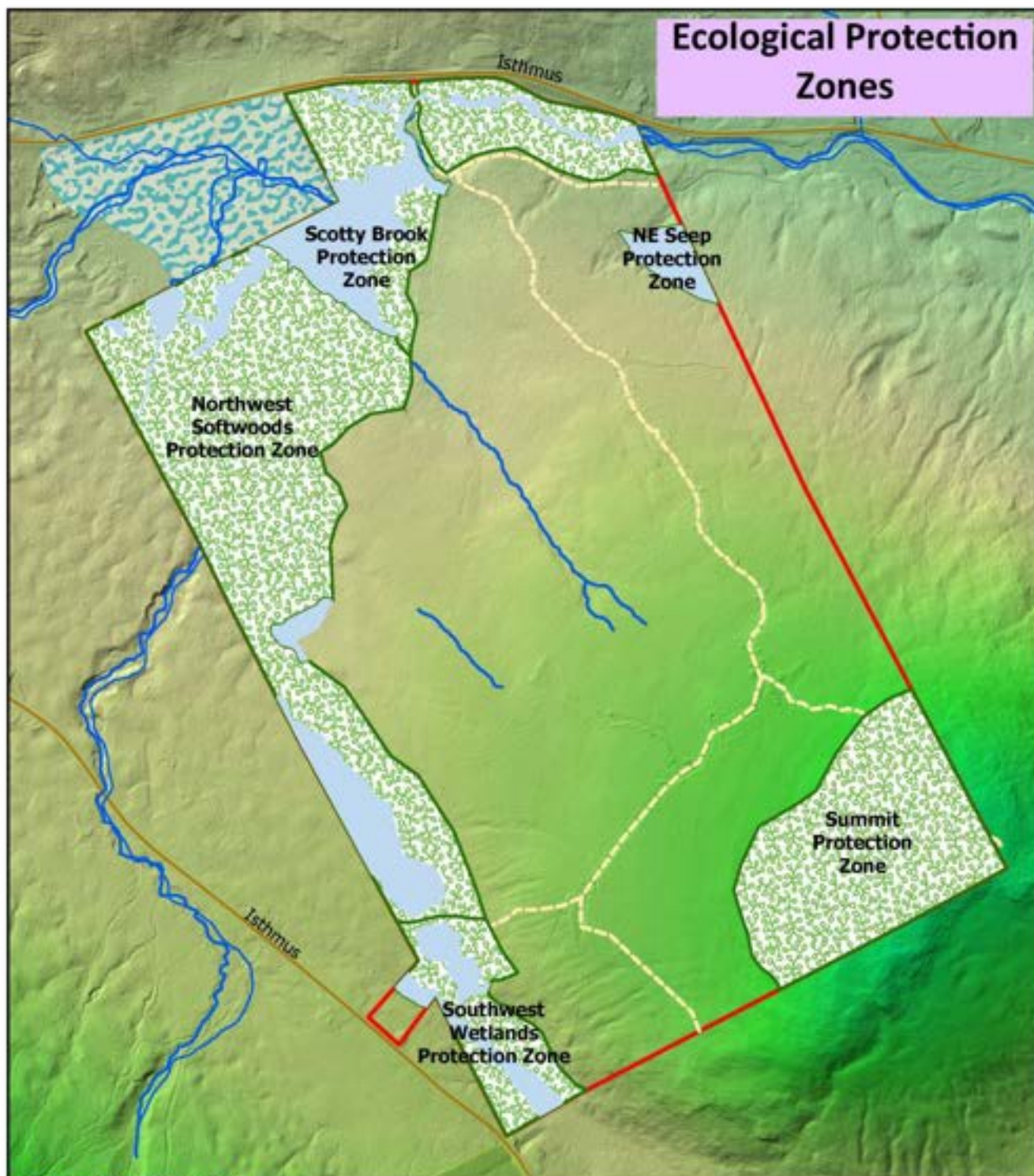
- Establish five protection zones suggested for wildlife and habitat diversity – total acreage is 168 acres or 37% of the property – these are not preserve/hands off areas (See [Ecological Protection Zones Map](#))
 - Protect extensive habitat.
 - Protect two forested swamps on the western boundary for ash and other wetland species.
 - Protect beaver flowage in the southwest and allow beavers to diversify habitat.
 - Protect Scotty Brook and tributaries for water quality and flood control.
 - Protect vernal pool near summit.

Specifically

- Treat Scotty Brook Protection Zone and Northwest Softwood Protection Zone as one contiguous unit. Keep this area free from trails, timber management, and any form of passive recreation other than hunting and fishing.
 - Consider Northwest Softwood Protection Zone as timber management and trail free zone. Small forestry projects such as light thinning or small patch cuts can be done to encourage browsing at the edge of the unit.
 - Protect the 3-acre Seep Zone near the northeast corner by providing a large buffer from timber harvesting or treatment.
 - Protect the complex wetland area in the southwest, and adequately buffer this from timber harvesting or other treatments.
- Increase amount of coarse woody debris on forest floor to provide amphibian habitat.
 - Practice good trail design and maintenance for stabilization and erosion control.
 - Post good signage to keep people on trails.
 - When conducting pre-commercial thinning leave the wood on the ground to enrich soil and nutrients.
 - Consider wood additions to streams to slow flow.

From the State of Maine for General Protection of Vernal Pools

- Maintain the basin depression and its vegetation and water quality in an undisturbed state.
- Maintain closed canopy forest, avoid soil compaction, leaving decaying logs within 100 feet.
- Maintain intact forest, avoid trail construction, limit openings to less than an acre within 750 feet.



Rumford Community Forest

Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, MDTI/NASA, EPA, USDA, Esri, CGIAR, USGS, Maine GeoLibrary, Esri, TomTom, Garmin, SafeGraph, PAC, MDTI/NASA, USGS, EPA, NPS, USFWS, Esri Community Map Contributors, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., MDTI/NASA, USGS, EPA, NPS, US

2024

Coordinate System: NAD 1983 UTM Zone 19N

EMC/VdP



Scale: 1:10,000

0 0.07 0.15 Miles

0 0.15 0.3 Kilometers

From the Forest Management Plan

- Consider five forest type stands identified.
- Be careful of using roads as trails.
- Use forester for road and harvest planning.
- Follow Best Management Practices (BMPs)
 - For road maintenance.
 - During harvest to protect soil and water.
- Confirm boundary, re-blaze, paint on the eastern and southern boundaries.
- Increase forest complexity to improve forest health and resiliency.
- To increase health and resiliency and to create diversity in species and structure, consider these tools:
 - Increase overall age.
 - Increase rotation length (time between harvests).
 - Maximize growth using pre-commercial thinning to reduce stand density and competition for nutrients.
- Retain ash to help survival rates when emerald ash borer hits the region.
- Monitor for invasives plant species, and quickly eradicate when found.
- Monitor for invasive insects including emerald ash borer and browntail moth
- Harvest on frozen ground if possible.
- Allow stands 2 and 5 grow to more mature conditions – no treatment recommended.
- Consider pre-commercial thinning on stands 1, 3, and 4 to promote tolerant hardwoods species and to protect the ash trees.
- Consider herbicide to control beech resprouting.

From the Trail Recommendations Plan

Consider these seven recreational zones based upon site conditions, ecological limitations, and recreational experiences. (See the Recreation Plan, Appendix 3 for more details)

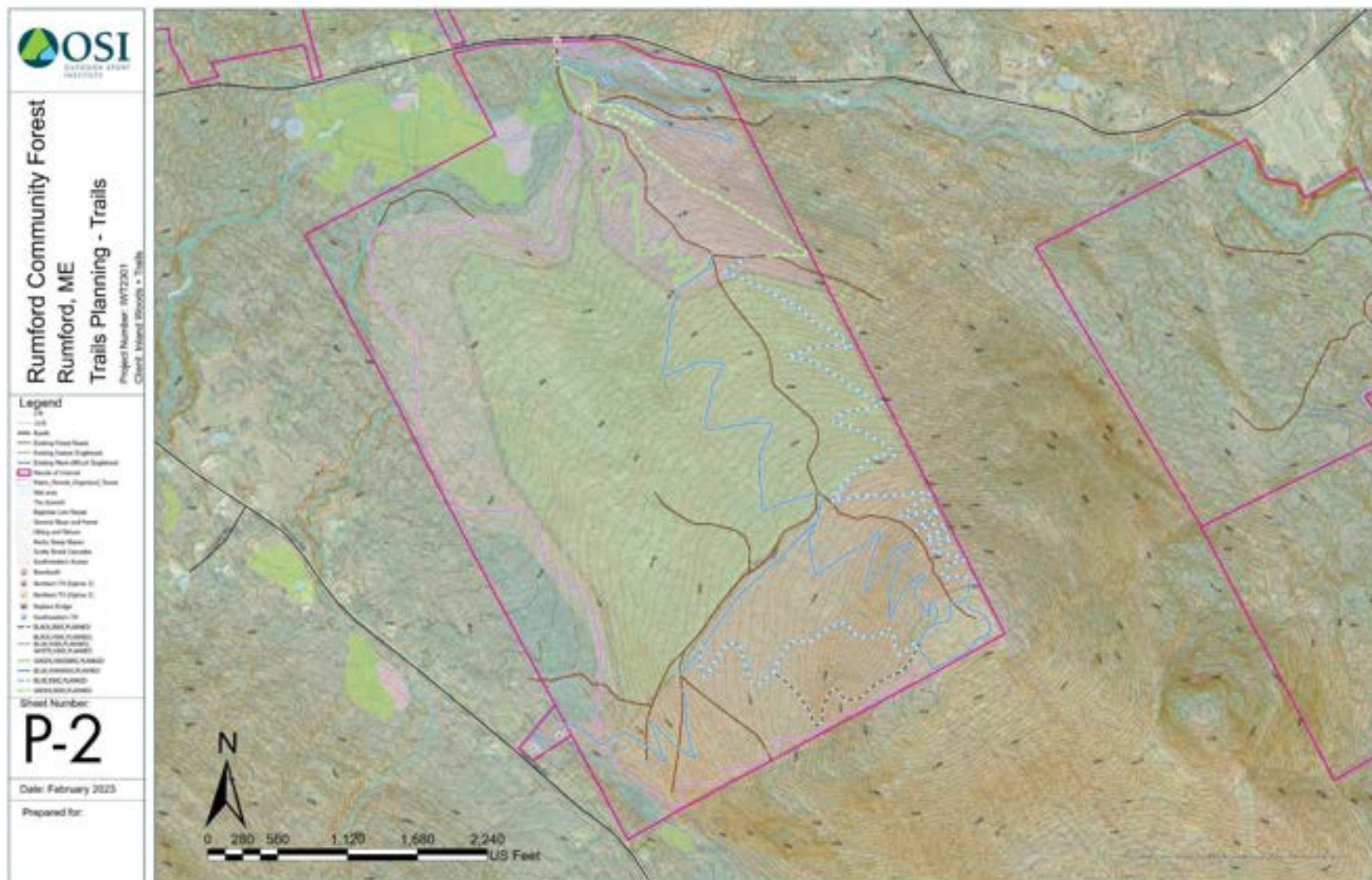
1. Scotty Brook Cascades – 10 acres
 - Short, 500', all-persons accessible trail.
 - Along the brook, a rugged, primitive hiking-only trail.
 - An intermediate shared-use trail.
2. Beginner Low – 45 acres with gentle low elevation opportunities
 - 1.5-mile loop shared use or descending bike-only.
3. Hiking and Nature – 55 acres along brook and western boundary
 - Hiking-only, nature immersive, 1.5 miles.
4. Rocky Steep Slopes – 70 acres of steep and rocky
 - More advance mountain bike opportunities with some directional bike-only descents.
5. Summit – 10 acres
 - Small shared-use loop with ample vernal pool buffers.
6. Southwestern Access – will need boardwalk to traverse wetlands
 - One shared-use intermediate trail.
7. General Slopes and Forest – basic terrain with little special features
 - Shared-use intermediate singletracks and multiple connection points to other trails.

- Also includes 100 acres of no trails.

(See [Recreational Trails Map](#))

Other recommendations for trail development:

- Prepare to manage visitor use on existing roads.
- Sign and map major roads.
- Manage trails for snowshoe use in winter.
- Bike-only descents should be managed for fatbiking.
- Existing roads would provide classic cross-country skiing.
- Consider the parking lot to accommodate 15-30 cars.
- Develop trail connections to Black Mountain of Maine, Pennacook Area Community Trails, and work with neighbors.
- Follow local, state, and federal laws including permits needed.
- Utilize the services of professional trail designers and builders.
- Hire qualified construction manager to oversee trail construction.
- Plan for maintenance and adequate budgets.
- Signage for trails should be simple, uncluttered, and obvious – post at trailheads and major intersections.



Implementation Strategy

During this planning process, many specialists and experts were hired to guide the management of the Rumford Community Forest. The Governance Committee will continue to use professional assistance in the implementation of this plan. For the execution of specific activities, Inland Woods + Trails will develop brief bi-annual work plans that outline projects to be undertaken in a given time period. Professional foresters, recreation trail designers, and trail builders are expected to be used. Additionally, Inland Woods + Trails has relations with USDA Natural Resource Conservation Service, New England Forestry Foundation, and other public agencies to assist. The Governance Committee will continue to confer with professionals for recommendations in protecting and managing natural communities.

In recreation planning, Inland Woods + Trails will work with specialists in trail design and building so that any system of trails will be compatible with multiple uses and follow best practices for erosion control, minimum habitat disturbance, and water resource protection.

Landowner Objectives	Implementation Strategy
Maintain public access.	<p>Property open to the public, including for recreation, education, and traditional uses of hunting and fishing.</p> <p>Trail development will include appropriate signage to direct people for best access and protection of natural or cultural features.</p> <p>Two parking areas will be established.</p> <p>One all-persons-accessible trail will be built.</p>
<p>Protect the natural qualities and integrity of the land and its natural communities.</p> <p>Enhance and protect wildlife habitat and biodiversity that supports native flora and fauna.</p>	<p>Conservation Agreement with the State of Maine requires protection of these.</p> <p>Ecological protection zones and/or buffers will be established around identified natural communities, habitats, or features.</p> <p>Recreational trail users will be directed to stay on trails with good signage.</p>
Protect water resources including Scotty Brook, related riparian areas, and wetlands.	<p>Scotty Brook, seep areas, beaver flows, the ash swamp, and the vernal pool will be protected with adequate buffers from human activity.</p>

Specifically in forest treatments, protect ecological sensitive areas and wildlife habitat and allow some areas to be left untreated and able to advance into mature conditions.	As recommended by the professional forester, two areas totaling 179 acres, or 40% of the property will not be treated for timber soon. Some of these areas overlap with recommended ecological protection zones.
Eventual forest management will emphasize the growth of older trees for shade, habitat, enjoyment as well as the ability to grow long-rotation, high quality, solid wood products that contribute to the local wood products economy.	Due to past cutting, the Rumford Community Forest will not have harvesting activity for many decades. Pre-commercial thinning offers an opportunity to increase forest complexity, influence species composition, and promote climate resiliency.
Provide mix of recreational opportunities for many interests and abilities.	<p>Beyond simple walking, hiking, and fishing on this site, recreational recommendations include conceptual plans for hiking, mountain biking, cross country skiing, and snowshoeing.</p> <p>The Scotty Brook area is close to Isthmus Road, is flat, and offers scenic and educational opportunities. This makes it an ideal location for an all-persons accessible trail.</p>
Provide long-term outdoor classroom and experiential learning opportunities.	Teachers on the Planning Committee are excited to engage Rumford area students in science, nature, STEM, and leadership learning opportunities using this property less than two miles from the schools.
Protect cultural and historic features on the property.	The cellar hole and stone walls on the property will not be disturbed.
Approach management activities with intention of building climate resiliency for the parcel and the community.	Recommendations on protecting water resources for flood control, letting trees mature, using longer rotation ages, and increasing the forest's health and complexity will be incorporated.

Conclusion

The Rumford Community Forest is a special property which reflects the local landscape. As a community asset, it will provide multiple benefits to the people of Rumford for education and outdoor recreation. As a conserved property, it will provide protection for natural communities, special ecological areas, including Scotty Brook and its associated wetlands. This stewardship plan outlines how the property will be managed to reach the community’s vision of a “forest [that] exemplifies a stewardship approach that prioritizes biological diversity, natural beauty, and protection of sensitive ecological areas while reflecting local values of exceptional recreational and educational opportunities.” Inland Woods + Trails will lead the implementation of the plan with continued guidance from professionals and community members using the established governance structure.

In summary, the management of the Rumford Community Forest will be done in accordance with the

- Mission, vision, and landowner objectives outlined herein.
- Public input captured by the Planning Committee and incorporated in this Plan.
- Requirements of the State of Maine and the U.S. Forest Service per agreements.
- Best management practices in regard to land management, forestry, and recreation trail building to protect soil and water resources.
- Professional experience and ethical responsibilities of the licensed forester and other experts guiding its management.
- Intentions of the Inland Woods + Trails board and staff.
- All applicable local, state, and federal laws.
- Professional guidance and recommendations in the Forest Management Plan, Ecological Assessment, and Recreation Plan.
- With the spirit of collaborative ownership for Community Forests emphasizing local benefit.

With this commitment, this property will ensure and provide a healthy forest resource, protected natural communities and wildlife habitat, recreational and educational opportunities, and a forever protected property for the Rumford community.

FOREST MANAGEMENT PLAN

FOR PROPERTY LOCATED IN:
Rumford Community Forest
Rumford, Oxford County, Maine

PLANNING PERIOD: February 2024 to February 2034
PLAN PREPARATION DATE: February 29, 2024
EXPIRATION DATE: February 29, 2034
TOTAL ACREAGE: 446 (GIS acres)
WOODED ACREAGE: 437 (GIS acres)

PREPARED FOR:
Rumford Community Forest
Inland Woods + Trails
145 Congress Street
Rumford, ME 04276
Phone: 207-364-4576
Email: gabe@woodsandtrails.org

PLAN PREPARER:
Bill Haslam
Maine Licensed Forester #3344
American Forest Management, Inc.
PO Box 978
Farmington, ME 04938
207-491-1602
Email: bill.haslam@afmforest.com

Forester License #: 3344 Signature: 

Date: February 29, 2024

Landowner Signature: _____ Date: _____



TABLE OF CONTENTS

1. PROPERTY DESCRIPTION	3
2. PROPERTY HISTORY	9
3. STATEMENT OF LANDOWNER OBJECTIVES AND IDENTIFICATION OF RESOURCE CONCERNS	10
4. MAPS	11
4.1 Location Map	12
4.2 Stand Map	13
5. FOREST HEALTH	14
6. SOIL AND WATER	15
Best Management Practices	16
7. WILDLIFE	24
8. FORESTRY AND CLIMATE CHANGE ADAPTATION	25
9. FOREST INVENTORY	26
10. STAND LEVEL INFORMATION	
10.1 Silvicultural Guide to Stand Prescriptions	31
10.2 Stand Typing Key	42
10.3 Individual Stand Descriptions	43
11. COMPLIANCE WITH LAWS	46
12. HARVESTING TIMBER AND OTHER MANAGEMENT ACTIVITIES	48
13. SCHEDULE OF ACTIVITIES	49
14. APPENDICES	

1. PROPERTY DESCRIPTION

The property is a community forest for the Town of Rumford, Maine. It is located northwest of downtown Rumford along the Isthmus Road. Scotty Brook flows through the north end of the lot after draining out of the valley south of Black Mountain. The Black Mountain Rumford ski area is northwest across the valley from the property. The lot is made up of the north- and west-facing slope of a hill that peaks in the southeast of the property. Access is from Isthmus Road in the north and southwest parts of the lot. The northern access is from a woods road that crosses Scotty Brook. The bridge over the brook has been taken out. The southwest access does not have an established road but has useful frontage on Isthmus Road.



The Community Forest is made up of two tax parcels in the town's tax database. Tax map 206 Lot 2 is the bulk of the property. In the 1960s and prior, it was owned by members of the Dickson family. From the 1970s until the early 2000s it was owned by a series of land management companies and loggers. In that 30 years, it was likely harvested at various intensities, culminating in final harvesting that removed most of the mature timber in the 1990s and early 2000s. From 2003 it was owned by two different LLCs.

The lot is now heavily stocked with relatively young trees densely stocked throughout. The area around Scotty Brook has some larger trees shading the brook and nearby riparian zone. The lot is heavily all forested with some wetland systems in the northwest and southwest corners.

Basic topography (estimate percent of total acreage that is)

Complex topography (many steep ravines and aspects): 0%

Simple topography (few ravines and changes of aspect): 100%

Percent of land that is:

Flat (<5% grade): 5%

Gentle Slope (6 to 20% grade): 75%

Steep Slope (> 21% grade): 20%

Terrain Notes: The majority of the property slopes moderately to the north and west. There is a network of streams and wetlands. One system is connected to Scotty Brook in the northwest, and the other has active beaver construction in the southwest that flows south to Bean Brook.

Roads and Landings for Timber Harvesting

Roads and landings are an important consideration when planning forest management practices on your woodlot. The type and location of a road or landing can influence the forest management planning process in several ways. Roads and landings can affect access for recreation uses and the timing of forest management activity, the type of equipment used for a harvest, as well as the operational cost of harvests and other management activities, and the amount of revenue available to a landowner at the end of a harvest operation.

In today's timber markets, all wood harvested is delivered to the purchasing markets by trucks. Therefore, each lot must have a location suitable for trucks to be loaded with harvested wood. For recreation access you must have good road access and parking for users of the land. These wood landings and parking areas must be adjacent to a road or other area accessible by cars and large trucks.

For timber harvesting purposes, the type and location of the road or landing necessary for access can be determined by several factors. These include:

- location and distribution of timber to be harvested
- slope and soil types present on the site
- location and distribution of rivers, streams and wetlands
- lot frontage and access to the public road network
- planned season for harvest activity

The further the wood to be harvested is from a landing and road, the more the cost of harvesting that wood. Due to loss in production efficiency beyond certain distances, logging cost for wood climbs exponentially. Generally, 2000 feet of distance from a landing and road is where the cost of logging and skidding begins to be MORE costly than installing a forest road. In other words, compensation to the logger for lost productivity beyond 2000 feet GENERALLY will cost more than accessing that area via a road to reduce skidding distance. There are some exceptions to this guideline depending on a given harvest area.

For recreation and forest management activities, a solid road and some area to park is necessary. Landings could be designed for parking areas. However, it is best to have separate areas so one activity is not halted by the other if they can be done simultaneously.

In some circumstances, the condition of the forest and soils will determine the type of road needed, and in other circumstances condition and potential cost of road construction/maintenance will dictate the seasonal timing and type of equipment used for a harvest. Road and landing construction and maintenance is one of the largest expenses to a landowner when planning a timber harvest. An experienced forester will be able to assist you in determining the most efficient scenario of road design and harvest timing for the benefit of your woodlot and your revenue.

Road Maintenance

Like anything without regular maintenance roads deteriorate and can become nonfunctional for forest management and recreational purposes. Below are some maintenance practices from the Best Management

Practices for Forestry: Protecting Maine's Water Quality, published by the Maine Forest Service. By practicing regular maintenance your roads will remain functional, you will protect the water quality, and you will minimize the need for costly repairs.

Proper road maintenance protects water quality and the road by keeping the road functioning as designed. If the structures associated with the road fail (ex. culverts and ditches), significant water pollution can result, most often during severe rainfall or snowmelt. Many of the structures used to divert water from road and trail surfaces should be maintained both during and after a timber harvest (unless the road is closed out). Periodically removing accumulated sediment in these structures will keep them operating as they were designed. Most erosion and sedimentation problems are evident within two years of the construction of the road, or two years after the road is used for a harvesting operation. It is especially important to inspect roads two years after construction, or a harvesting operation, but yearly monitoring is recommended.

Best Management Practices for Road Maintenance

- Avoid using roads during wet seasons or after heavy rains. Let wet roads dry out or freeze before reusing them.
- Regrade the road surface if the crown is lost from heavy use. This prevents water from running in the wheel ruts. Don't leave material at the road's edge. Such "false ditches" can carry water along the road surface not allowing water to flow off the road into ditches or out slopes.
- Inspect ditches to make sure they have not begun to fill in, slump, or develop channels. Clear blocked ditches.
- Reshape and/or stabilize ditches as needed with erosion control mats, or by other methods.
- Stabilize exposed soils within filter areas and areas that drain directly to waterbodies. Where your original stabilization techniques are no longer effective, restabilize using additional materials (mulch, brush, and/or seeding) or other techniques.
- Keep cross-drainage culverts free of debris and accumulated sediment at their inlet and outlet. Repair the outfall protection if water is eroding the soil around it.
- Maintain the riprap or other armoring at culvert ends to prevent erosion around the pipe and to protect the ends from physical damage.
- Replace culverts that have been undermined or crushed, before they fail.
- Clean out settling basins, ponds, and check dams well before they fill up with sediment.
- If it is compatible with the landowner's objectives, consider gating the road, or blocking the road with rocks or other structures to control vehicular access.

When roads are constructed, vegetation is cleared to construct the road surface and associated ditches. Left unmanaged ditches and roads naturally revegetate with grasses, shrubs, and trees. While allowing grasses to revegetate ditches and road surfaces is beneficial for erosion control, unmanaged vegetation can grow to a point where ditches can no longer function as designed, and roads become overgrown and are no longer passable by vehicles and log trucks. It is recommended that landowners plan to control roadside vegetation, so roads remain functional, and costs associated with clearing a road after it has grown in are minimized. Landowners can control roadside vegetation mechanically or with herbicides. Typically, if landowners choose to mow roadside brush, mowing should take place on a 2-to-3-year cycle. Once 2 to 3 years have passed with no mowing, vegetation has usually reached a size where mowing is no longer possible, and vegetation must be cut down or mulched with a forestry mulcher. Herbicides can be used to control roadside brush, but just like mowing there is a window of time when the vegetation can be treated. It is best to treat the roadside vegetation with herbicides when it is between 3' and 6' in height. The maximum height that roadside brush can typically be treated is 10' to 12'. Typically, roadside brush should be treated every 5 to 8 years with an herbicide, if the landowner decides herbicide control is the most practical on their property.

Road Conditions (check):

- ☐ Excellent (80% accessible*)
- ☐ Good (at least 50% accessible)
- ☐ Fair (at least 25% accessible)
- ☒ Poor (less than 10% accessible)

*Accessible for forest management purposes means, an acre of land is within 2000' of a road that could be used for commercial forest operations. The road may require routine maintenance or upgrades before it can be used.

Roads/Access Description: The property abuts Isthmus Road in two locations. Neither of these has effective access to the interior of the lot at this time. The northern frontage has a road, but the bridge has been removed as it was collapsing. The road in beyond the bridge heads up slope near Inland Wading Bird and Waterfowl Habitat, and then turns southwest across slope and forks to the north. This roadbed provides good access to all of the lot and has three areas that have been used as wood landings in the past. The north fork appears to need more gravel if it is to be used in the summer and fall. Overall, the road system has not been maintained in some time and has bad washouts of the gravel surface all along the sloped portions.

The access in the southwest does not have a road to the interior of the lot, but it does have a pullout from the paved road that can be the beginnings of a parking area. The parking area is right on the edge of the boundary, according to the flagging on the ground, so care would need to be made to not spillover use onto the abutters. If desired, a road could be built from here to access the property, but repairing the existing road and replacing the bridge would have a lower impact on forest cover on the lot.



Recreational Trails:

There is not a current recreational trail system on the property, but a good system could be developed. A trail system should be designed with multiple land uses in mind. Forest management with a trail system needs to use a buffer system to minimize visual impacts from the trails. If the trail system is too dense there will be no areas between trails to effectively manage with timber harvesting or even pre-commercial thinning for increased timber growth. A system building several loops may work on this lot, perhaps designing some trails to be used to skid or forward wood during timber harvests. The road should not be a trail because you would need to shut that trail down when vehicle traffic is present beyond one or two pickup trucks.

Using skidder/forwarder trails for recreation trails when not harvesting could be made easier with some work to the trails after harvest. The pictures below show trails created with various methods after harvesting.



**Hand Chipper
Trail**



**Forestry Mulcher
Trail**



Backhoe Trail

Boundary Lines:

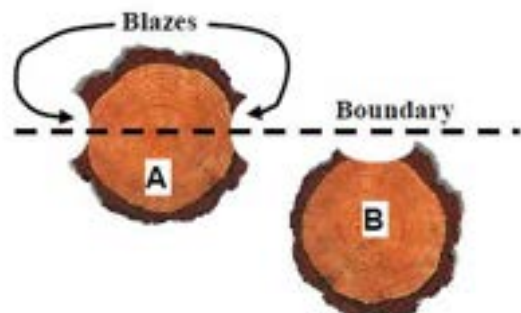
It is important to know the location of your boundary lines and to have your boundary lines clearly marked. Below is some general boundary line information referenced from the Boundary Line Information Sheet, published by the Maine Forest Service.

- An “Established” property line means a line demarcated by monuments, signs, markings, pins, reference points, or other markers that denotes a change in ownership between abutting properties. Established property lines are based on historical physical evidence of a preexisting boundary line or where this evidence is lacking a licensed surveyor can establish a property line. Only a licensed surveyor can establish a property line if there are no existing blazes or monuments.
- The landowner or a licensed forester may maintain a boundary line or reestablish a line where some monuments or blazes still exist. Reestablishing means adding blazes on trees between preexisting blazes. If you cannot sight from one blaze to another, it is recommended you either

- have the line surveyed, or you enter into a written boundary line agreement with the adjacent landowner for forest management purposes. Keep in mind that previously marked lines may be incorrect. The line may be relocated if a survey is done by a licensed surveyor.
- It is a good practice to get a written boundary line agreement confirming the location of existing monuments with adjacent landowners even if boundary line evidence is found. Monuments are relatively permanent features like drill holes or rebar pins, or iron bolts, etc., that are established by a surveyor. Tree blazes are not monuments, they are only an approximate location of where the line lies. A plastic cap listing the surveyor's license number may be found on rebar pins marking corners.
 - Line trees are those trees where the actual boundary intersects any part of the tree, such that part of the tree is on either side of the boundary. Because they may be evidence of a line, blazed trees on a property line serve as witness trees and should not be cut. Boundary line trees may have wire fence tacked to them as well.
 - Before permanently marking the boundary by either blazing and/or painting, it is recommended that the line should be walked with the adjoining landowner to ensure its location is mutually agreeable.
 - If there is a disagreement about a boundary line, it should be surveyed. The landowners may decide to share the costs; however, this is not always the case.

Boundary Line Maintenance:

- Flagging also known as ribbon or roll flagging tape is used by foresters, landowners, and logging contractors to temporarily mark boundary lines. Flagging is a temporary option to mark a boundary line and make it more visible, but it usually only lasts a few years.
- A more permanent option for marking boundary lines includes blazing and painting boundary line trees. When boundary lines are painted, they should be painted with high grade, durable paint. Use a color such as red, yellow, orange, or blue, these colors are easily seen and visible for long distances. In Maine, if you mark your boundaries in purple paint it means, "no trespassing". Conspicuous purple paint marks may be placed on trees, posts or stones on the restricted property as long as the marks are vertical lines at least one inch in width and at least 8 inches in length placed so that the bottoms of the marks are not less than 3 feet from the ground or more than 5 feet from the ground at locations that are readily visible to any person approaching the property and no more than 100 feet apart.
- If you blaze and paint trees along the boundary line, the following rule is used:
 - a. If the boundary line passes through the middle of the tree, blaze and paint on both sides of that tree where the line passes through it (Tree A).
 - b. Where the line passes adjacent to the tree, blaze and paint one tree only, immediately adjacent to the line (Tree B).
 - c. Be sure to blaze and paint both sides of the line so that it can be seen from either side. This will help prevent accidental trespass.
- Avoid blazing well-formed, large or valuable trees as blazing the tree may allow the entrance of bacteria and fungi causing decay. Blazes should be about 4 to 5 inches in diameter and located about five feet above the ground. Blaze often enough so that it is possible to see the next blaze easily.
- Boundary lines should be cleaned/brushed out for easy traveling and locating. Pruning limbs to head height and cutting small trees along the line will help. Cutting any vegetation on another's property requires permission. Check with the adjoining landowner before proceeding.



- Corner posts should be of some permanent material, with the adjoining trees (witnesses) marked for easy locating. Wood, with the exception of cedar, makes a poor corner post as in a few years it will rot and fall to the ground. Iron pipe is long lasting, easily transported and inexpensive, and is easily driven into the ground. Where available, pile small stones around any corner post. Paint the stones and the corner post. Only a surveyor can establish a corner monument unless adjacent landowners enter into a written boundary line agreement.
- High quality paint, properly applied, should last at least ten years in the woods; axe blazes should last longer. Lines should be checked and maintained annually or periodically. Lines and corners should be shown to family members so they can locate them in the future.

Boundary Line Conditions (check all that apply):

- ☐ Blazed & painted (Within 10 years) ☒ Blazed & painted (Over 10 years, in need of maintenance)
- ☐ Wire fence ☐ Rock wall ☐ Adequately flagged ☐ Old flagging
- ☐ Cleared of brush with good line of sight ☐ All corner markers found ☒ Partial corner markers found
- ☐ Other boundary line markings (_____)

Overall condition of boundary lines

- ☐ Excellent ☐ Good ☒ Fair ☐ Poor ☐ Non existent

Boundary Line Notes:

Most of the northern property line and the southwestern boundary is the edge of the Isthmus Road right-of-way. However, the other lines have long stretches of wooded boundaries with neighbors. There is a stretch within the wetland in the northwest. The lines are in fair condition all around, but need to be updated. Have the wooded boundaries blazed and painted. If lines cannot be followed a surveyor may be needed to establish lines on the ground.

2. PROPERTY HISTORY – see Ownership History Table on the next page

The Rumford Community Forest is made up of two tax lots derived from different ownerships throughout the land's history. Tax Map 206 Lot 2 is the larger of the two and was put together in the 1960s by Thomas Dickson, Sr. and Thomas Dickson, Jr. That land was then sold to Webb River Land Co., which then became Timberlands, Inc. Webb River and Timberlands were land management companies that managed their properties for timber, typically cutting moderate volumes from lots and re-entering relatively frequently with repeat harvests. When Timberlands ended, Lakeville Shores, Inc. then Eugene Caton became owners and appeared to be the owners that harvested the lot heavily. Since the ownership change to Cissel Enterprises, LLC in 2003 no substantial timber harvesting has been done on this lot. This ownership history has resulted in a roughly 20-year-old forest across most of the lot.

Tax Map 210 Lot 13 is a small lot adjacent to the Isthmus Road in the southwest corner of the property. It was owned as part of a larger property by the Nisbet family since at least the 1950s. Cissel Enterprises, LLC added this lot to the larger property they owned in 2005. The lot provides access to the road without having to cross Scotty Brook.

The Maine Historic Preservation Commission was consulted about any significant historic and pre-historic findings on the property. They wrote back that there are known Prehistoric or Historic archeological sites or known historic structures or buildings on the property. There is an old foundation along the woods road as it goes across the slope in the southern part of the lot. This area has grown in with brown ash, white ash

and elm trees, which is unusual as these species typically grow on wetter sites. The area around the foundation does not seem to be particularly wet, nor would you site your home on a site wet enough to promote brown ash.

Below is the ownership history of the two lots that make up the Community Forest.

Title Summary Tax Map 210, Lot 13

Information Source	Date	Book/Page	Listed Owner
Oxford County Registry of Deeds	December 6, 2022	5732/549	Red Hill Road, LLC
	January 4, 2005	3653/328	Cissel Enterprises, LLC
	August 27, 1999	2743/251	Berl E. Nisbet & Sandra J. Nisbet
	August 26, 1996	2366/130	Berl E. Nisbet & Harold Nisbet
	February 19, 1957	561/128	Robert Nisbet & June Nisbet

Title Summary Tax Map 206, Lot 2

Information Source	Date	Book/Page	Listed Owner
Oxford County Registry of Deeds	December 6, 2022	5732/549	Red Hill Road, LLC
	January 25, 2003	3231/325	Cissel Enterprises, LLC
	May 25, 2001	2948/74	Eugene R. Caton
	September 18, 2000	2865/141	Lakeville Shores, Inc.
	December 20, 1982	1189/95	Timberlands, Inc.
	January 7, 1975	846/80	Webb River Land Co.
	October 10, 1974	838/22	Thomas L. Dickson, Jr.
Lot 1			
	May 2, 1960	581/296	Thomas L. Dickson, Sr. & Thomas L. Dickson, Jr.
Lot 2			
	November 1, 1960	603/35	Thomas L. Dickson, Sr. & Thomas L. Dickson, Jr.
Lot 3			
	May 7, 1964	621/295	Thomas L. Dickson, Sr. & Thomas L. Dickson, Jr.
Lot 4			
	November 18, 1968	670/219	Thomas L. Dickson, Sr. & Thomas L. Dickson, Jr.

3. STATEMENT OF LANDOWNER OBJECTIVES AND IDENTIFICATION OF RESOURCE CONCERNS

The property has the potential for maintaining good forest health, producing high-quality timber products and wildlife habitat, and providing recreational opportunities that could tie in to those on nearby properties, tying the community together through trails. The following are the general objectives of the landowner:

- Forest Health
- Recreational Uses
- Wildlife Habitat
- Timber Income
- Educational Opportunities

4. MAPS

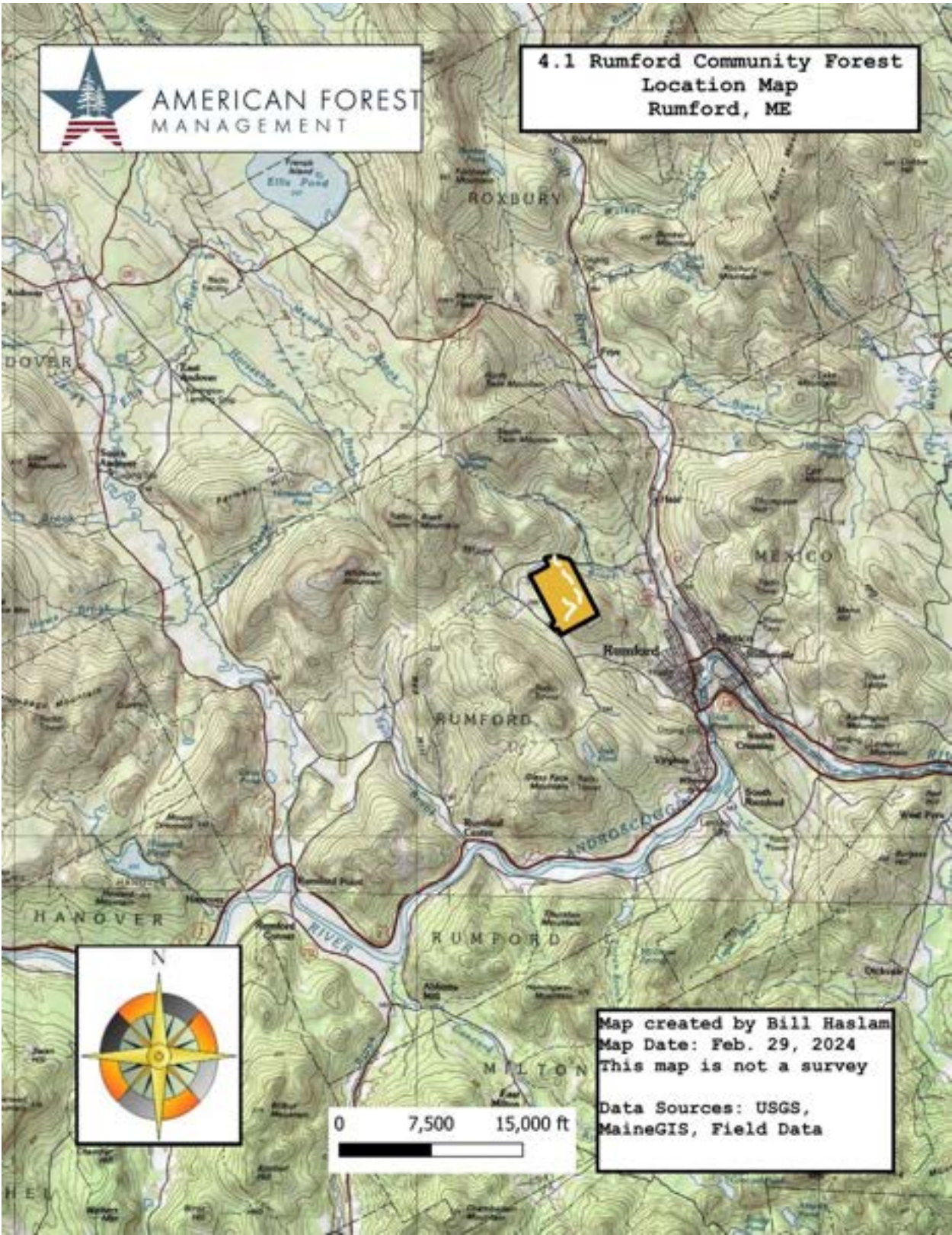
The following pages include maps that have been prepared and acquired for the purposes of planning forest management activities on the property. A description of each of the included maps is below. The maps listed below may be referenced in different sections of the plan. The maps included in this plan are not a legal survey.

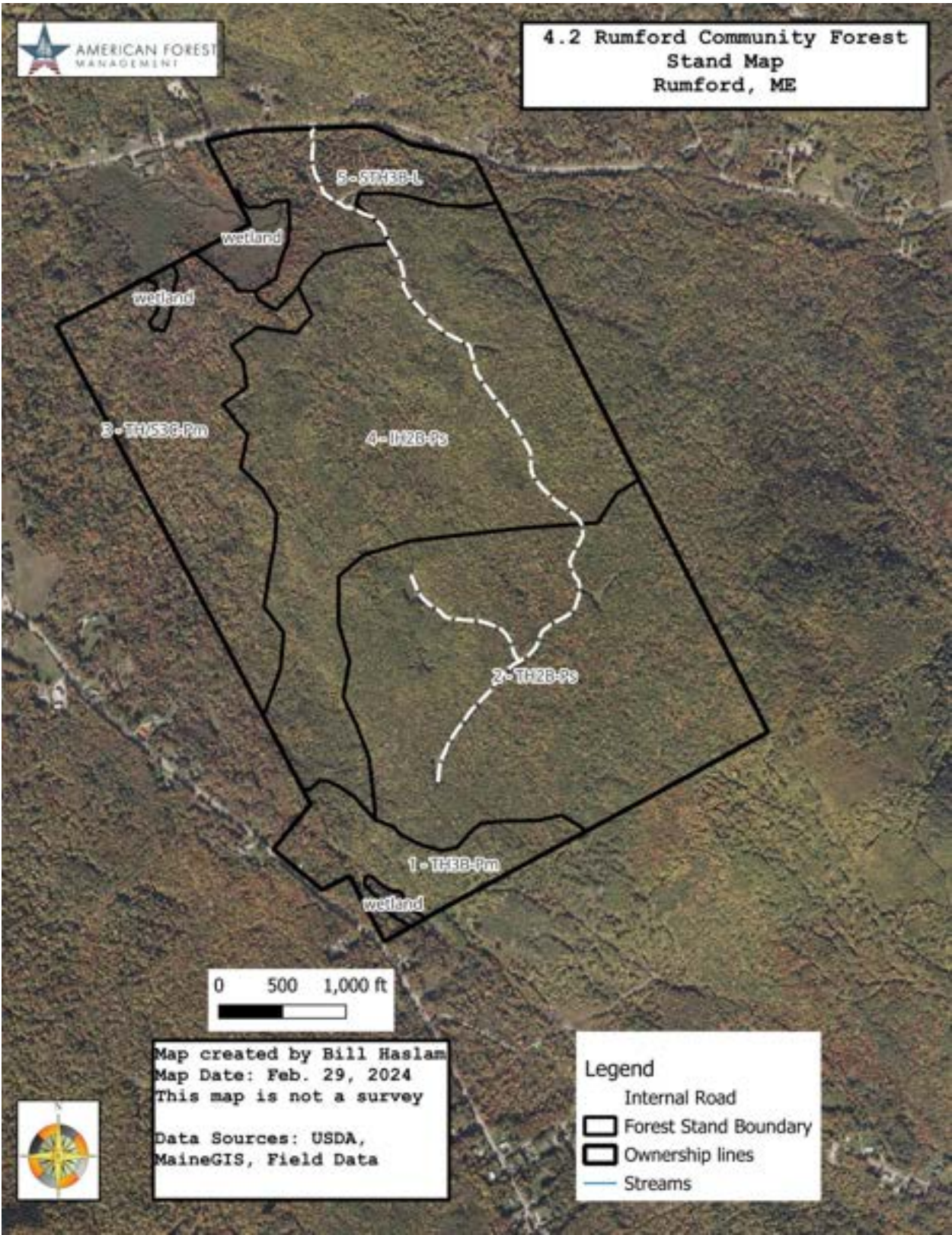
4.1 Location Map – Shows the location of the property in the larger context of its location in the landscape. Useful in determining the general location, slope, topography, and hydrology associated with the property.

4.2 Stand Map – A detailed map prepared specifically for the property and used for planning and operational purposes. The Stand Map includes:

- Property boundaries, correct to the best of the landowner's/forester's knowledge.
- Location of water bodies, including intermittent/ephemeral streams and stream channels that affect forestry activities, and non-forested wetlands.
- Forest stand types.
- Wildlife habitats (if any) identified by the Maine Natural Areas Program.

Other maps relating to soils, essential and significant wildlife habitat, and threatened and endangered species will be included at the end of the plan.





5. FOREST HEALTH

Currently, the following health issues are present on the property (check all that apply):

- ☐ Damage from natural disasters
☐ Damage from trespassers
☒ Pests ☐ Weeds ☒ Disease ☐ Invasive species
☐ Other _____

Health Notes:

The forest is generally in good health. The bulk of the tree stocking on the property is young stems in dense stocking. The one current health concern is that American beech on the property trees have **beech bark disease**. This is a fungal infection of the tree, brought on by a small insect that feeds on the bark. The fungi start small rotten patches all over the stem, weakening the wood and leading to the death of branches or the whole tree. This disease has been in the region for over 100 years and there is no treatment. Most trees survive for a reasonably long life, but with diminished growth, poor mast production, and a negative impact on overall forest health. American beech is a minor component of the forest on this property at this time. This is a low-level concern on this property. Compared with other forests with beech, there is a fair number of beech that do not show the disease at this time. Management of the forest should focus on promoting the growth of these “clean” beech over those exhibiting disease symptoms.

An emerging problem regionally is the **emerald ash borer**, a non-native wood-boring beetle that has been spreading in eastern states for the past 20 years. It has been sighted within 10 miles of Rumford in the last two years, making it an imminent threat. That said, there are few ash trees on the property – approximately 4% of the trees in the forest. Be on the lookout for ash and monitor the health of the trees. The first sign you would see of infected trees is that the bark is flaking off. This is uncommon in ash trees and would be caused by sudden heavy feeding by woodpeckers. The bark would appear pale brown or blond, and the effect is referred to as blanding. More information on the emerald ash borer can be found here: https://www.maine.gov/dacf/mfs/forest_health/invasive_threats/eab/index.shtml

Other invasive insects may appear in the area. Consult your forester or the Maine Forest Service for the latest information on these.

Browntail moth has been found nearby in the last few years. It had been spreading along the coast of Maine, now inland, for the past decade or so, causing forest and human health problems. The larvae of this moth carry hairs that cause rashes and respiratory problems. The hairs detach and fall onto the forest floor or lawns and irritate exposed skin and get lodged in the lungs when ingested. This can be a major health concern, so use caution when working outdoors from May to July. The caterpillars also defoliate trees, especially oak, cherry, apple, crabapple, shadbush and rugosa rose. In large enough concentrations, these caterpillars can defoliate many trees. This will degrade the health of the forest by depleting the trees of their nutrients. Repeated defoliations can cause trees to die. The caterpillars overwinter in small webs at the tips of host trees. It is a good idea to keep a watch for these webs in the winter and remove them from the tree if possible.

Invasive plants can grow rapidly and aggressively enough to out-compete and displace locally adapted native plants. Japanese knotweed various honeysuckle shrubs, Asiatic bittersweet, common and glossy buckthorn and Japanese barberry are among the well-known invasives in the area. No invasive plants were seen during the fieldwork for this management plan, but monitor the site regularly for invasive species and become familiar with the most common invasive species so they can quickly be identified if they become established. The following link offers extensive information on the current known invasive plant species: https://www.maine.gov/dacf/mnap/features/invasive_plants/invasives.htm

	Excessively drained
	Somewhat excessively drained
	Well drained
	Moderately well drained
	Somewhat poorly drained
	Poorly drained
	Very poorly drained



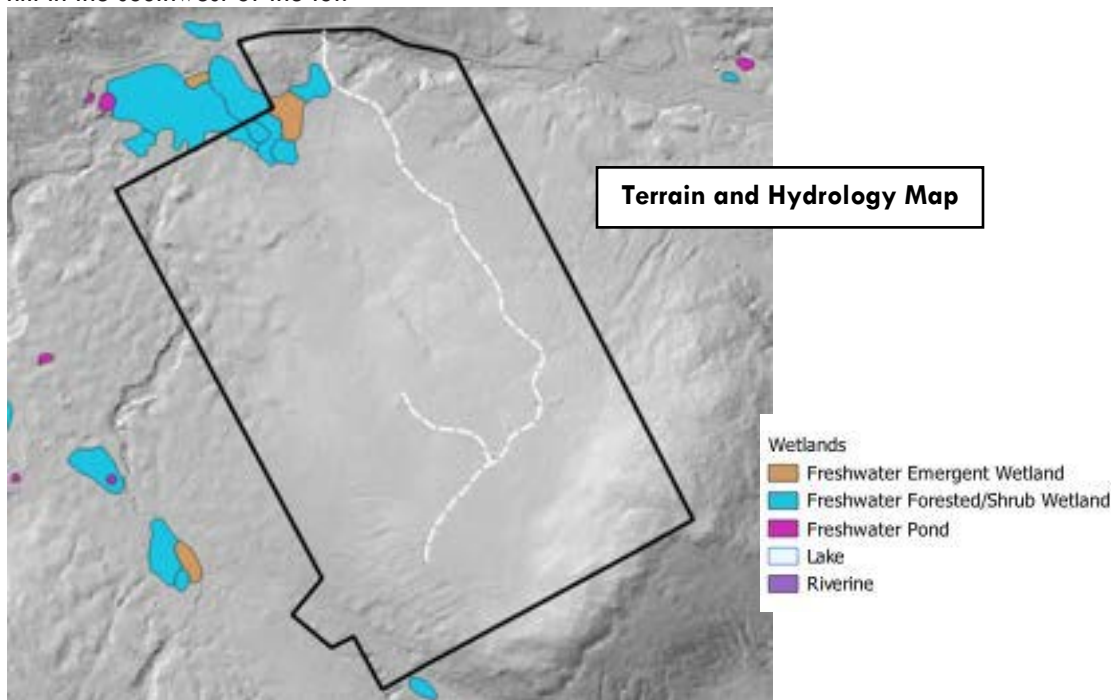
Soil Notes: There are two major soil groupings on the lot. Along the west side, there is a wetter soil type which is classified as Brayton-Peacham Complex, gently sloping, very stony. These soils have up to 10 inches of organic matter over fine sandy loam. The water table is high in these poorly drained soils, and there is frequently a dense layer within two feet, likely glacier-compacted material. There is more fir and ash in this section than in other parts of the lot. Across most of the middle of the lot from just above Scotty Brook up toward the upper slopes there are Peru and Marlow soils. These fine sandy loam soils are deep to the water table, have about two feet down to dense layers and are composed of mainly fine sandy loam. These soils are moderately well-drained, and grow most of the hardwood species found on the load in a rich mix. Further upslope are Lyman, Tunbridge and Monadnock soil types. These are loam over bedrock or sand and gravel. The soils are 2-4 feet down to bedrock or textured stratification. These soils are well-drained and display more surface stones than further down slope. There are more red and black oaks growing here. Down by Scotty Brook, the soils are bouldery and somewhat excessively drained. Hemlock and pine are much more common here.

Rutting is not a major concern where future harvesting operations would occur. However, it is recommended that the landowner implement all applicable state forestry Best Management Practices (BMPs) when the need arises to protect soil and water.

The property includes the following types of water bodies (check all that apply):

- ☐ Lake ☐ Creek ☐ Pond
☒ Vernal Ponds ☐ River
☒ Stream – Perennial or Intermittent
☒ Wetland ☐ Tidal
☐ No water bodies are on the property

Waterbodies Notes: There is a network of streams and non-forested wetlands on the property. Hydrologic surface water movement generally flows north toward Scotty Brook and associated wetlands toward the Swift River and the Androscoggin River. A small stream flows south out toward Bean Brook and the Androscoggin River. There was one small vernal pool observed during field work at the top of the hill in the southwest of the lot.



Best Management Practices

Best Management Practices (BMP's) are recommended procedures that, when applied appropriately, should result in the greatest protection of the environment during a timber harvest operation. BMP's are not regulations, but in some instances may be necessary for compliance with regulations. "Best Management Practices for Forestry: Protection Maine's Water Quality", is a great reference the Maine Forest Service has put together and is available online at

https://www1.maine.gov/dacf/mfs/publications/handbooks_guides/bmp_manual.html.

Most BMP techniques are based on a few basic principles. Below are 7 fundamental BMP's that are recommended on every harvesting job.

1. Define objectives and responsibilities:
 - a. Define harvest objectives.
 - b. Decide who is responsible for BMP's.
 - c. Determine legal requirements that apply to water bodies in or adjacent to the harvest area.
2. Pre-harvest planning:
 - a. Determine the harvest area limits and property boundaries on the ground. Know whose responsibility it is to identify the property boundaries correctly.
 - b. Identify streams, lakes or ponds, wetlands, and other features on maps and on the ground.
 - c. Identify areas where you need BMP's.
 - d. Delineate the harvest operation on the ground.
 - e. Choose BMP's that are appropriate to the site conditions.
 - f. Decide on BMP's for the entire harvest area and for closeout before beginning work.
 - g. Consider the needs of future operations on the same property.
3. Anticipate site conditions:
 - a. Time operations appropriately.
 - b. Determine whether previous operations in the harvest area created conditions that are impacting, or could impact, water quality.
 - c. Plan to monitor, maintain, and adjust BMP's as needed, especially to deal with seasonal or weather-related changes.
4. Control water flow:
 - a. Understand how water moves within and around the harvest area, and decide how water flow will be controlled.
 - b. Slow down runoff and spread it out.
 - c. Protect the natural movement of water through wetlands.
5. Minimize and stabilize exposed soil:
 - a. Minimize disturbance of the forest floor, especially in filter areas.
 - b. Stabilize areas of exposed soil within filter areas and in other locations where runoff has the potential to reach filter areas.
6. Protect the integrity of waterbodies:
 - a. Protect stream channels and banks.
 - b. Leave enough shoreland vegetation to maintain water quality.
7. Handle hazardous material safely:
 - a. Be prepared for any emergency.
 - b. Use and store hazardous materials properly.

Specific BMP's on the Rumford Community Forest:

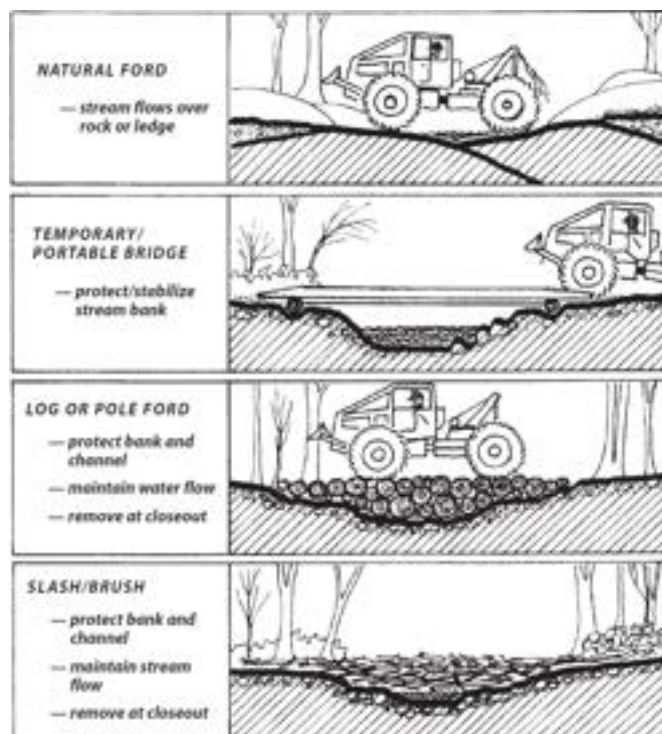
When harvesting, road construction, or trail construction is implemented on the property it will be especially important to follow BMP's in areas with proximity to the streams and associated wetlands.

A forester should be used to layout harvesting on the ground. They will need to clearly mark harvest boundaries and riparian zones associated with streams, and wetlands. Any harvesting, road building and trail projects should be overseen by a forester, to determine when stabilization of exposed soil is necessary, or determine when operations should be put on hold to allow the ground to dry or freeze. On poorly drained soils harvesting should only occur when the ground is frozen or dry. Sometimes poorly drained soils

can be operated on when the ground is dry, but brush will be needed to improve the bearing capacity of the soil. Close monitoring is necessary when operating on poorly drained soils when the ground is not frozen to ensure BMP's are protecting the sensitive soils.

If the small streams are crossed, a temporary stream crossing should be constructed. There are a number of options for a temporary stream crossing, and diagrams of each type of crossing is to the right (ex. natural ford, temporary/portable bridge, log or pole ford, and slash/brush). Different options are used in different situations. Stream crossings can have a significant negative impact on water quality. However, these impacts can be minimized by making sure your temporary crossing is properly installed.

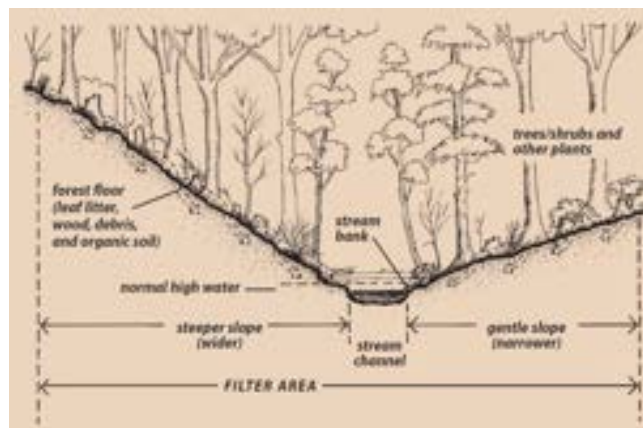
When planning a stream crossing it is important to remember several factors that influence the stream crossing. These factors include the stream channel itself, the stream banks, and the trails approaching the crossing within the buffer filter strip.



Filter areas, can be described as forested areas bordering waterbodies that provide important functions, especially filtering sediment and debris from runoff and preventing pollutants from reaching waterbodies. Filter areas have several components including;

1. The banks of the stream (or other waterbodies).
2. The forest floor that absorbs and filters water as it moves over and through the soil, ensuring the forest floor is covered with leaf litter and woody debris is especially important.
3. The trees and other vegetation that shade the water (minimizing changes in water temperature, stabilize the banks, and add woody debris and organic matter to the water and forest floor.

Limiting impacts to the components of the filter areas within a minimum distance from the waterbody (depending on slope) typically maintains these benefits and protects water quality. Below is a diagram of a filter area and its components, as well as a table showing the minimum filter area width as slope % increases.



When determining the filter area width remember that some shoreland zoning ordinances require wider widths than are listed, and also regulate how much vegetation can be harvested within filter strips. For more information on regulated filter strips within the shoreland zone, review section 6 of this plan, Legal Considerations Affecting Forestry Activities.

The approaches to stream crossings should be stabilized both during the harvesting operation when the stream crossing is in use, and following the operation. Stabilizing exposed soil is most important where sediment can be carried to waterbodies. Different materials may be used to reduce erosion on exposed soils. Temporary materials are often ones that will rot and/or that will be replaced by natural vegetation. Permanent stabilization is provided by long-lasting, sturdy vegetation, stone or artificial materials designed to withstand the force of moving water. Often, stabilization materials are used in combination with each other, providing both immediate, temporary stabilization, and permanent revegetation.

Hay or straw mulch can be used to minimize soil movement, and usually lasts one or two seasons, holding the soil until natural vegetation grows back. Mulch is often used after seeding exposed soil. If the approaches to the stream crossing are exposed following the removal of the temporary crossing, it is a good practice to seed and hay mulch the exposed soils. Hay and straw are not effective in areas of concentrated flows. When mulching exposed soil with hay or straw, use enough mulch to cover the soil completely or nearly completely. A common guide is approximately 90 lbs. of mulch per 1,000 square feet, or about 2 square bales for a 30x30 foot area.

Minimum Filter Area Width	
Slope (%)	Width from High Water Mark (ft)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70+	165

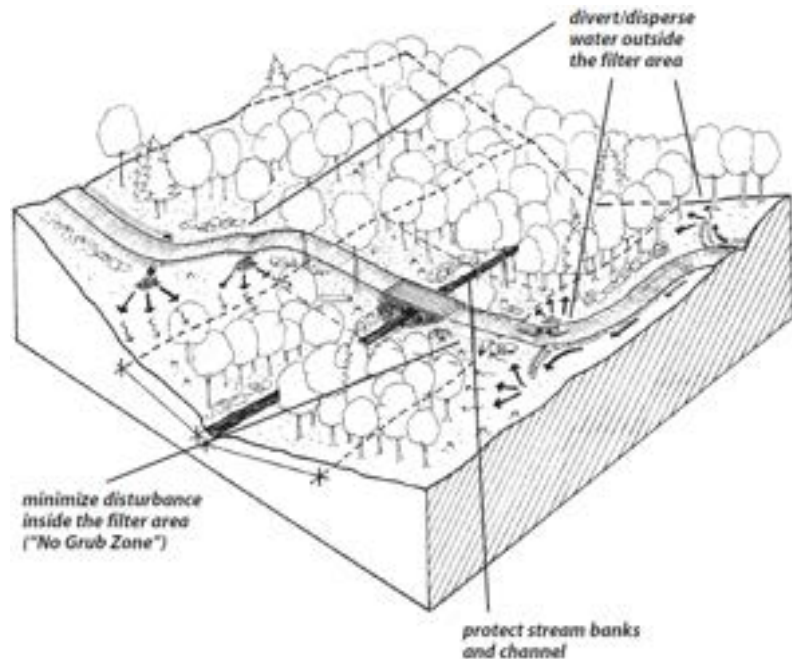
Brush, slash, and tops from harvesting are often readily available, and are excellent means of stabilizing exposed soils until the area revegetates naturally. Brush typically does not need to be removed except if it falls below the normal high water mark of the waterbodies. Use brush on approaching trails to the stream crossing that could erode and deliver sediment to streams. Whenever possible, put brush down before the soil becomes disturbed and the soil exposed. The more brush, the better.

Any new road construction should be planned and laid out on the ground by a forester or other natural resource professional prior to the start of construction.

Below are recommended BMPs when constructing permanent stream crossings (taken from the Maine Forest Service, BMP manual):

1. If possible, build crossings when streams are dry or at low water. If considerable excavation is necessary during periods of regular or high flow, temporarily divert the water while installing the crossings.
2. Install crossings and approaches using a "no-grub zone" at least the width of the filter area, wherever possible.
 - Minimize excavation on stream banks and approaches.
 - Construct road approaches using fill (instead of grubbing), leaving the forest floor undisturbed, especially outside the road profile. Consider surfacing with clean gravel or stone. This will stabilize the road surface, prevent it from eroding directly into the stream, and keep mud from being tracked onto the crossing structure.
 - Use geotextile and fill on unstable soils or during wet weather.

- Set abutments back from the stream's edge.
- 3. If installing a bridge, design using solid decking or other features to minimize the amount of material that falls through the deck and into the stream.
- 4. Road ditches should not terminate in the stream. Use a broad-based drainage dip or similar structure to divert and disperse water off the road just outside the filter area to the undisturbed forest floor.
- 5. Seed and mulch exposed soil on approaches within the filter area (outside the road bed). This should be done during or immediately after the road installation, in spring, or in early fall.



Sizing and Installing Bridges and Culverts:

Properly sizing and installing bridges and culverts in stream crossings is very important. Doing so will prevent these structures from failing or washing out, requiring expensive repairs or rebuilding. Moreover, washouts can significantly impact a stream's water quality. Planning a stream crossing involves selecting the best crossing location and type of crossing structure. The size of the bridge or culvert will be based on the opening size needed for the size of the stream you are crossing.

Step 1: Determine the degree of flooding the crossing must handle without being damaged or washed out. This will depend on what type of crossing you want and how long you anticipate the crossing to be in place. The longer a crossing is in place, the larger the flood that is likely to occur at any particular location.

Design the crossing opening to handle at least normal high water (a 1–3 year flood) for:

- Temporary trail crossings in place during summer, fall, and/or winter seasons (but not during spring runoff).

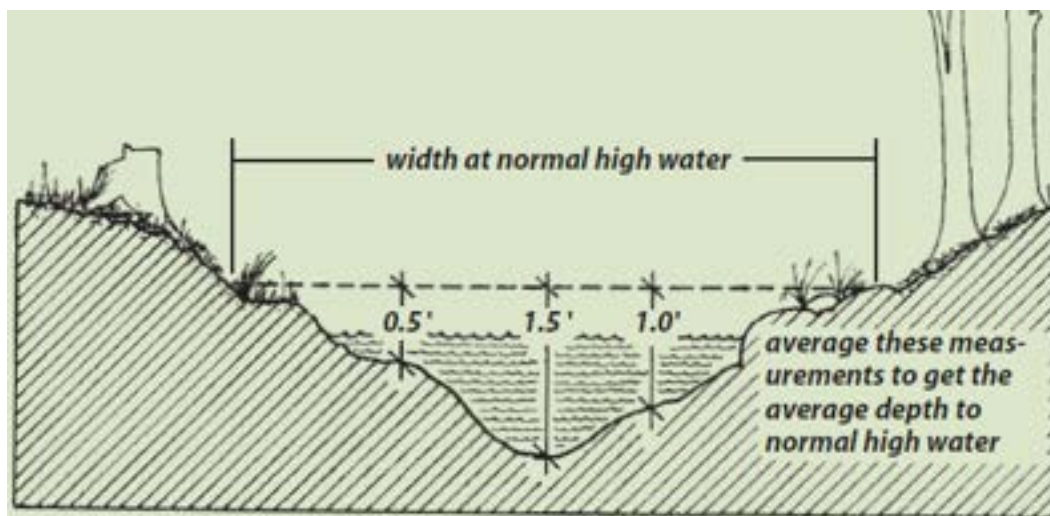
Design for at least a 10-year flood event for:

- Temporary trail crossings that will remain in place during spring runoff,
- Temporary road crossings, and
- Permanent trail or road crossings that will be regularly maintained.

Design for at least a 25-year flood event for:

- Permanent road crossings that will not be maintained, or
- Roads that will be put to bed without removing the crossing.

Step 2: Determine the opening size needed to accommodate the expected flood event. The field method described here calculates opening size based on the actual stream dimensions at the crossing location. Be sure to use streambank evidence to measure at the normal high water mark—not just the existing water level.



Measurement at Crossing Site: No stream measurements were taken during the inventory, but the tables below should be used when a permanent stream crossing is constructed.

- To accommodate **normal high water** (a 1-3 year flood), multiply (width) x (the average depth at normal high water), or keep all temporary bridge components above the normal high water mark.
- For a **10-year flood event**, use the 10-year Flood table below, or multiply (2.5) x (width of the stream at the crossing location at normal high water) x (average depth of the stream at normal high water).
- For a **25-year flood event**, use the 25-year Flood table below, or multiply (3.5) x (width of the stream at the crossing location at normal high water) x (average depth of the stream at normal high water).

10-year Flood				
Crossing Opening Size (square feet)				
Stream Width*	Average Stream Depth* (feet)			
Feet	0.5	1.0	1.5	2.0
1	1.25	2.50	3.75	5.00
2	2.50	5.00	7.50	10.00
3	3.75	7.50	11.30	15.00
4	5.00	10.00	15.00	20.00
5	6.25	12.50	18.80	25.00
6	7.50	15.00	22.50	30.00

* At normal high water mark.
Bold: Bridges, arches, or multiple pipes may be preferred on these larger streams

Table 4: Opening size at 2.5X the cross sectional area of stream.
Copied from the MFS "BMP Manual"

25-year Flood				
Crossing Opening Size (square feet)				
Stream Width*	Average Stream Depth* (feet)			
Feet	0.5	1.0	1.5	2.0
1	1.75	3.50	5.25	7.00
2	3.50	7.00	10.50	14.00
3	5.25	10.50	15.80	21.00
4	7.00	14.00	21.00	28.00
5	8.75	17.50	26.30	35.00
6	10.50	21.00	31.50	42.00

* At normal high water mark.
Bold: Bridges, arches, or multiple pipes may be preferred on these larger streams

Table 5: Opening size at 3.5X the cross sectional area of stream.
Copied from the MFS "BMP Manual"

Culvert Diameter and Opening Sizes	
Opening Size (square feet)	Diameter (inches)
0.20	6
0.80	12
1.25	15
1.75	18
2.40	21
3.15	24
4.90	30
7.05	36
9.60	42
12.55	48
15.90	54
19.65	60
23.75	66
28.26	72

Table 6: Culvert diameter for required opening sizes.
Copied from the MFS "BMP Manual"

Step 3: Design the bridge or culvert to meet or exceed the minimum opening size.

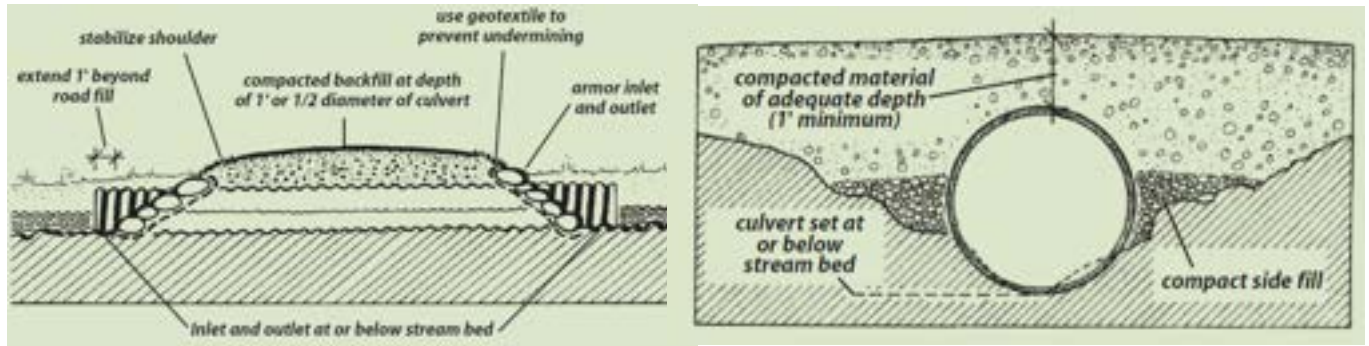
- For **bridges or box culverts**, determine a width and height that, multiplied together, produce a result that is at least as great as the square footage you determined you needed in Step 2. Bridges should be installed above the normal high water mark or higher.
- For **round culverts**, select a culvert size using the culvert sizing table on the previous page.
 1. Find the opening size in the first column that is equal to, or the next size up from, the opening size you determined in Step 2.
 2. Find the culvert diameter for that opening size in the second column.
 3. If you plan to use more than one culvert, be sure the total opening size of all culverts adds up to the minimum opening size you determined in Step 2. Add opening sizes of the culverts, not culvert diameters.
- For **pipe arches**
 1. Calculate the required opening size as in Step 2.
 2. Double the opening size, and use the culvert sizing table on the previous page to find the pipe arch diameter for that opening size. (The opening of pipe arches is approximately half that of round culverts of the same diameter). Make sure the diameter is wide enough to install bottomless/half-circle arch footings above the normal high water mark.

Step 4: Adjust the bridge or culvert size as necessary to:

- Minimize disturbance to the stream channel and banks,
- Allow for unrestricted normal flows, and
- Allow fish to pass when water is present.

When installing permanent culverts:

- Set the culverts with the bottoms slightly below the bed of the stream, and at a 2-3% slope. Avoid "hanging" culverts where the bottom of the culvert outlet is above the low water level.
- Extend the culvert inlet and outlet 1 foot or more beyond the fill or roadbed.
- Cover with compacted backfill to a depth equal to half the culvert diameter, or at least 1 foot deep.
- Stabilize the inlet and outlet of culverts and bridges using cobbles, timber abutments, or other armoring.



Water Related Regulations:

This parcel is located in **Rumford**, which is a municipality that has adopted Statewide Standards (SWS) for Timber Harvesting and Related Activities in Shoreland Areas. These standards are administered by the Maine Forest Service (MFS Rules Chapter 21).

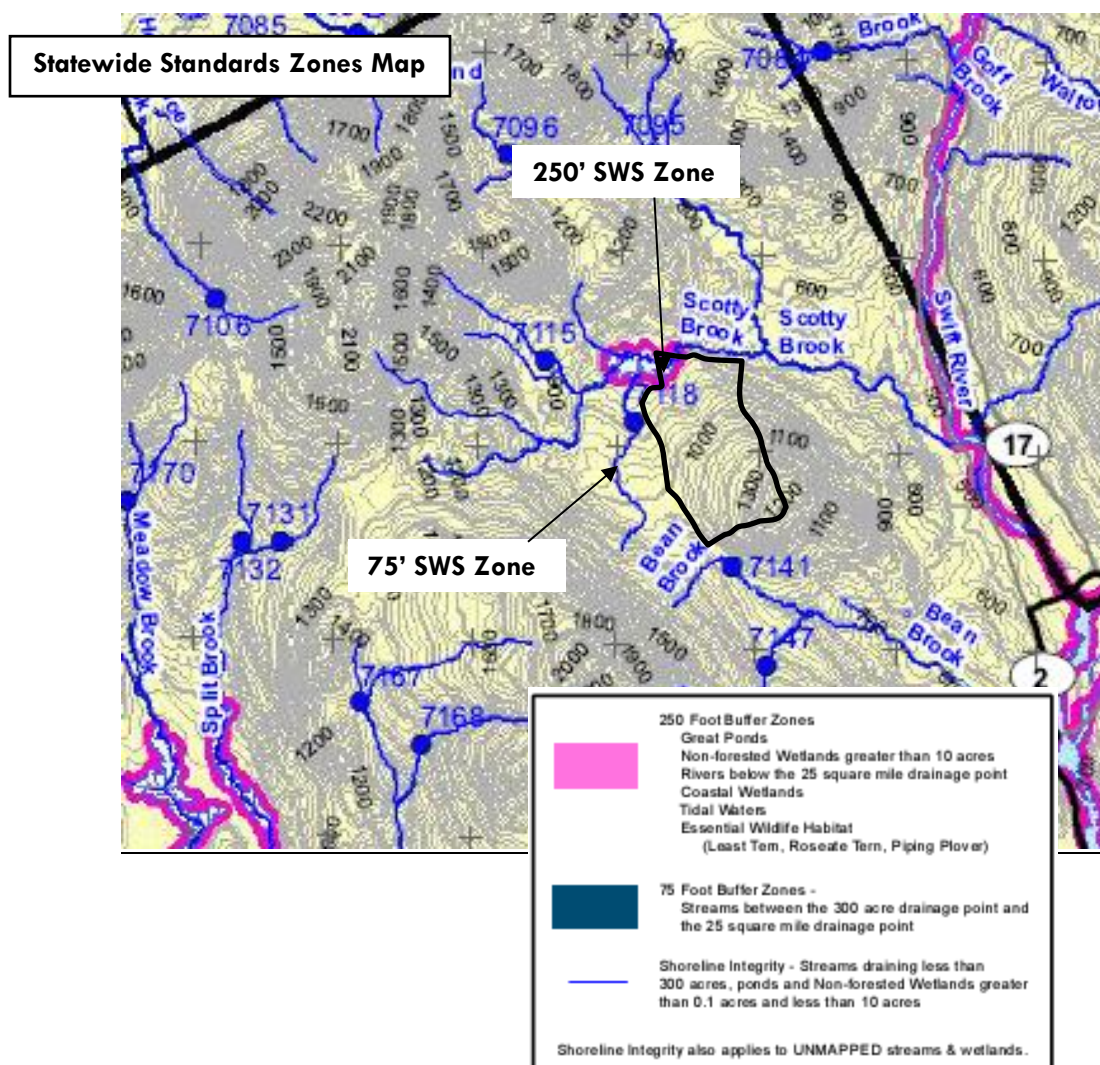
In Areas with 75-foot buffer zones:

- a. "40% Option": Harvesting no more than 40% of the total volume of trees 4.5 inches DBH or greater in any 10 year period; or
- b. "BA Option": The residual stand must contain an average basal area of at least 60 square feet per acre of woody vegetation, 40 square feet per acre must be greater than or equal to 4.5 inches DBH; or
- c. "Outcome Based Option": An alternative method, signed by a licensed forester or certified wildlife biologist may be proposed to the Maine Forest Service.
- d. A well-distributed and windfirm stand of trees must be maintained.
- e. There must be no cleared openings.

In Areas with 250-foot buffer zones (SWS):

- a. "40% Option": Harvesting no more than 40% of the total volume of trees 4.5 inches DBH or greater in any 10 year period; or
- b. "BA Option": The residual stand must contain an average basal area of at least 60 square feet per acre of woody vegetation, 40 square feet per acre must be greater than or equal to 4.5 inches DBH; or
- c. "Outcome Based Option": An alternative method, signed by a licensed forester or certified wildlife biologist may be proposed to the Maine Forest Service.
- d. A well-distributed and windfirm stand of trees must be maintained.
- e. No cleared openings within 75 feet of the normal high-water mark. At distances greater than 75 feet, the maximum opening size is 14,000 square feet. Openings greater than 10,000 square feet must be at least 100 feet apart.

The map on the following page shows where the zones are located.



7. WILDLIFE

Threatened or endangered species are those species that have been identified by either the federal or state governments as in need of special protections. Protection of occupied habitats and communities for these species is required by law.

The Beginning with Habitat website was reviewed to check for information on rare or unique botanical features, rare animal populations, and essential or significant wildlife habitats in the vicinity of the property.

Based on the Beginning with Habitat review:

- ☒ Threatened or endangered species or species of special concern are not currently known to be present on the property, but the lot is part of the Atlantic salmon critical habitat.
- ☐ Threatened or endangered species are present on my property. Therefore, steps are included in the wildlife notes below to address the management of this habitat.
- ☒ Mapped significant wildlife habitat is present. Therefore, steps are included in wildlife notes below to address the management of this habitat.

The full report from MNAP is included at the end of the plan. The lot is part of the area's Atlantic salmon critical habitat. This habitat is the uplands around streams that are tributaries to designated Salmon Rivers – the Androscoggin in this case. Scotty Brook is also good wild brook trout habitat. Following all BMPs is a sure way to ensure this habitat is maintained. Maintain the heavy shade that exists by the stream and promote more as management develops over the years. If a bridge replacement is decided for Scotty Brook, install a bridge with abutments well beyond the edge of high water so the water does not cut into installed fill, sending sedimentation into the brook. Scotty Brook has mainly a rock base and is quite curvy with pools, so there is no obvious need to create more habitat features in the brook.

The wetlands on the edge of the northwest corner of the property have an Inland Wading Bird and Waterfowl habitat block that extends 250 feet up from the wetland edge. Recommendations for these habitat areas are to minimize roads within the block and to cut lightly within the 250-foot buffer. Cutting 40% of the volume in any 10 years would be a minimum guideline for protecting this habitat.

The property is part of a large mosaic (1500 acres) of forest uninterrupted by roads and development between the downtown area and Isthmus Road. The area has the potential to support a wide variety of wildlife. Managing for a variety of forest canopy structures and a variety of tree species will help maintain this as vigorous wildlife habitat.

8. FORESTRY AND CLIMATE CHANGE ADAPTATION

Forests naturally capture carbon dioxide from the atmosphere, which is then stored as carbon in live trees, downed woody debris, and in the soil. This carbon can be stored for decades and centuries in living trees or in durable wood products like furniture or building frames until it is released when vegetation either decays or is burned. Maintaining or increasing the amount of carbon that can be stored by your woodlot is important to help reduce atmospheric carbon dioxide emissions and the effects of climate change in the future.

Some landowners choose to manage for storage of more carbon on their property. An improved forest management (IFM) project is when a landowner implements better sustainable forest management practices that increase carbon in the forest and in durable harvested wood products. Below are goals within a managed forest that can promote carbon storage. I have added ideas below that are feasible priorities on the Rumford Community Forest given the current stocking and species mix.

- Increasing the overall age of the forest by increasing rotation ages **-This is inherent in the forest due to the prevalence of healthy and long-lived species. The objective in this forest is to grow the trees continually to large sizes. Partial cutting and longer rotation ages for trees will also help increase carbon storage by keeping high stocking of stands and extending the time between disturbance of the soil and canopy.**
- Increasing forest productivity by thinning diseased or suppressed trees or managing brush and other competing vegetation like invasive species. **This young forest can see increased growth rates with pre-commercial thinning. Remove invasives when found to limit their out-competing the native vegetation.**
- Improving harvest practices, including operating on frozen ground to minimize soil disturbance and minimizing damage to residual trees. **-Minimize soil disturbance while harvesting. Operating on frozen ground or during dry conditions will help ensure this happens. The best time of year will also be affected by other uses on the property and how the uses interact. Good oversight of the harvest is also important. You do have soils that can be operated on during dry summertime, and recreational opportunities may require operating in non-frozen or frozen periods depending on the trail system development.**
- Maintaining a fully stocked forest of trees growing at optimum growth rates **-Light, frequent removals will keep stocking high, maximize the growth rates of the trees, and help grow high-quality stems that can be used for long-lived timber products when harvested. Durable wood**

products keep carbon stored in the wood long-term. Also, try to minimize diseased beech and invasives in the stands to keep a higher percentage of healthy stems in the forest.

- Favoring long-lived tree species that are less prone to disease and show more potential to adapt to climate change **—Maintain sugar maple, yellow birch, red oak, white pine, eastern hemlock and red maple as the predominant species in the stand. These long-lived species can maintain a stable, high volume on the stand. Minimize the aspen, fir, and white birch where you can.**

While some landowners are selling carbon credits for improved forest management (IFM) projects, at this time selling carbon credits may not be financially viable on the property due to high startup and maintenance costs (ex. feasibility analysis, carbon inventory, modeling, and third-party auditing) and a rapidly changing market. Carbon credits could be considered in the future if the demand for carbon credits increases, and startup costs decrease. The American Forest Foundation and others are beginning projects to assess emerging carbon markets for the viability of relatively small landholdings (less than thousands of acres). It is still an option for the landowner to implement IFM practices to improve the health and increase carbon storage of the forest moving into the future, even if carbon credits are not sold.

Maintaining healthy forests is an important contribution that landowners can make. There are many things that woodlot owners can do to prepare forest land for the anticipated effects of climate change. Some of the anticipated effects of climate change are listed below along with the management strategies that some landowners are choosing to implement to anticipate these effects.

1. Many experts anticipate tree species and wildlife habitats will shift northward and upslope. Some species that are present in Maine now are expected to decline including: sugar maple, red maple, black cherry, balsam fir, red spruce, yellow birch, paper birch, quaking aspen, eastern hemlock, American beech, and white ash. The species that currently grow to our south like red oak, white oak, and white pine are expected to be a more prevalent component in Maine's eastern and northern forests. Some landowners choose to favor pine and oak in anticipation of this change through pre-commercial thinnings, crop tree release, and pine shelterwood harvests.
2. It is also predicted that the frequency and magnitude of storms, periods of extreme heat, droughts, fires, and insect and disease outbreaks may increase under climate change. These disturbance events can damage trees and cause economic and ecological loss to the landowner. Managing for diverse multi-aged forests, with a diverse mix of tree species will best combat the increase of disturbance events. Also ensuring that the trees have adequate room to develop healthy root systems, full crowns, and are not overcrowded will better prepare the trees in the forest to withstand higher frequency and more severe disturbance events. Some landowners choose to implement pre-commercial thinnings and crop tree release harvests to ensure the species composition and health of the trees are adequate to best adapt to climate change and more frequent disturbances.
3. Invasive plant and insect species are expected to increase on the landscape with climate change. The increased frequency of disturbance events is expected to favor the establishment of invasive species by stressing native species and favoring the establishment of invasive species. Invasive species typically outcompete our native trees by becoming established and growing quickly following disturbance events. Climate change is also expected to expand the range of invasive species that are currently only located to our south in warmer climates. Invasive species should be located and eradicated early before they become a larger problem. Properties should be monitored regularly, especially following disturbance events to locate invasive species that may have colonized the site.
4. With higher average temperatures experts predict the winter logging period will be shortened, and mud season is expected to be extended. An increase in the frequency and severity of storms will decrease the number of days in a year that timber harvests can be implemented without causing damage to soils, including soil rutting and compaction. Landowners should be aware that logging contractors may be under increased pressure to find suitable ground to operate equipment and may be more willing to operate during marginal or unfavorable conditions to keep their operation in business. Best Management Practices will need to be applied more intensively by logging contractors and managers to protect sites with the anticipated increase in the frequency and severity of storms.

9. FOREST INVENTORY

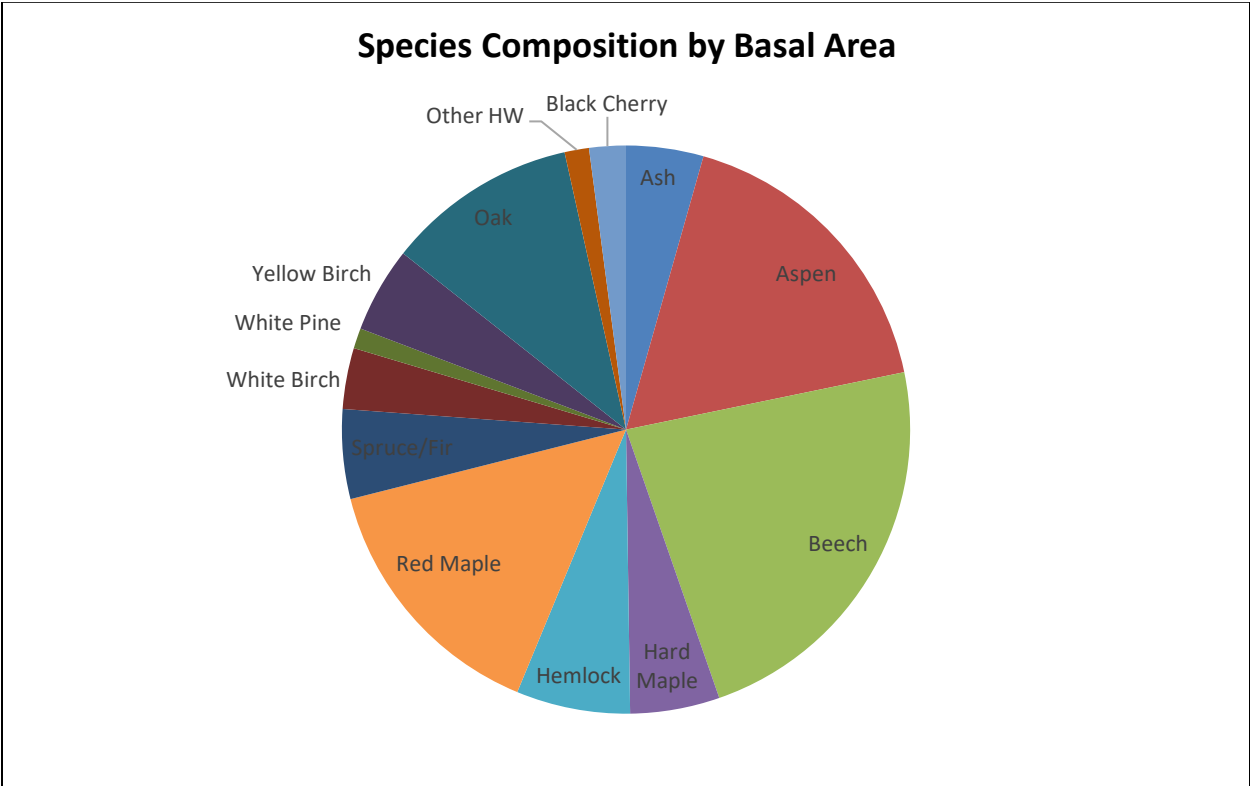
9.1 Field Methods

Boundaries of the forest property were determined from prior fieldwork. The forest was not stratified for the purposes of this inventory. **Sixty-seven** cruise points were systematically placed across the **437-acre** forested portions of the parcels on a 160-meter by 160-meter grid. Points located in non-forested areas (wetlands, old yards) were not sampled. Those in a road right-of-way were relocated by one chain in a cardinal direction to a forested area. A GPS was used to locate each point. Fieldwork was conducted during September of 2023 using 10 BAF variable radius cruise points. Tree species, diameter at breast height (DBH) to 1.0 inch and tree product/grade was recorded for all stems greater than 4.5 inches. A subsample of trees were measured for sawlog height and a merchantable height to a 4.0 inch top diameter inside bark (DIB). Stopper heights and top diameter were recorded for trees having excessive defect (excessive forking, broken tops etc.) before the 4.0 inch merchantable top diameter threshold. Regeneration information was collected on a 1/100th acre fixed radius plot. Saplings between 1.0 and 4.4 DBH were recorded by species and diameter class. Softwood seedlings > 1 foot tall and < 1.0 DBH and hardwood seedlings > 3 feet tall and < 1.0 DBH were tallied by species on the same fixed radius plot. The three most abundant ground cover species < 4.5 feet tall were recorded on a 1/500th acre fixed radius plot.

9.2 Inventory Results

Based on the inventory conducted there is a variety of species found on the lot. The dominant overstory tree species are American beech (1,197 cords), aspen spp. (886 cords), and red maple (820 cords). Red oak, eastern hemlock, yellow birch and sugar maple make up a fairly abundant second tier of species. The average diameter is 7.4", and the average basal area per acre is 64 square feet.

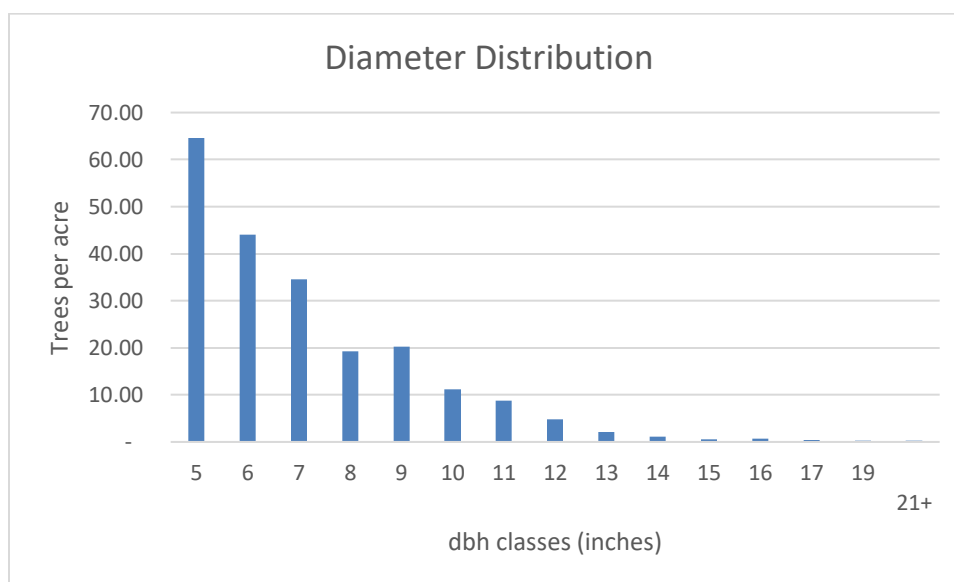
The chart below shows the abundance of all overstory species sampled on the lot.



Total Volume Estimates, Based on 437 Forested Acres

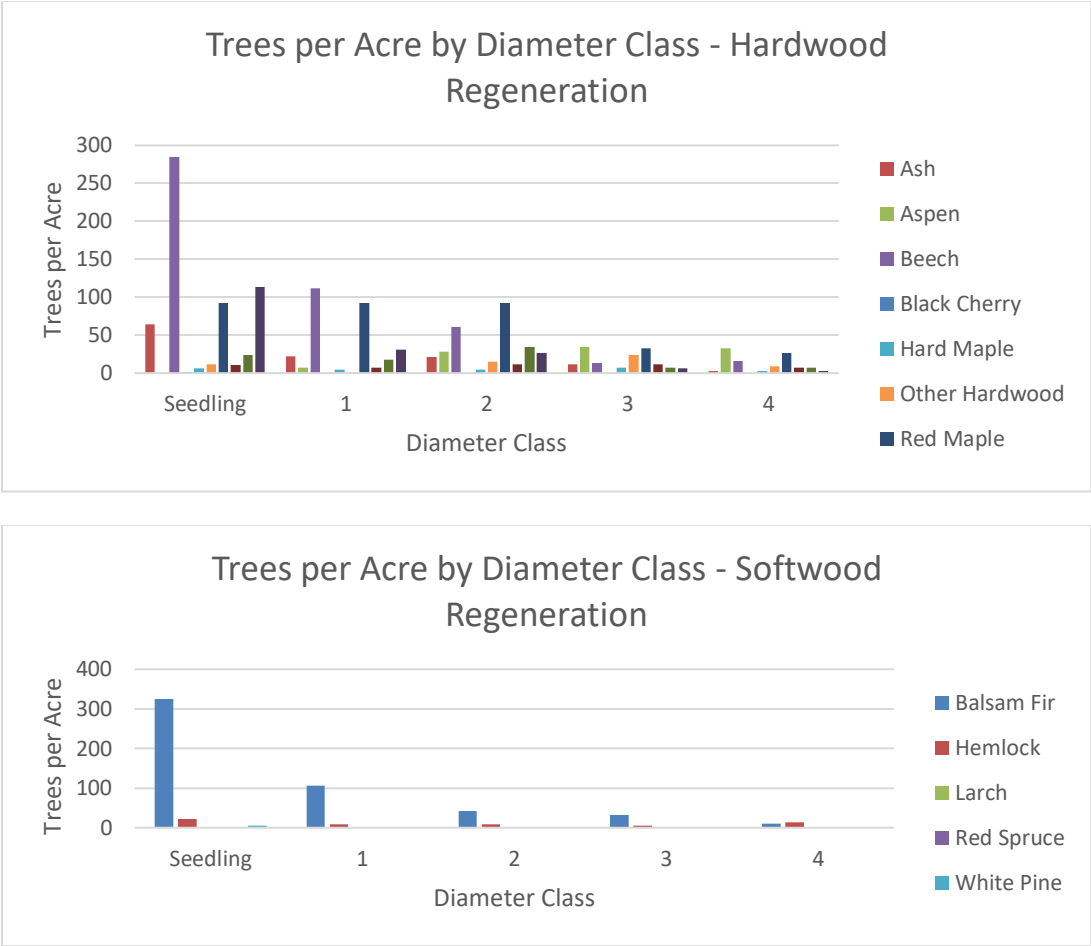
TOTAL TRACT TIMBER VOLUME														
SPECIES	BA	THOUSAND BOARD FEET (mbf)						CORDS				TONS		
		VENEER	SAWLOG 1	SAWLOG 2	SAWLOG 3	TIE	BOLTWD	ALL LOG	G STOCK	PULP	TOTAL	ALL LOG	ALL PULP	TOTAL
	8	0	136	11	4	-	-	344	-	314	657	896	740	1,636
Balsam Fir	3	0	16	-	1	-	-	48	-	140	189	105	292	397
Spruce, Red	0	0	7	-	-	-	-	22	-	1	23	44	2	45
Pine, White	1	0	31	5	-	-	-	68	-	47	115	132	90	221
Hemlock	4	0	82	6	3	-	-	206	-	125	331	616	357	973
	56	15	39	188	179	96	105	1,522	118	3,035	4,675	4,449	8,605	13,054
Maple, Hard	3	0	3	13	25	4	10	116	47	63	226	349	333	681
Maple, Red	10	0	6	18	26	29	29	253	19	548	820	649	1,456	2,105
Birch, Yellow	3	0	-	3	14	16	14	125	-	175	299	392	539	931
Birch, White	2	3	-	6	6	8	2	60	10	103	173	170	314	484
Poplar	11	0	-	73	58	15	2	478	38	371	886	1,248	1,082	2,329
Red Oak	7	12	21	48	39	13	22	316	-	219	535	1,157	817	1,974
Ash	3	0	3	22	11	10	4	108	-	112	221	304	334	638
Beech	15	0	7	4	-	-	22	68	5	1,124	1,197	179	2,979	3,158
Other HW	1	0	-	-	-	-	-	-	-	100	100	-	222	222
Black Cherry	1	0	-	-	-	-	-	-	-	220	220	-	530	530
	64	15	175	199	183	96	105	1,866	118	3,348	5,333	5,345	9,345	14,690

Table Key: TPA= Trees per Acre, MBF = Thousand Board Feet, CD= Cord, TN= Ton, BA=Basal Area, Sawlog 1,2,3, Veneer, Tie and Boltwd are log grades. GStock stands for growing stock – smaller than logs but of good form.



The graph above shows trees per acre by diameter classes of merchantable wood from the 10-factor variable radius plot sampling part of the inventory. It shows abundant smaller stems, but some larger stems still present. The larger stems are not found in all parts of the property, but are numerous in some of the wetter areas – mostly by Scotty Brook and at wetland edges. This chart paints the picture of a generally young stocking of trees overall.

Seedling and Sapling Abundance

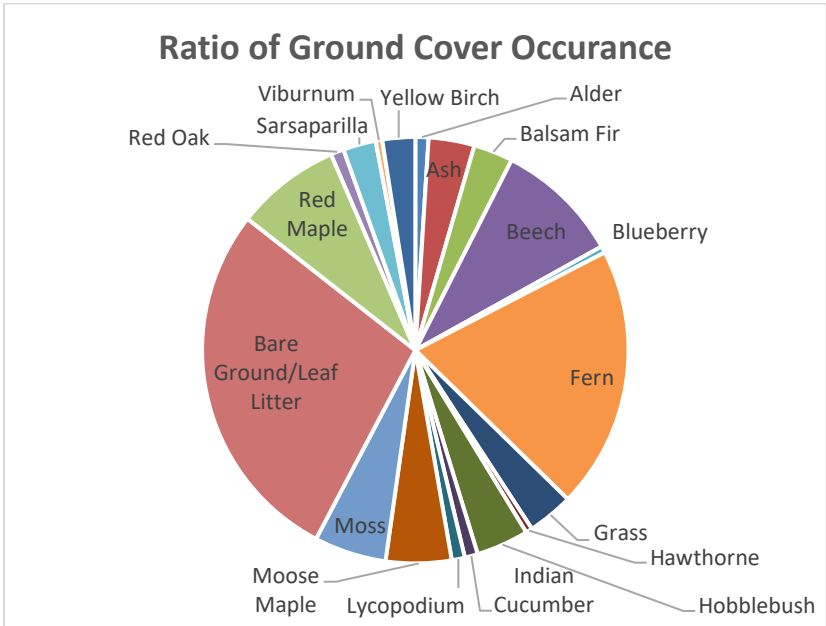


The two graphs above show seedling (<1-inch DBH) and 1-4-inch DBH sapling size classes. These data add to the picture of the current state of development on the lot. Young trees are abundant throughout. In these smallest sizes American beech, balsam fir, red maple and yellow birch are the most abundant, but many species are present as in the overstory.

TREES PER ACRE BY DIAMETER CLASS						
	Seedling	1- <2"	2- <3"	3- <4"	4- 5"	Grand Total
Hard Maple	6	4	4	7	3	25
Red Maple	93	93	93	33	27	337
White Birch	24	18	34	7	7	91
Yellow Birch	113	31	27	6	3	181
Beech	285	112	61	13	16	488
Ash	64	22	21	12	3	122
Red Oak	10	7	12	12	7	49
Black Cherry	1					1
Aspen		7	28	34	33	103
Other Hardwood	12	1	15	24	9	61
Balsam Fir	325	106	42	31	10	515
Red Spruce		1			1	3
White Pine	6	1		1	1	10
Hemlock	22	9	9	4	13	58
Larch	1	1				3
	964	416	346	187	136	2049

The table above shows the number of stems per acre for small-diameter tree stems (in 1-inch dbh classes). In these small sizes, beech, red maple and fir are the most abundant species. This differs slightly from the merchantable stems as aspen is less abundant in the smaller stems. This is likely due to aspen’s shade intolerance and quick development when given enough light.

Ground cover abundance is illustrated in the chart below. The four most abundant ground cover species or groups of species are leaf litter/bare ground, ferns, American beech and red maple.



10 Stand Level Information

10.1 Silvicultural Guide to Stand Prescriptions

Individual stand prescriptions will be recommended using the silvicultural systems and treatments discussed in this section.

Silviculture is the art and science of managing forests for desired outcomes. When silviculture is prescribed correctly it controls the establishment, growth, composition, and quality of forest vegetation. The focus of silviculture is not on what will be harvested, but more importantly how the forest stand will respond to treatment. The **science** of silviculture builds and organizes knowledge in the form of testable explanations and predictions about our forests. This science has been built by years of research regarding how our forests will respond to different treatments. While there is extensive knowledge surrounding the science of silviculture, there are numerous ways any one treatment can be operationally implemented. The **art** is determining the most sensible process to produce the desired changes in the stand, to meet the landowner's objectives.

A **silvicultural system** is a long-term planned sequence of treatments that will result in the forest having a certain structure. Stand structure is the extent to which trees occupy horizontal layers from the ground to the tops of the tallest trees. Silvicultural systems are named by the number of age classes present in the stand structure.

Even-aged systems create and maintain one age class. **Two-age** systems have two age classes arranged in a two-storied structure. **Uneven-aged** systems are characterized by three or more age classes with foliage typically dispersed from ground level to tree tops.



Even-aged system
(one age class)

Two-age system
(two age classes in
two-storied structure)



Uneven-aged system
(three or more age classes with
foliage typically dispersed from
ground level to tree tops)


Silvicultural systems are accomplished by implementing a series of **treatments** or cuttings. A treatment is defined by its purpose and the time of the application. Treatments are of two broad categories – **intermediate harvests** and **regeneration harvests**.

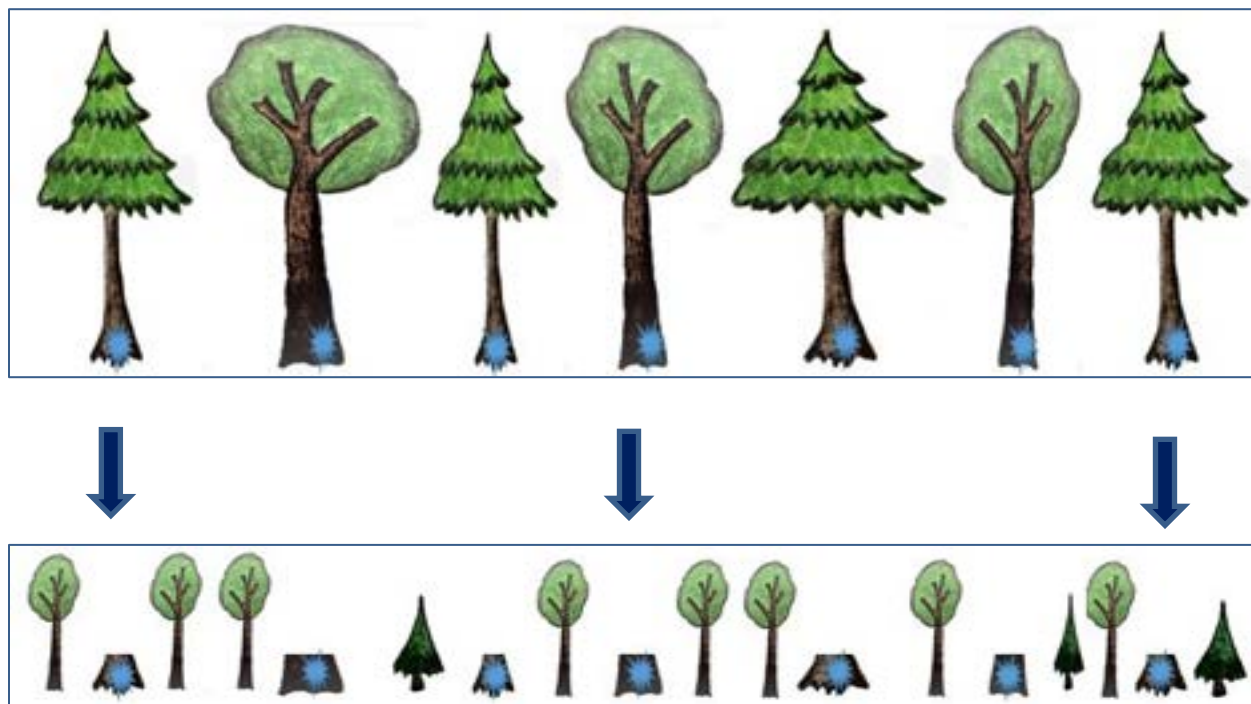
Intermediate harvests or treatments are thinning and improvement cuts to improve the quality of the current stand by the removal of undesirable species or poorly formed trees. Tree selection should be based on tree spacing, tree quality, and order. The goal is to leave a well-distributed stand of desirable species. Where desirable species are not present, less desirable species should be retained in order to have full stocking. Examples of intermediate harvests include thinning (both pre-commercial and commercial) and crop tree release harvesting.

Regeneration harvests consist of shelterwood and overstory removal cuts for the purpose of replacing the existing overstory with a new stand of desirable species. This is accomplished by a series of two or three harvests over the course of 10 to 20 years. The final harvest, known as an overstory removal, removes the remaining overstory so that the established saplings can grow.

Even-aged or Two-aged Treatments

Clearcut – seedlings are established in the open after all trees are removed. This is an effective method for regenerating shade-intolerant species including aspen and birch. In softwood, mixedwood, and shade-intolerant stands regeneration of shade intolerants and intermediate-tolerants can be enhanced by site scarification. A consideration may be to provide a seed source in the adjacent stand. In intolerant hardwood stands seedlings of white and yellow birch can be encouraged by scarification of the site. Root sprouting of aspen will be maximized by logging from October to April and by avoiding rutting the site during the harvest operation. Heavy advanced growth of tolerant weed species, including American beech, will have an adverse effect on the success of the new stand. Therefore, an effort should be made to cut or run over as much of the weed species during skidding.

 = Paint mark to cut tree

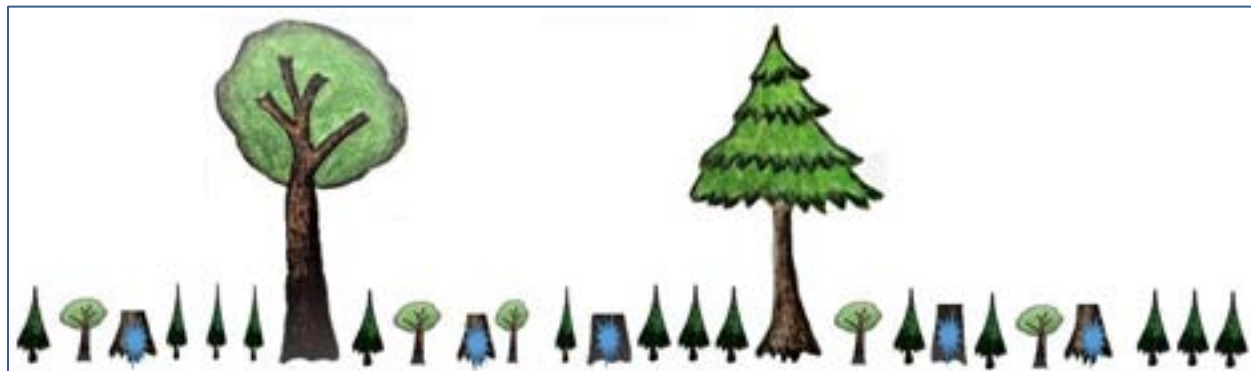


Seed tree

During a seed tree harvest seedlings are established in the open from seed provided by scattered large trees retained after the cut. This does not work well for shallow-rooted and/or shade-tolerant species, including hemlock, cedar, spruce, and fir.



Seed Tree Cut Implemented

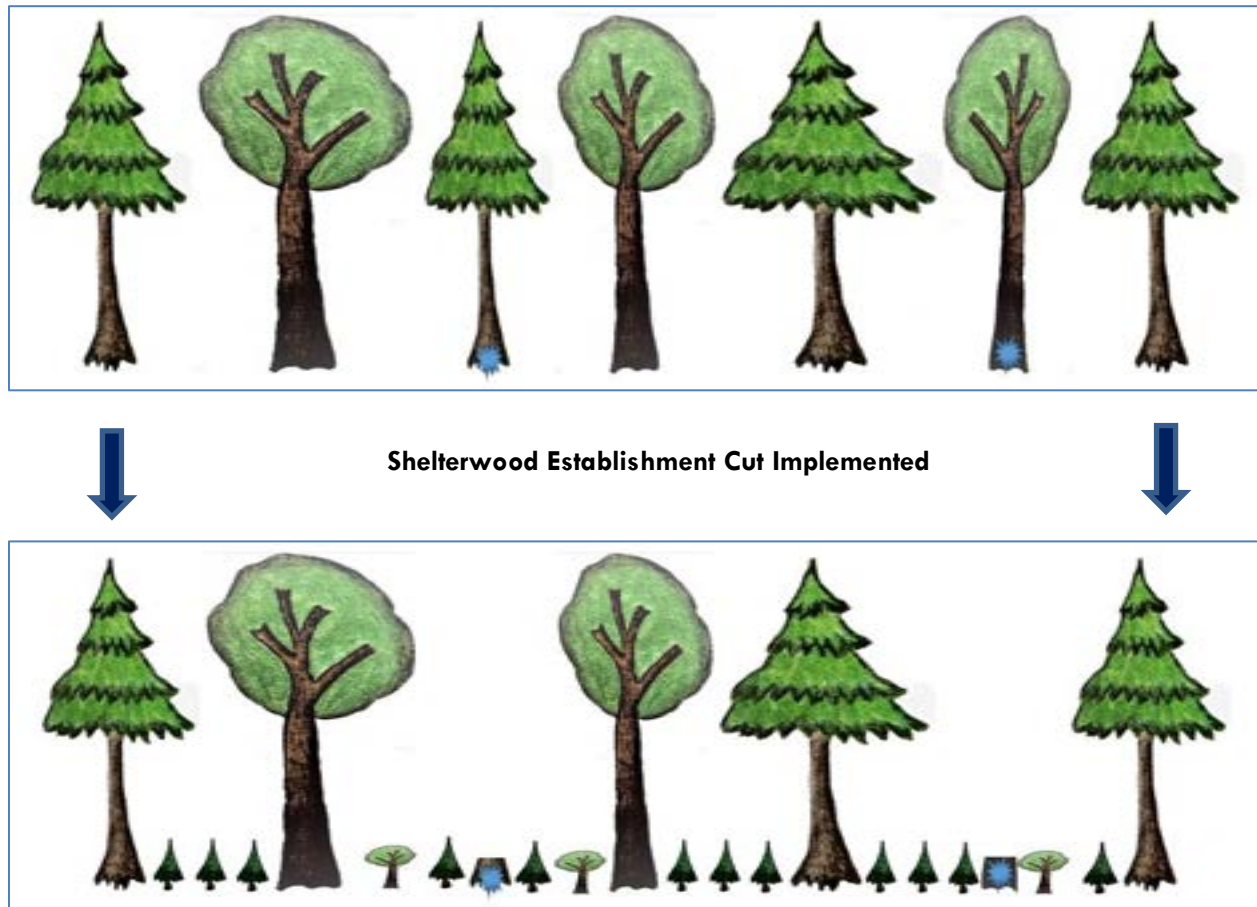


Shelterwood Harvest

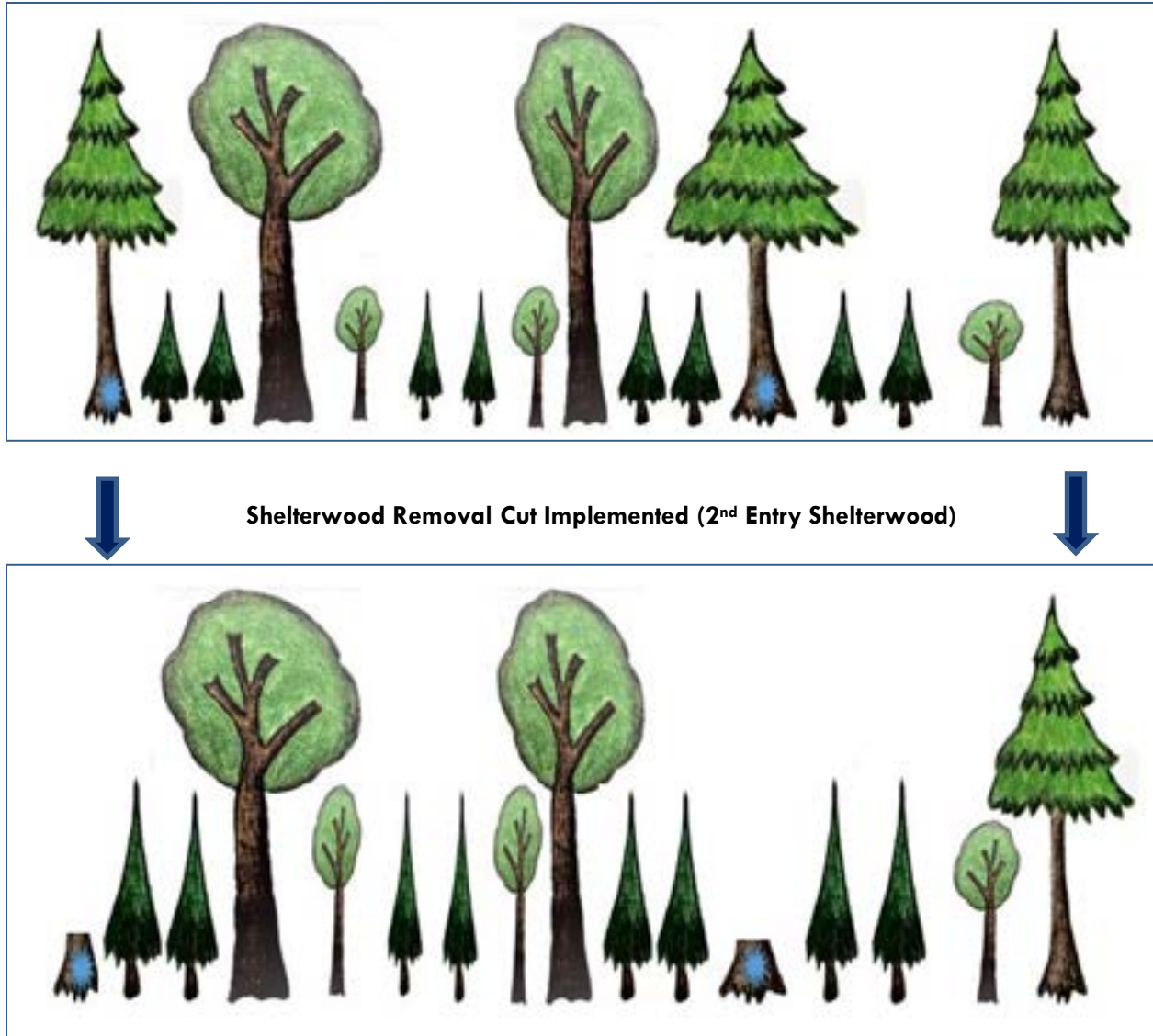
Shelterwood harvesting refers to the progression of forest cuttings leading to the establishment of a new generation of seedlings and saplings. The desired species are typically long-lived and their seedlings would naturally tend to start under partial shade. The shelterwood system gives enough light for the desired species to become established without giving enough light for weeds that thrive in full sunlight. Once the desired species is established, subsequent cuttings give the new seedlings more light, and the growing space is passed to the young seedlings and saplings.

Establishment cutting aims to establish the regeneration, and is done in a year when the seed crop is good. The intention is to provide a certain amount of light that is necessary for new seedlings to start, but not necessarily grow freely. In many cases the mineral soil is intentionally exposed, encouraging germination by providing a moister seedbed than the leaves and needles that normally cover the forest floor. The severity of the cut depends on the species being targeted: fewer trees are removed for species that tolerate more shade, more trees removed for species that require more light. It is important that just enough light be given to establish the desired species, without inviting undesired species that require more light. In an un-

regenerated stand, you should aim to remove 25% to 40% of the overstory basal area during the establishment cut. High grading should be avoided unless wind-throw is a serious concern such as on an exposed site or on shallow soils. On these sites patch clear cuts or alternating clear cut strips should be considered. Regeneration of pine by the establishment cut method can be enhanced by site scarification in a good seed year. When shallow-rooted species are in the overstory, trees should be left in groups to avoid the potential for windthrow.



Removal cuts are the second or third harvests in the shelterwood system and are designed to open the stand canopy up to allow for the development of established regeneration. Removal cuts are also called **2nd entry shelterwoods** or **3rd entry shelterwoods**. Approximately 50% to as much as 90% of the overstory basal area is removed during a removal cut. Since windfirmness of the residual stand is usually a concern and regeneration is already established, the harvest should remove larger softwoods and retain shorter softwoods, hardwoods, and pine.



An **overstory removal** or **partial overstory removal** is the final harvest in a shelterwood system and is performed to release the established seedlings, allowing them to grow freely. This is the most important part of the shelterwood system because the site's resources are deliberately transferred from one generation of trees to the next. Without this cutting, seedlings will stagnate or even die as the crowns of the older trees grow. All the mature trees may be removed in a complete overstory removal, or some may be left as **reserves** in a partial overstory removal. Reserve trees will continue to grow and may be harvested several decades later, or may be left to die of old age and contribute to the aesthetic, wildlife, and ecological value of the site.



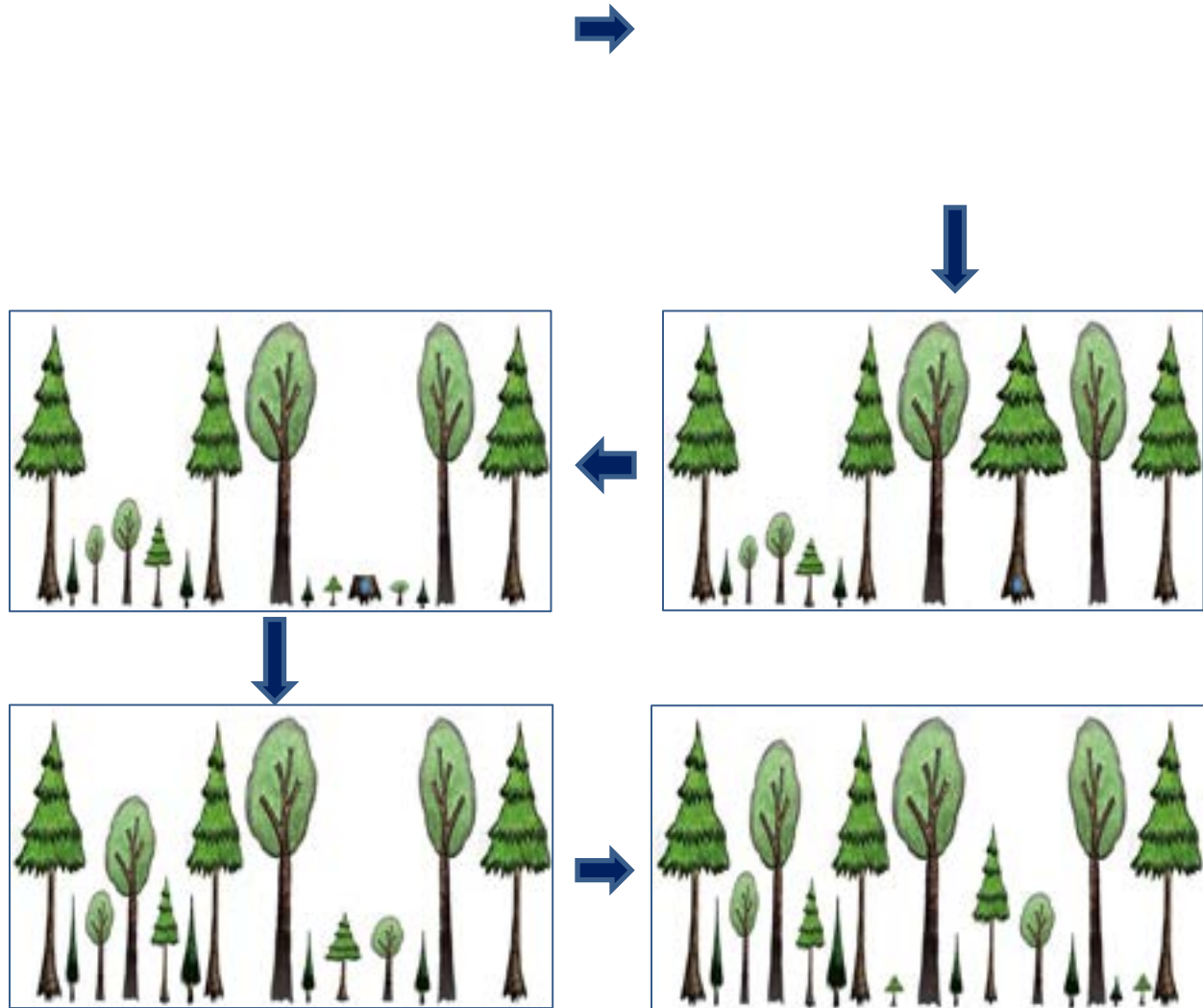
Overstory Removal Harvest Implemented



Selection Harvest

During a selection harvest, seedlings are established or are released in small gaps resulting from the removal of single or small groups of trees. These cuts are repeated at 10 to 20-year intervals, with the whole canopy never being removed at once. Canopy openings range from a single tree with single tree selection, to typically less than 2 acres in area when group selection harvesting is implemented. The size of the openings created during a selection harvest is determined based on stand health, required growing space of residual trees, preferred species to regenerate, and stand susceptibility to wind throw.





Intermediate harvests or treatments

Pre-commercial Thinning

PCT is a thinning method performed before trees reach merchantable size, typically before the trees reach 4.5 inches dbh (diameter at breast height measured at 4.5 ft. above the ground). The objective of a PCT is to release some trees in overstocked stands by reducing densities to prevent stagnation and increase the health and growth of the remaining trees. Many tree species regenerate by producing a great deal of seed, resulting in thousands of seedlings per acre. Natural regeneration practices in even-aged systems through seed-tree or shelterwood methods often result in extreme overstocked conditions that, left untreated, can stagnate growth and lengthen rotation ages.

The decision to PCT a stand is often difficult for many landowners because of the initial costs involved with implementing this treatment. However, allowing trees to continue growing in overstocked conditions will ultimately result in a stand of trees with small diameters and small crowns. Healthy trees generally need about one-third of the total height in live crown to sustain effective growth rates over the span of the stand rotation. Trees with as little as one-quarter to one-third live crown are capable of producing good tree

growth, but this is not the case with trees having less than 15 percent live crowns. Even when adequate growing space is provided, those trees do not respond to the available light.

When implemented properly and in a timely fashion, PCT increases diameter growth of residual trees and increases in tree diameter correlate to increases in tree volume. Additionally, PCT prevents the stand from stagnating, which could eventually lead to excessive tree mortality, and increase the potential for disease to enter the stand. A stagnated stand is one where the numerous trees per acre have small live crown ratios, small diameters and low volumes per acre. Additionally, PCT allows for desirable herbaceous vegetation to grow as more sunlight reaches the forest floor.

PCT could be, when applied properly, a tool to meet landowner objectives, enhancing forest health and providing many wildlife habitat benefits. Once natural regeneration is in place, determine the number of seedlings growing per acre. Stands in excess of 2,000 seedlings per acre should receive a PCT. PCT can be accomplished by mechanical or chemical methods but the primary goal is to reduce the numerous seedlings down to 400 to 800 trees per acre. Pre-commercial thinning is typically implemented in regeneration 5 to 20 years old.

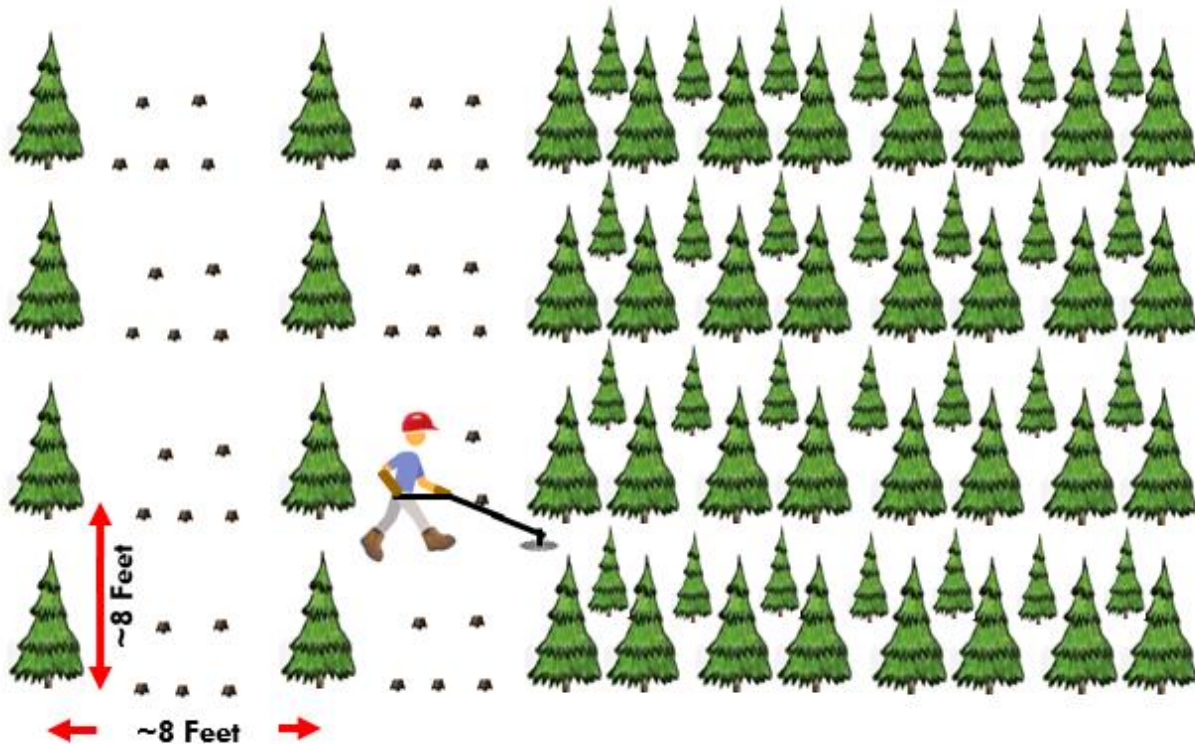


Above: Healthy stand of sapling balsam fir and red spruce with scattered white pine and other species that would benefit from PCT.

Areas that are dominated by trees less than 25 feet in height, have better drainage, with a presence of preferred species should be high priority areas to PCT. A forester should layout high priority areas to PCT, and oversee the PCT to ensure spacing is adequate and priority species are favored. Prior to implementing a PCT the landowner and forester should determine which tree species to favor, and prepare written specifications for a PCT. Below is an example of written specifications for a PCT.

Leave the most healthy, straight trees with minimal defects using the following criteria. Trees should have at least 40% to 50% live crown ratio.

1. Aim for an 8 x 8 foot spacing.
2. Keep the following species in order of importance.
 - a. red spruce
 - b. white pine
 - c. red oak
 - d. sugar maple
 - e. yellow birch
 - f. red maple
 - g. northern white cedar
 - h. white birch
 - i. balsam fir
 - j. aspen
3. Stump sprouts should only be kept if a single stem of a more desirable species is not present. Cut all but 1 to 3 sprouts leaving the most straight and healthy, without defects.



Crop Tree Release

Crop Tree Release (CTR) is a silvicultural technique used to enhance the health and productivity of individual trees while improving other resources such as wildlife habitat, recreation, timber value, and aesthetics. CTR is a practice that improves health and also shortens the harvest rotation of desirable crop trees by selectively cutting or killing less desirable competing trees in younger, overstocked forests. Additional wildlife benefits include increased mast and forage production, and habitat diversification both at ground and canopy levels. Selection of crop trees looks at trees with good future growth potential. This includes desirable species, with good form (straightness) and grade (lack of defects). Crop tree crowns should be in the upper level of the forest canopy, and not suppressed by other tree crowns. Availability of sunlight is often the most limiting factor for tree growth. When crowns of adjacent trees touch each other, growth rate is reduced. Cutting or killing unwanted trees whose crowns are touching the crowns of crop trees, provides more space for crown expansion. Competing trees can be felled and limbed to lie flat on the ground, or girdled and left to die standing. Dead trees left



benefit from a crop tree release.

standing provide wildlife habitat. Competing trees cut down become downed dead wood on the forest floor which is beneficial to wildlife and for nutrient recycling and improved soil quality.

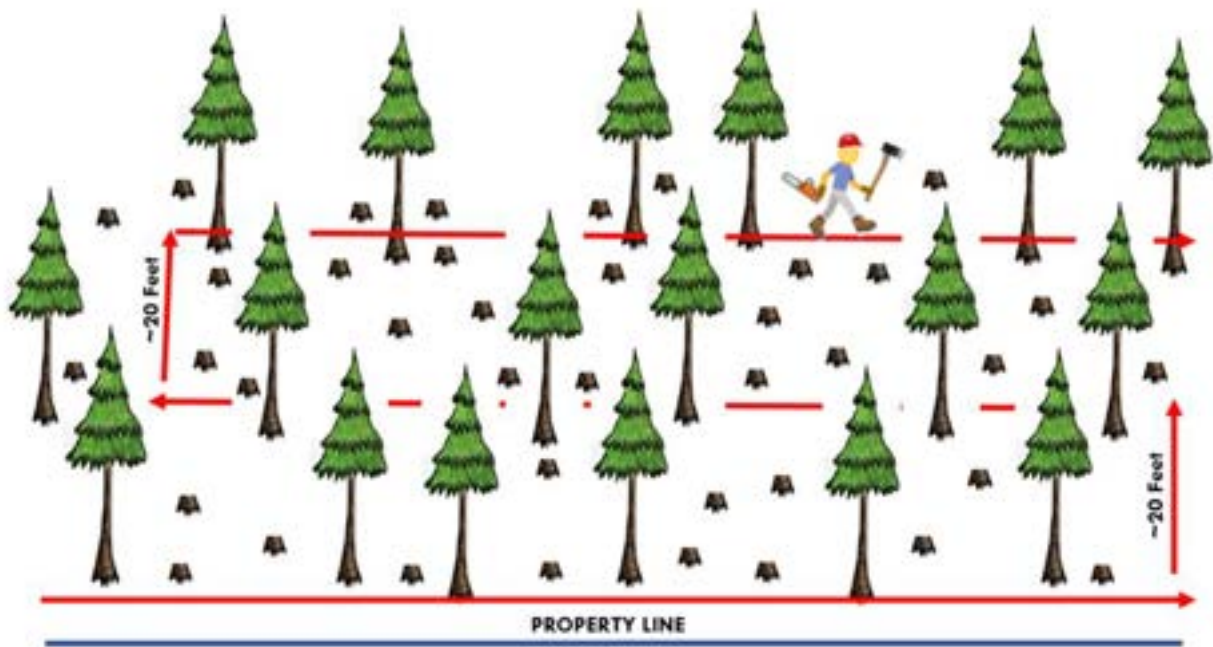
Areas that are dominated by trees greater than 25 feet in height, are at least 3" to 5" in DBH, have better drainage, with a presence of desirable species are high-priority areas to implement a CTR. A forester should layout high-priority areas to implement a CTR, and oversee the CTR to ensure crop trees are adequately released and priority species are favored. The following page includes an example of recommended specifications for a CTR thinning.

When marking crop trees on your property, a practical way to do this is to traverse your property parallel to the property line identifying a crop tree approximately every 17 feet in a softwood stand, and 19' in a hardwood or mixed wood stand. Of course, it is impossible to have uniform spacing in a natural stand. Aiming for spacing between 15' and 25' is recommended. The work can be done by the landowner with a small chainsaw or an axe in a pole-sized (submerchantable) stand. In a pole-sized (merchantable) stand a CTR could be implemented that generates commercial forest products. When harvesting equipment enters a stand there is always potential for damage to the residual crop trees that will be released during the operation. Therefore, thoughtful harvest operation planning, layout, and choosing the right equipment mix with a skilled operator is vital to the success of the CTR. A landowner should always weigh the risk/reward when determining if the CTR will be done commercially or if felled trees will be left at the stump.

Example CTR Specifications

Leave the most healthy, straight trees with minimal defects using the following criteria. Trees should have at least 30% to 50% live crown ratio.

1. Crop trees that should be released will be marked with paint prior the CTR being implemented.
2. Selection of crop trees should be determined based on the species listed below in order of importance.
 - red oak
 - white pine
 - red spruce
 - yellow birch
 - white birch
 - sugar maple
 - red maple
 - cedar
 - balsam fir
3. No more than 120 crop trees should be released in a mixedwood stand, and no more than 150 crop trees should be released in a softwood stand. A well distributed and stocked stand should be the goal following the implementation of the CTR.
4. Crop trees will be released on 3-4 sides of the crown by killing or cutting competing trees with crowns within 5 feet of the crown of the crop trees through felling, complete double girdling, or similar treatment. Competing trees on the West and South sides of the crop tree should be given priority for removal.



10.2 Stand Typing

There are 5 forest stands on the property. Stands are classified by species group, height, crown spacing, and stand development. Stand classification and types are described on the following pages.

Stand Type Key

Species Group	Description	Species Group	Description
HE	Hemlock: minor amounts of other species	SF	Spruce and balsam fir: minor amounts of other species
IH	Intolerant hardwoods: Aspen/white birch mix	SIH	Softwood with intolerant hardwoods: Spruce, fir, pine, maples, birches, beech, and other hardwoods
HIS	Intolerant hardwoods with softwoods: Aspen/white birch with fir, spruce, pine, hemlock	STH	Softwood with tolerant hardwoods: Spruce, fir, pine, maples, birches, beech, and other hardwoods.
LC	Lowland conifers: Cedar, black spruce, eastern larch mix	TH	Tolerant hardwoods: Maples, yellow birch, beech, and other hardwoods
PE	Pines: white pine and/or red pine	THS	Tolerant hardwoods with softwood: Maples, birch, beech, spruce, fir, and pine

Height	Description	Crown Spacing	Description
1	0 to 10 feet tall	a	81% to 100% crown closure
2	10 to 30 feet tall	b	61% to 80%
3	30 to 50 feet tall	c	31% to 60%
4	50 feet and up	d	0% to 30%
Stand Development		Description	
R		Regenerating: hardwood <5', softwood <3' in height	
S		Sapling: hardwood >5' in height, softwood >3' in height	
Ps		Pole (submerchantable): average DBH 3" to 5" DBH	
Pm		Pole (merchantable): average DBH 6" to 9"	
L		Log: average DBH 10+"	

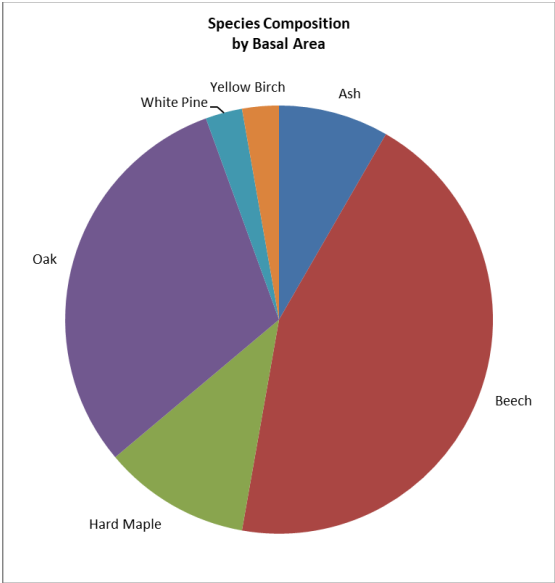
Examples:

TH3a-Pm	Maple/birch stand, up to fifty total height with a closed canopy. Based on the stand development rating of Pm (Pole merchantable) this stand could have a commercial thinning implemented as the trees are large enough. This is likely a stand that has not had a timber management action in the past 20 years.
SF3b-L/SF1a-R	Spruce/fir stand, up to fifty feet total height with a somewhat open canopy composed of sawlog-sized trees as would be expected after a thinning harvest treatment. The forward slash indicates this stand is two-storied, meaning a younger stand of densely growing spruce-fir is regenerating in the understory that is less than 3' in height.
IH1-aS	A sapling-sized aspen or white birch stand that is densely growing. This might be the result of a final harvest in a mature aspen stand where the new stand starts from seed or sprouts.

10.3 Individual Stand Descriptions/Prescriptions

Stand name: Hardwood 1 – TH3b-Pm 27 acres

Description: This mainly 20-year-old stand has larger trees than are generally found on the lot. It is found in the southwest corner of the property where the lot extends to Isthmus Road and extends upslope after you cross the Bean Brook, which includes the beaver bog at the south end of the stand. Acceptable growing stock is at 34% due to the abundance of beech and underdeveloped stems that have excessive limbs at this stage of development. There is some good growing stock and some large eastern hop hornbeam upslope near the boundary. The species present in the stand match the soils well. Except for the abundance of beech, you should continue to grow these species in this stand.



Dominant tree species: American beech (34% basal area), northern red oak (24%), and black cherry (20% near Isthmus Road)

Other tree species present: sugar maple (9%), white ash (7%), yellow birch (3%), and eastern white pine (3%)

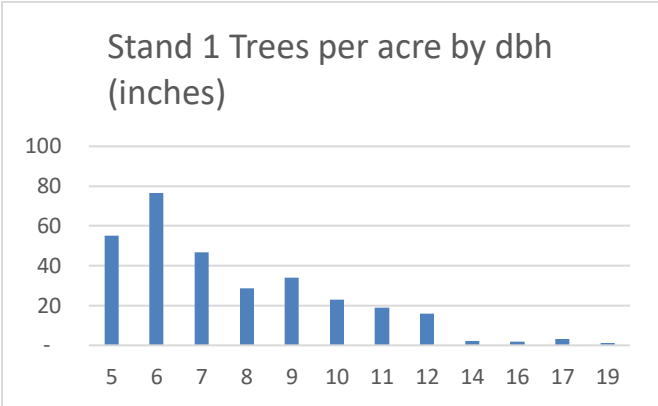
Acceptable Growing Stock 34%

Average diameter (QMD): 8.2 inches

Average basal area per acre: 113 square feet

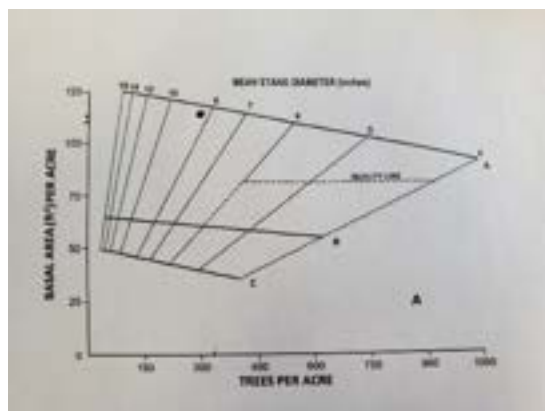
Average merchantable volume per acre: 24 cords per acre, or 45 tons per acre. This is based on 4 plots-7 acres per plot.

Trees per acre: 307



Trees per acre by species

SpeciesName	5	6	7	8	9	10	11	12	14	16	17	19	Total
Pine, White										2			2
Maple, Hard				7			8	3					18
Birch, Yellow						5							5
Ash						9		3					12
Red Oak	18		9			9	4	6			5	1	51
Beech	18	38	28	7	23		8	3	2				127
Black Cherry	18	38	9	14	11								92
Total	55	76	47	29	34	23	19	16	2	2	3	1	307



Stocking – Stocking in this stand is just under the A-line in the traditional stocking guide found in the Silvicultural Guide for Northern Hardwoods in the Northeast (NRS 132) by William B. Leak, Mariko Yamasaki, and Robbo Holleran. The A-Line is the lower limit of what is considered to be overstocked. The stand could be thinned to 70-75 square feet of basal area and still be considered fully stocked. There is 34% Acceptable Growing Stock (AGS), meaning you would expect the stems to develop into sawlog quality trees. The amount of beech with disease and limbiness of small stems accounts for the small percentage of AGS. Pre-commercial thinning will improve the amount of AGS trees if high quality trees are retained. As the stand matures, expect full stocking to provide 120 square feet per acre of basal area.

Site index – The stand has variable ratings for site index. The lower elevation has a site index of 60 feet for eastern white pine, which is a fair rating. Just upslope from there, the site is rated as 57 feet for sugar maple and 67 for sugar maple upslope from that. This is indicative of a stand with an elevation gradient. Overall, the site is good for growing northern hardwoods on most of the acres, but pine and other softwoods would be a good focus in the lower elevation near the small brook and beaver pond area.

TREES PER ACRE			TOTAL STAND VOLUME											
SPECIES	DBH	BA	THOUSAND BOARD FEET (mbf)				CUBIC FEET				TONS			
			VENEER	SAWLOG	SAWLOG	SAWLOG	SO	SOFTWOOD	ALL LOG	STOCK	PULP	TOTAL	ALL LOG	ALL PULP
Pine, White	2	3	-	10	-	-	-	19	-	-	19	36	-	36
Pine, White	2	3	-	10	-	-	-	19	-	-	19	36	-	36
Pine, White	206	128	3	19	30	27	7	23	179	403	602	584	1,218	1,799
Maple, Hard	28	10	-	-	-	11	-	2	28	-	7	35	85	120
Birch, Yellow	5	3	-	-	-	-	-	-	-	13	13	-	67	80
Ash	12	8	-	-	8	3	-	-	22	-	22	62	50	112
Beech	127	40	-	-	-	-	-	12	22	-	168	59	443	502
Red Oak	52	28	3	10	25	3	7	7	100	24	130	379	97	476
Black Cherry	62	23	-	-	-	-	-	-	-	227	227	-	546	546
TOTAL	206	128	3	19	30	27	7	23	179	-	602	621	1,218	1,799

Sawlog to Pulp Ratio – Sawlogs make up 33% of the current stocking. This is mainly due to the youth of the stand. As it develops, more of the current stems will self-prune and develop into higher-quality products when cut. Pre-commercial thinning leaving the best-formed stems will also accelerate the improvement of quality as the young stems grow into sawlog sizes.

Understory – The stand is mainly sapling and small pole-sized trees, so there is not a great deal of younger regeneration as the low shade does not allow their development in the stand. Seedlings, saplings and shrubs are found in patches in parts of the stand. By the edge of the beaver pond there are some fir and white pine seedlings with shrubs. There are ferns evident during the growing season.

Stand Health Concerns – Beech bark disease is present in the stand and is affecting the quality of the beech. Black cherry has black knot which affects the health of most trees. Unfortunately, these diseases are common in this region and has lead to these two species not being a reliable tree for long-term health in stands. White ash is present in this stand, but there is no sign that emerald ash borer or ash diseases are affecting them. This stand is relatively young and is still developing so there are healthy live crown ratios on most trees.

Preferred stand development – Beech is abundant here, as it is in other stands. Manage the stand to ensure there is a variety of species in the stand. Red oak and hard maple are common and making sure they are allowed to develop will allow the stand to remain diverse as it develops. Black cherry is found in the lower ground near the brook and wetland. Promote this species in this wetter ground. White ash is common but is susceptible to emerald ash borer when/if it arrives in the area. Try to maintain some vigorous ash stems to give the species a chance to remain in the stand if most ash is killed by the beetle. Ash stems smaller than 1-inch dbh will not sustain the lifecycle of emerald ash borer larvae so it is a good idea to protect these small trees for future ash development on the lot.

Recommended silvicultural treatment:

- ☐ Clearcut ☐ Seed tree ☐ Shelterwood ☐ Selection ☐ Thinning ☐ Patch cuts ☒ Let grow
☒ Pre-commercial Thinning ☐ Crop Tree Release

Written prescription/recommendations:

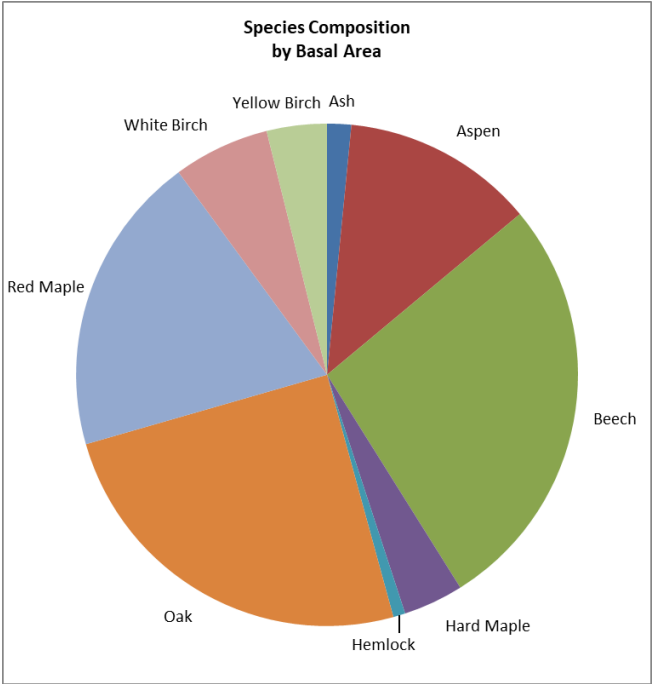
Space sapling trees where they are abundant to maintain diversity. Leave healthy sugar maple, red oak, yellow birch, white (and brown) ash where found, but cut trees to provide 6-8 feet of space between stems. This will accelerate the growth of each retained stem and allow you to select a diverse mix of species to develop, including healthy ash that may make it through an emerald ash borer infestation.. You will want to leave some beech to have it as a part of the mix. Cut beech and red maple can have glyphosate or other effective herbicide applied to the cut stem to stop them from sprouting and increase competition of these sprouts with the retained stems.

Desired future conditions:

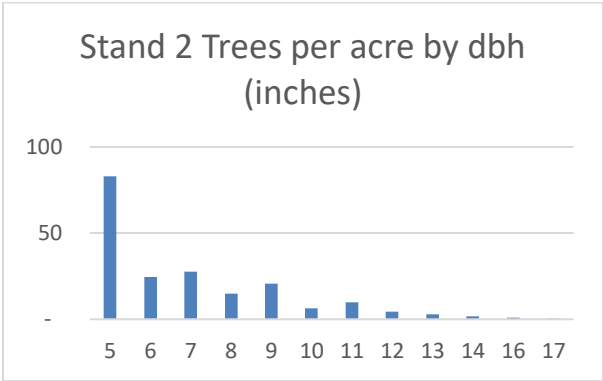
A vigorously growing, diverse mix of hardwoods with some white pine and fir in the mixture. Eventually, diversify the age classes by either cutting patches for new regeneration or doing a more widespread selection harvest to add young, shade-tolerant species.

Stand name: Hardwood 2 – TH2b-Ps 147 acres

Description: This 20-year-old stand is located on the upper slopes of the hill and down across the woods road as it cuts southwest across the slope. As you gain elevation, the mix of trees changes from more beech and red maple to oak and yellow birch, more white birch, then oak on the ledgy upper reaches of the stand. This change in composition looks to result from soil depth and composition and some elevation and exposure factors. There is at least one small vernal pool in the upper reaches of the stand. Three wood landings are contained within this stand along the old road system. There is an old homestead just south of the road that has numerous white and brown ash and elm growing within the dooryard.

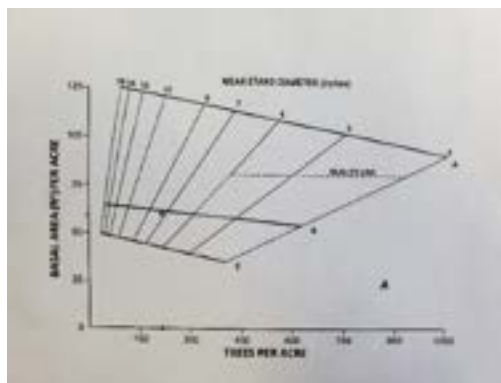


Dominant tree species: American beech (26% of basal area), northern red oak (25%), red maple (19%)
Other tree species present: aspen spp. (12%), white birch (5), yellow birch (4%), sugar maple (4%), white ash (2%), balsam fir and eastern hemlock (0.5%)
Acceptable Growing Stock: 21%
Average diameter (QMD): 7.3 inches
Average basal area per acre: 57 square feet
Average merchantable volume per acre: 12 cords per acre, or 27 tons per acre.
Trees per acre: 197



Trees per acre by species

SpeciesName	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
Hemlock													0	0
Maple, Hard			3		1		1			0				5
Maple, Red	3	7	7	2	7	1	2	1	0	1				30
Birch, Yellow	6		2	1		1								10
Birch, White	16		3						0					20
Ash					1			1						2
Red Oak	26	7	2	1	1	4	3	1	1	0		1		47
Beech	10	2	3	7	10	1	4	3	0					40
Poplar	16	9	7	2	1									35
Other HW	6		2											8
Total	83	24	28	15	21	6	10	4	3	2		1	0	197



Stocking – The stand is stocked at right about the B-line of stocking according to the Leak, Yamasaki and Holleran stocking guide. This is surprising based on field observations of abundant tree stems in the lot, but is typical of the stocking in a developing young stand. This level of stocking would indicate that within 10 years the tree will grow to fully occupy the site. 21 percent of the stocking is Acceptable Growing Stock (AGS) meaning they are trees you would expect to grow to sawlog quality trees. The amount of beech and aspen, poor form on many hardwoods and the limby nature of the younger trees contribute to this low percentage. As the stand develops, the AGS percentage will increase due to natural competition and pruning as trees crowd others out. As the stand matures, expect full stocking to provide 120 square feet per acre of basal area.

Site index – The site index for this stand varies similarly to stand 1. The index for sugar maple on this site is 50 at the hilltop and 57 on the upper slopes. The site will grow quality northern hardwood and red oak with shorter tree heights on the shallower soils at the top of the hill.

Tree-Pe		TOTAL STAND VOLUME													
SPECIES	DBH	BA	THOUSAND BOARD FEET (mbf)						CORDS				BOARDS		
			WHITE	SAWLOG	SAWLOG	SAWLOG	SP	BOBWOOD	ALL LOG	S-POOR	P-POOR	TOTAL	ALL LOG	ALL P-POOR	TOTAL
Hemlock	0	0	-	4	-	-	-	-	2	-	2	14	20	32	51
	0	0	-	4	-	-	-	-	2	-	2	14	20	32	51
	107	57	9	9	64	10	10	30	476	32	1,832	1,545	1,642	8,555	4,400
Maple, Hard	5	2	-	-	-	5	4	5	23	10	13	15	74	100	184
Maple, Red	30	11	-	-	5	14	11	11	94	13	244	211	230	950	809
Birch, Yellow	20	2	-	-	-	-	-	5	11	-	32	43	34	123	127
Birch, White	20	3	-	-	3	-	3	-	20	-	66	86	57	183	240
Ash	2	1	-	-	-	-	-	-	18	-	28	39	79	-	79
Beech	40	15	-	3	4	-	-	8	46	-	390	410	506	1,141	1,141
Poplar	35	7	-	-	19	8	-	-	80	-	106	186	206	295	404
Red Oak	47	14	9	9	23	11	8	11	178	-	195	371	648	721	1,371
Other Hard	8	3	-	-	-	-	-	-	-	-	23	23	-	56	56
	107	57	9	23	64	10	10	30	664	32	1,276	1,540	1,649	8,160	4,400

Sawlog to Pulp Ratio – Sawlogs make up 32% of the current stocking. This is mainly due to the youth of the stand. As it develops, more of the current stems will self-prune and develop into higher-quality products when cut. When stocking levels allow for pre-commercial thinning, leaving the best-formed stems will also accelerate the improvement of quality as the young stems grow into sawlog sizes.

Understory – This stand is similar in structure to the first stand in the southwest corner. It is made up of mainly saplings and small poles with only patchy understory plants. Again, ferns and beech are the most common ground cover (less than 4.5 feet at breast height). This understory will change with further stand development.

Stand Health Concerns – Beech bark disease and the potential for emerald ash borer mortality in the near future are the only major health concerns. Both species are not a high percentage of the stocking so effects will be limited. In drought years, the trees on the top of the hill may experience stunted growth due to the ledgy nature of the soils.

Preferred Stand Development – The preferred species to regenerate are red oak, sugar maple, yellow birch, red maple and white birch. Wherever red oak, yellow birch, and sugar maple are found, look for ways to promote their growth and seedling development to increase their prominence in the stand. Also

promote healthy ash for potential resistance to the effects of the emerald ash borer, and promote clean-boled beech to keep healthy stems of this hard mast species in the stand.

Recommended silvicultural treatment:

- ☐ Clearcut
- ☐ Seed tree
- ☐ Shelterwood
- ☐ Selection
- ☐ Thinning
- ☐ Patch cuts
- ☒ Let grow
- ☐ Pre-commercial Thinning
- ☐ Crop Tree Release

Written prescription/recommendations:

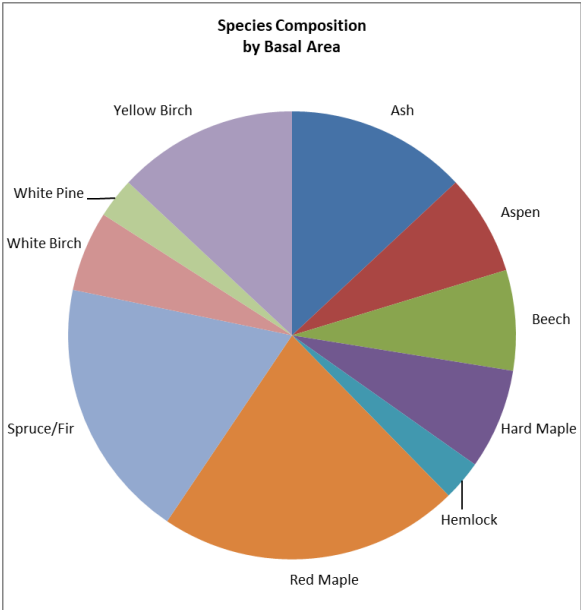
At this time, leave this stand alone. It is not heavily stocked enough to thin at this time.

Desired future conditions:

A diverse stand with multiple ages of trees for structural diversity and forest health. Promote the growth of a diversity of species to shift the stand away from developing into a beech or red maple-dominated stand.

Stand name: Hardwood 3 – TH/S3C-Pm 67 acres

Description: Located in the northwest corner of the lot, this stand is mainly 20 years old with some remnant older stems. It has less beech than other stands further upslope. There is a fair amount of ash in this stand compared to Stands 1, 2 and 4. This would be a place to be sure to retain the healthy ash to try and have some survival when emerald ash borer runs through the area (almost surely at this point). Parts of the stand are more mixedwood than hardwood with fir, spruce and white pine, but overall hardwood dominates in this stand. Soils are poorly drained and somewhat poorly drained, and it borders two open wetlands along the boundary.



Dominant tree species: red maple (22% of basal area), balsam fir (17%), yellow birch (13%), white ash(13%)

Other tree species present: aspen spp. (8%), sugar maple(8%), American beech (8%), white birch (6%), eastern white pine (3%), eastern hemlock (3%), red spruce (2%)

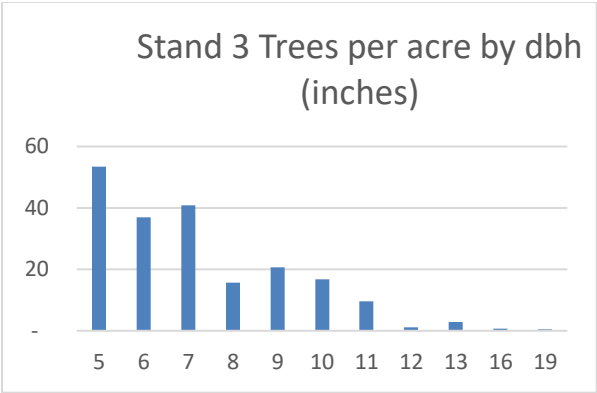
Acceptable Growing Stock: 42%

Average diameter (QMD): 8.0 inches

Average basal area per acre: 64 square feet (variable from 20 to 140 in cruise plots)

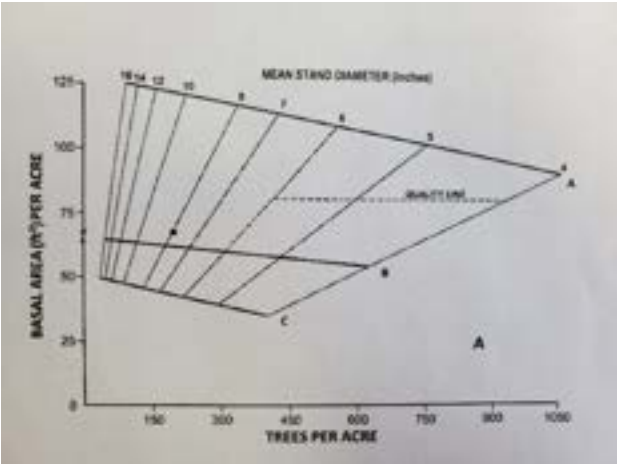
Average merchantable volume per acre: 13 cords per acre, or 30 tons per acre.

Trees per acre: 199



Trees per acre by species

SpeciesName	5	6	7	8	9	10	11	12	13	16	19	Total
Balsam Fir	40	9	10		2							62
Spruce, Red				3								3
Hemlock						2						2
Maple, Hard			7				1	1		1		10
Maple, Red		5	14	3	6	8					0	36
Birch, Yellow		5		3	8	2	3					20
Birch, White						2	1		2			5
Ash	7	9	3	5	2	2	1					30
Beech			3			2	3		1			9
Poplar		9	3	3	2							17
Other HW	7											7
Total	53	37	41	16	21	17	10	1	3	1	0	199



Stocking – This stand is stocked just above the B-level from the NRS 132 Silviculture Guide. At this stand’s average diameter the stand will continue to grow quality sawlogs as it develops. Some pre-commercial thinning could be done to speed growth and development of the trees into sawlog sizes, but it would need to be a light cut so that stocking doesn’t dip much below the B-line and ensure good stocking in the stand. As the stand matures, 120-130 square feet per acre should be the goal for maximum basal area.

Stand Site Index – Site Index for this stand is 68 for yellow birch, 50-54 for balsam fir and 64 for eastern white pine. Yellow birch and white ash are good species to favor here. The species present will all do well here, but the fir will not be of high quality.

TH/SC/PS			TOTAL STAND VOLUME												
SPECIES	SPA	SA	THOUSAND BOARD FEET (mbf)						CORES				TONS		
			VENETUS	SAPWOOD	SAPWOOD	SAPWOOD	SP	BOXWOOD	ALL LOG	Q SPACE	PULP	TOTAL	ALL LOG	ALL PULP	TOTAL
	87	11	-	12	-	-	-	-	86	-	117	183	243	278	521
Balsam Fir	81	11	-	8	-	-	-	-	10	-	81	91	11	189	190
Spruce, Red	9	1	-	7	-	-	-	-	11	-	1	11	41	1	41
Pine, White	1	1	-	11	-	-	-	-	18	-	29	46	36	36	81
Hemlock	2	2	-	8	-	-	-	-	17	-	5	22	45	13	58
	135	44	3	3	12	11	18	11	381	18	111	411	311	389	1,790
Maple, Hard	20	5	-	5	10	9	2	1	39	11	-	51	119	40	159
Maple, Red	18	14	-	-	5	6	7	8	44	-	128	172	173	270	443
Birch, Yellow	20	8	-	-	-	7	13	7	75	-	50	124	125	153	277
Birch, White	5	4	-	-	3	6	3	2	31	-	14	45	34	40	74
Ash	30	8	-	-	3	5	3	4	31	-	51	81	36	157	238
Beech	9	5	-	-	-	-	-	-	1	-	49	49	-	170	170
Poplar	17	5	-	-	-	5	4	2	17	6	-	43	37	17	114
Other spp	7	1	-	-	-	-	-	-	-	-	24	24	-	51	51
	200	64	3	12	12	31	18	11	548	19	417	965	514	1,138	1,652

Sawlog to Pulp Ratio – Sawlogs make up 46% of the current stocking. This is higher than other stands on the hill. The yellow birch is good quality here, boosting the overall amount of sawlog stocking. Some pre-commercial thinning is warranted to increase growth rates and vigor.

Understory - The understory doesn't vary much on this lot and this stand continues the pattern seen in other stands. There are more shrubs in some of the wetter places, and ferns are abundant in other areas. There are some patches with fir regeneration. Other than that, the understory is sparse.

Stand Health Concerns – The main health concern in this stand is the health of ash when the emerald ash borer comes through. Promote vigorous growth of the ash whenever possible. Thinning early will give it vigor that may help some stems survive if an infestation is light. Stems less than 1-inch in diameter may help stem the population of the ash borer.

Beech is in the stand and there is beech bark disease, although the species is only about 8% of the stocking. When thinning or in later shelterwoods, favor the better, less diseased beech stems.

Preferred Stand Development – The preferred species to regenerate are yellow birch, sugar maple, white pine and red spruce for timber development. Try to promote these long-lived species where possible, though having a wide variety of species is the over-arching goal. This stand is a good one to focus efforts to promote ash growth. Retain as many young stems as possible as long as they have good form. Pre-commercial thinning to favor ash will help them be as vigorous as possible when the emerald ash borer (EAB) does arrive. 1-inch or smaller saplings should be protected, as they are too small for EAB larvae to complete their development to adulthood, possibly limiting EAB population growth to a degree.

Recommended silvicultural treatment:

- ☐ Clearcut ☐ Seed tree ☐ Shelterwood ☐ Selection ☐ Thinning ☐ Patch cuts ☒ Let grow
☒ Pre-commercial Thinning ☐ Crop Tree Release

Written prescription/recommendations:

Thin saplings out to 6 or 8-foot spacing as in other stands. Focus on promoting all species, especially the long-lived preferred species mentioned above in "Preferred Stand Development". Use herbicide as in stand Hardwood 1 where sprouting species may cause increased competition. About 19 acres of the stand are drier than the rest and would be best suited to pre-commercial thinning.

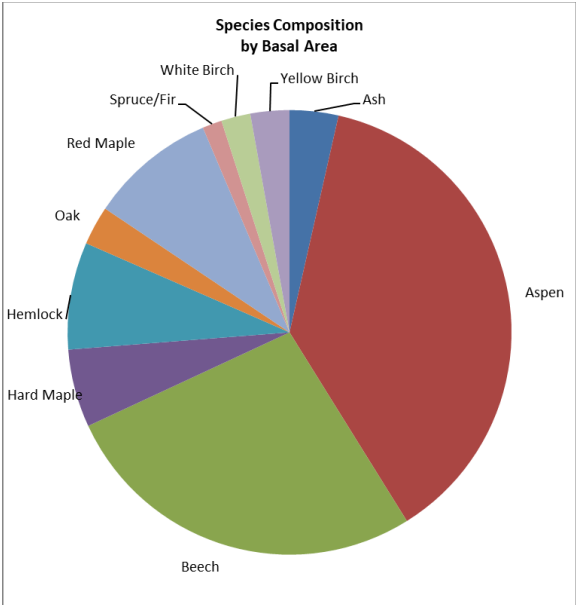
Desired future conditions:

Like other stands, the objective here is to create a diverse stand with multiple ages of trees for structural diversity and forest health. Promote the growth of a diversity of species to promote the diversity in the stand.

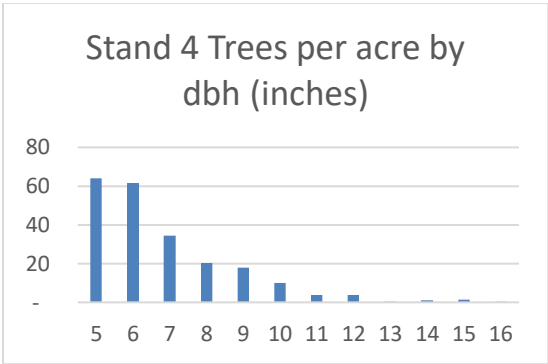
Stand name: Hardwood 4 - IH2b-Ps 164 acres

Description: This is another young stand of about 20 years old. The large stand occupies the mid- to lower slope of the lot. The main woods road runs south the eastern side of the stand and wraps around to the southwest, ending in the yards in stand Hardwood 2. Soils are moderately well-drained with several

shallow intermittent brooks flowing for parts of the slope through the stand. These slightly wetter soils favor species that grow better in wetter soils – such as white ash. Aspen is abundant in this stand – more so than any other stand on the lot. Parts of the stand are dense small stems and others have some slightly larger canopies.

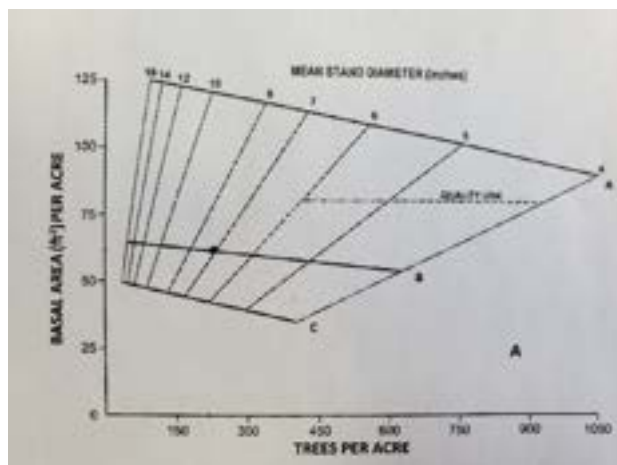


Dominant tree species: Aspen spp. (37%), American beech (17%)
Other tree species present: eastern hemlock (8%), red maple (8%), hard maple (5%), white ash (3%), yellow birch(3%), northern red oak (3%), white birch (2%) and balsam fir (2%)
Acceptable Growing Stock: 31%
Average diameter (QMD): 7.1 inches
Average basal area per acre: 60 square feet
Average merchantable volume per acre: 16 cords per acre, or 40 tons per acre.
Trees per acre: 219



Trees per acre by species

SpeciesName	5	6	7	8	9	10	11	12	13	14	15	16	Total
Balsam Fir	6												6
Hemlock		2			1	1	2	1	0	0	0	0	8
Maple, Hard	9		2		2		1			0			14
Maple, Red	9		2	4	3	2					0		19
Birch, Yellow			3		2								5
Birch, White	3	2	2										7
Ash	3	2			2					0			7
Red Oak													
Beech	3	15	8	6	7	7	1	1			1		47
Poplar	28	40	19	11	2			1					100
Other HW	3					1							4
Total	64	62	34	20	18	10	4	4	0	1	1	0	219



Stocking – This stand's stocking works out to be right on the B-line in the NRS 132 Silviculture Guide. This is the expected position for a young stand like this (and all others here but stand 5). A light precommercial thinning focused on releasing specific trees but not heavily reducing the basal area would speed development.

Site Index – The site index for white ash in this stand is 73, an exceptional site index for any species. Sugar maple site index is 57, which is good but not as good as the ash index. All northern hardwoods and red oak will grow reasonably well here.

SPECIES		TOTAL STAND VOLUME										TONS		
		THOUSAND BOARD FEET (mbf)					CUBIC FEET							
		VENUE	SAWLOG	SAWLOG	SAWLOG	PO	ALL LOG	WOOD	PULP	PO	PO	ALL LOG	ALL PULP	PO
Barnack Fir	54	1	-	-	-	-	-	-	12	12	-	24	24	24
Hemlock	8	1	-	-	-	-	-	-	64	64	-	128	128	128
Redwood	200	54	-	-	-	-	-	-	3,100	3,100	-	6,200	6,200	6,200
Maple, hard	14	1	-	-	-	-	-	-	48	48	-	96	96	96
Maple, soft	28	1	-	-	-	-	-	-	160	160	-	320	320	320
Birch, yellow	5	1	-	-	-	-	-	-	24	24	-	48	48	48
Birch, white	7	1	-	-	-	-	-	-	24	24	-	48	48	48
Ash	7	1	-	-	-	-	-	-	24	24	-	48	48	48
Beech	47	10	-	-	-	-	-	-	401	401	-	802	802	802
Poplar	100	11	-	-	-	-	-	-	340	340	-	680	680	680
Red Oak	2	1	-	-	-	-	-	-	40	40	-	80	80	80
Other Hard	4	1	-	-	-	-	-	-	24	24	-	48	48	48
	200	80	54	75	400/50	25	12	188	80	5,181	5,181	1,036	3,343	3,343

Sawlog to Pulp Ratio – Sawlog quality trees are roughly 33 % of the stocking in this stand. Aspen, red oak and hemlock have a lot of sawlog-quality trees in this stand.

Understory – This understory is typical of the property with sparse tree seedlings, ferns, litter, and bare ground. This should change as the stand develops and more indirect light enters the understory and gaps form.

Stand Health Concerns – Short-lived aspen is abundant in this stand. It is healthy and of good quality, but in about 20 years it is likely to show signs of decline. There may be fungal infections on the bole or the crown and discoloration of the bole as it starts to decline. Beech is relatively abundant here. Beech bark disease will degrade the strength and timber quality of the wood, so do not favor diseased beech to grow in the stand. A pre-commercial thinning will help this stand develop more quickly and to choose which species to grow. Use this practice to weed out poor-quality beech and other species.

Ash is not abundant here. It is okay to favor it as trees to leave when thinning, but they may lose out in an emerald ash borer infestation. The more vigorous the ash stems can be the better chance (however slight) they have of making it through an infestation.

Preferred Stand Development – The preferred species to regenerate are northern red oak, yellow birch and sugar maple for timber development. Try to promote these long-lived species where possible, though having a wide variety of species is the over-arching goal. Accelerating growth through pre-commercial thinning will help development full crowns and fast growth, leaving you with a healthy stand overall.

Recommended silvicultural treatment:

- ☐ Clearcut ☐ Seed tree ☐ Shelterwood ☐ Selection ☐ Thinning ☐ Patch cuts ☐ Let grow
☒ Pre-commercial Thinning ☐ Crop Tree Release

Written prescription/recommendations:

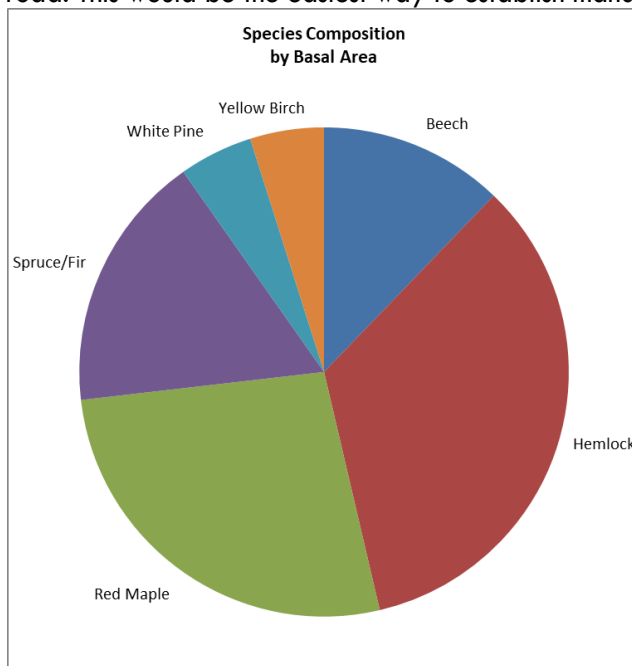
Thin areas with dense 5-inch DBH or smaller stems to 6 to 8-foot spacing with brush saws. Favor sugar maple, yellow birch, northern red oak and white ash as leave trees. There is potential to operate on over 100 acres in this stand. This would be good if it can be achieved in the next 10 years, but leaving a mosaic of differing densities will lend some diversity to this large part of the stand.

Stand name: Mixedwood 5 – STH4B-L 32 acres

Description: This is the most distinctive stand on the lot. It was not cut hard like most of the rest of the lot. Stand age is roughly 70 years old. It is a mixedwood stand with hemlock, red maple, balsam fir, white pine and tolerant hardwoods; Most trees are at least 50 feet tall, and there is 61 to 80% crown closure with mainly sawlog-sized stand development. There are more stems in the 12-to-16-inch diameter classes than any of the other stands on the property.

The stand straddles Scotty Brook, providing shade for the brook. The canopy is multi-layered in much of this stand. This stand has the best aesthetic value of any of the forested acres on the lot, and provides some wildlife cover, although it is unfortunately close to the Isthmus Road. This lot would be the best candidate for developing a larger age class of trees.

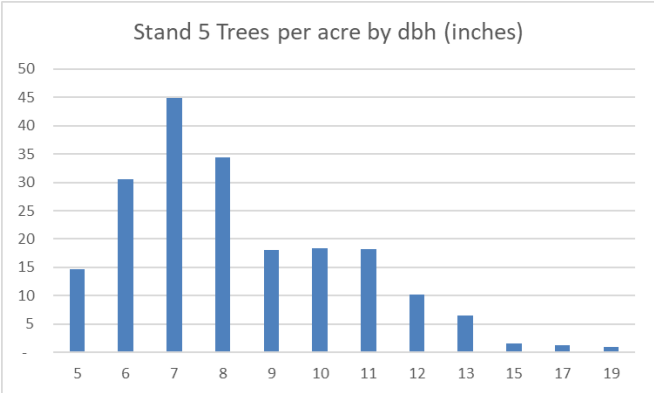
Until recently, there was a bridge across Scotty Brook allowing access from the north, connecting the main woods road to the paved road. This would be the easiest way to establish management access on the lot.



Dominant tree species: Eastern hemlock (34%), red maple (27%), balsam fir (17%)

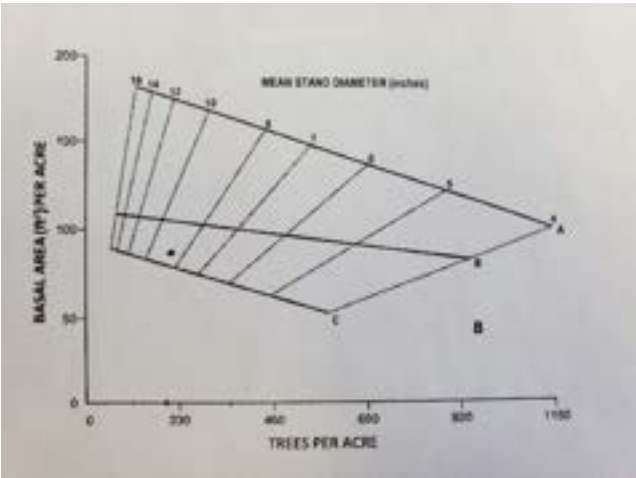
Other tree species present: American beech (12%), yellow birch (5%), eastern white pine (5%)

Acceptable Growing Stock: 55%
Average diameter (QMD): 8.7 inches
Average basal area per acre: 82 square feet
Average merchantable volume per acre: 20 cords per acre, or 45 tons per acre
Trees per acre: 200



Trees per acre by species

SpeciesName	5	6	7	8	9	10	11	12	13	15	17	19	Total
Balsam Fir	15		15	6	5	4	6						45
Pine, White					5							1	6
Hemlock		31		6	9	4	9	5	2		1		67
Maple, Red			22	11	5	11		3		2			54
Birch, Yellow							3		2				5
Beech			7	11				3	2				24
Total	15	31	45	34	18	18	18	10	7	2	1	1	200



Stocking – This stand is mixedwood so it uses a different stocking guide (still from the NRS 132 Silviculture Guide). The trees per acre and basal area show that it is just above the C-Line, showing it to be understocked. Immediately adjacent to Scotty Brook you would not get this impression but just up from the brook stocking varies more. The plots sampled in this stand were more frequently from outside the immediate riparian area in the stand. Regardless of the stocking numbers, this stand is unique in its shade density and the amount of softwood, so it is best left alone for the next 10 years at least.

Site Index – The site index for sugar maple in this stand is 66 and eastern white pine is 64. This is a rich stand. It could grow anything well, assuming it regenerated successfully and had the right conditions for

growth early on. The species growing here are well-suited to the site. Red spruce would grow well now, but may not in the future with climate effects increasing.

SPECIES	THOUSAND BOARD FEET (mbf)		TOTAL STAND VOLUME										TOTAL		
	SP	BA	WHITE	TAIWOLO	SAWLOG	SAWDOVE	FR	BOLWOOD	ALL LOG	S STOCK	PULP	TOTAL	ALL LOG	ALL PULP	TOTAL
Balsam Fir	117	46	—	17	11	8	—	—	174	—	111	285	162	175	337
Birch, Red	43	14	—	11	—	2	—	—	58	—	43	101	82	91	173
Birch, Yellow	8	4	—	10	—	—	—	—	20	—	18	38	19	30	49
Hemlock	17	18	—	25	8	8	—	—	106	—	53	159	112	151	263
Maple, Red	14	24	—	—	4	12	11	11	46	5	115	176	236	309	485
Maple, Yellow	54	12	—	—	4	8	11	11	71	5	43	139	145	124	269
Pine, White	5	4	—	—	—	—	—	—	11	—	—	22	11	11	23
Spruce, Red	14	12	—	—	—	—	—	—	21	—	17	38	17	17	55
TOTAL	296	112	—	57	25	28	22	22	280	5	266	1112	692	600	1,292

Sawlog to Pulp Ratio: The sawlog volume is 52% of the stocking. Every species sampled has a strong sawlog to pulp ratio here.

Understory – This understory is heavier to fir and hemlock than the rest of the property. The shadiness results in patches of no regeneration or understory plants with other dense areas, especially around small gaps in the canopy.

Stand Health Concerns: This stand is healthy. No distinct health concerns were found here. There is some beech which will have some beech bark disease. The rest of the species are generally healthy. As the stand develops competition will start to cause mortality as trees compete for resources, but there are no obvious diseases or pests here.

Preferred Stand Development: Preferred species to favor are long-lived softwoods such as white pine and hemlock, and yellow birch and red maple. These are stable species which will be long-lived and provide good shade along the riparian area.

Recommended silvicultural treatment:

- ☐ Clearcut ☐ Seed tree ☐ Shelterwood ☐ Selection ☐ Thinning ☐ Patch cuts ☒ Let grow
☐ Pre-commercial Thinning ☐ Crop Tree Release

Written prescription/recommendations:

This stand is unusual in its larger trees, dense overstory, abundance of softwoods, and that it spans Scotty Brook. Leave this stand to grow as the rest of the lot develops. When there is more diversity on the lot, cut lightly to allow multiple canopy layers to continue to develop within the stand.

Desired future conditions:

A stand with long-lived softwoods and hardwoods that provides enough cover in multiple layers to serve as a wildlife corridor along the brook, and that produces quality timber.

11. COMPLIANCE WITH LAWS

As a forest landowner, you have a lot of flexibility in managing your land. However, everything you do must comply with all relevant federal, state, and local laws, regulations, and ordinances. You are not expected to know every aspect of every law, but you are expected to seek the help you need to comply with the laws and regulations that govern your forest management activities.

Prior to harvesting the landowner should review with their forester all relevant federal, state, county, and municipal laws, regulations, and ordinances governing forest management activities.

Timber harvesting in Maine is subject to a number of regulations. Water quality is protected by one of three regulations depending on the town or township. These include:

Organized Town Shoreland Zoning – regulates resource protection zones mapped by towns. The property is entirely within the **Town of Rumford**. Consult the town's zoning map prior to conducting any forest management.

MFS Chapter 21 Statewide Standards for Timber Harvesting in Shoreland Areas – regulates shoreland areas in many towns that have adopted this rule in place of shoreland zoning;

MFS Chapter 27 Standards for Timber Harvesting and Related Activities within Unorganized and De-organized Areas of the State – timber harvest restrictions on unorganized townships in certain protected areas including shoreland and protected wildlife habitat.

This management plan is prepared for a parcel in **Rumford** and is regulated as follows:

- ☒ The town has elected to follow MFS Chapter 21 Statewide Standards for timber harvesting. These regulations are enforced by the Maine Forest Service.
- ☐ The town has elected to now follow MFS Chapter 21 Statewide Standards for timber harvesting. These regulations are enforced by the town and the Maine Forest Service.
- ☐ The parcel is located in an unorganized township, is under the MFS Chapter 27 Standards for Timber Harvesting which are administered by the Maine Forest Service.

Other regulations for planning a timber harvest include:

Forest Operations Notifications (MFS chapter 26) – requires notification to the State prior to harvesting.

Forest Practice Act (MFS chapter 20) – requires pre-harvest notification, limits on sizes of clearcuts, requirements for separation zones for any clearcut over five acres, and reforestation of clearcuts.

Liquidation Harvesting (MFS chapter 23) – regulates the practice of harvesting all commercial timber on a woodlot followed by a land sale within five years.

Threatened and Endangered Species Act – regulates activities within critical habitat of animal species.

Maine Natural Areas Program – identifies areas of protected plant species and works with landowners to develop strategies to protect the communities where those plants are found.

Timber harvest activities require State notification prior to the start of harvest. A licensed forester should be retained in order to assure legal compliance and compliance with the objectives of this plan.

This plan has been prepared to be in compliance with the Forest Practice Act, Liquidation Harvesting Act, Threatened and Endangered Species Act, and the Maine Natural Areas Program.

Timber Harvesting and Boundaries:

Maine law is careful to protect adjoining landowners from timber trespass and damages that occur during any logging or wood harvesting operations. If you are considering harvesting timber, you should know and observe state and local timber harvesting regulations near property lines, trespass and slash disposal laws.

1. Anyone who authorizes timber harvesting, or in fact, harvests timber shall clearly mark with flagging or other temporary and visible means any established property lines within 200 feet of an area to be harvested. The marking of property lines must be completed prior to commencing timber harvesting. Parcels less than 5 acres are exempt. (17 MRSA § 2511). Failure to clearly mark property lines may also make the person who authorized the cutting liable for double damages to an abutter if a timber trespass occurs (14 MRSA § 7552-A).

2. Slash left from any cutting operations of forest growth must be disposed of according to the following regulations: (12 MRSA § 9331-9336).

A. Along highways, slash must not be left in the right-of-way or within 50 feet of the nearer side of the right-of-way of a public highway.

- B. Along railroads and utility lines (pipeline, electric, telephone, telegraph, or cable) slash must be removed from in the right-of-way or within 25 feet of the nearer side of the right-of-way.
- C. Slash that might constitute a fire hazard shall not be allowed to remain on the ground within 25 feet of the property line of land belonging to another.

12. HARVESTING TIMBER AND OTHER MANAGEMENT ACTIVITIES

Woodlot owners usually sell timber to logging contractors as “**stumpage**” meaning that the logger takes ownership of the timber when trees are harvested. The woodlot owner is paid by the logger a contracted price per unit, (ton, thousand board feet (MBF), or cord), based on the scale of the wood when delivered to a mill yard or log yard. Maine State laws require that each truckload of wood be accompanied by a “trip ticket” which must indicate the origin, landowner, FON, contractor, crew, trucker, destination and date. The receiving yard will sign the trip ticket. The logger will return a copy of the trip ticket along with a scale slip giving the amount of wood sold. All such stumpage sales are paid on net volume.

It is the responsibility of the logger in a stumpage sale to pay the costs of the logging operation including roads, yards, harvesting and yarding, trucking, and post-harvest stabilization. If a forester has been hired by the woodlot owner, the woodlot owner is responsible for paying for those services at a fixed rate or as a percentage of sales.

Another sale option is a “**direct sale**” where the woodlot owner sells timber directly to consuming mills and then hires logging firms to harvest and deliver the timber. A few forest management companies in Maine will perform this service for the woodlot owner and manage the resulting cash flow. Revenues to the woodlot owner in direct sales are typically higher than stumpage sales because the forest management company brings marketing efficiency and utilization expertise to the operation.

It is often the responsibility of the woodlot owner in a direct sale to pay for road costs. The logger is responsible for yards, harvesting and yarding, trucking, and post-harvest stabilization. If a forest management company is used, their fee is deducted as a percent of gross sales.

There should always be a written contract between the woodlot owner and the logging contractor for a stumpage sale; or between the woodlot owner and the company managing a direct sale. The contract should specify prices, the specific location of the harvest, the specific harvesting instructions, post-harvest requirements, establish independent contractor status, insurance requirements, reporting requirements, the use of Best Management Practices, and other technical issues. The woodlot owner must receive a certificate of insurance directly from the insurance agency to certify that the logger is covered for general liability, vehicle liability, workers compensation and employers’ liability insurance. The woodlot owner is at substantial risk without these documents.

Harvested trees are cut into products based on their species, bole size, and defects in the bole. The income received by the woodlot owner can vary greatly depending on how well this task is performed. Loggers are challenged to maximize value for each tree by changes in mill specifications, changing market demand, low volume of a few high-value products, and inexperience. The landowner should employ the services of a State-licensed forester at the time of timber harvest and sales to ensure that the harvests are properly conducted and the full value of harvested trees is recovered.

Markets for timber in Maine include a wide variety of consuming mills and log yards. Products in decreasing order of value include high-end specialty veneer, veneer, sawlogs, boltwood, pulpwood, and biomass chips.

A woodlot having small volumes of many products will benefit by being able to take a variety of species and products to one log yard. The log yard accumulates volumes from many sources and resells full loads to the consuming mills.

Market demand for harvested timber is constantly changing due to changes in the supply and demand for manufactured forest products at the international, national, and regional levels. Weather plays a role as well. Long, dry periods will allow loggers to operate efficiently and lead to over-supply in the market. Wet periods have the opposite effect as loggers cannot operate on water saturated soils. The return on investment for a woodlot owner is best when there is significant demand for the products on the woodlot. The owner should consult with licensed forester about market conditions before offering timber for sale.

13. SCHEDULE OF ACTIVITIES

Below is a schedule of activities that are recommended to be implemented on the property during the next 10-year period to meet the landowner's objectives. Specific operational plans should be developed just prior to working in a stand to determine specific instructions and goals.

Activity Name	Extent	Time Frame	Stand/Location	NRCS Practice Code
Maintain (clear, blaze and paint) Boundaries	16,000 feet (GIS measured)	2024 to 2026	Boundary Lines	N/A
Precommercial Thinning and stem herbicide	25 acres	2024 to 2026	1-TH3B	666 Thinning for Forest Health – PCT Hardwood Competition Control; and Ground Chemical Treatment
Precommercial Thinning	19	2026 to 2029	Hardwood 3	666 Thinning for Forest Health – PCT Hardwood Competition Control; and Ground Chemical Treatment
Precommercial Thinning	100	2029 to 2034	Hardwood 4	666 Thinning for Forest Health – PCT Hardwood Competition Control; and Ground Chemical Treatment

14. APPENDICES

Stand Map
Soils Map
Statewide Standards Map
MNAP Review
Maine Historic Preservation Commission Review

RAPID ECOLOGICAL ASSESSMENT

Of the

RUMFORD COMMUNITY FOREST

Rumford, ME



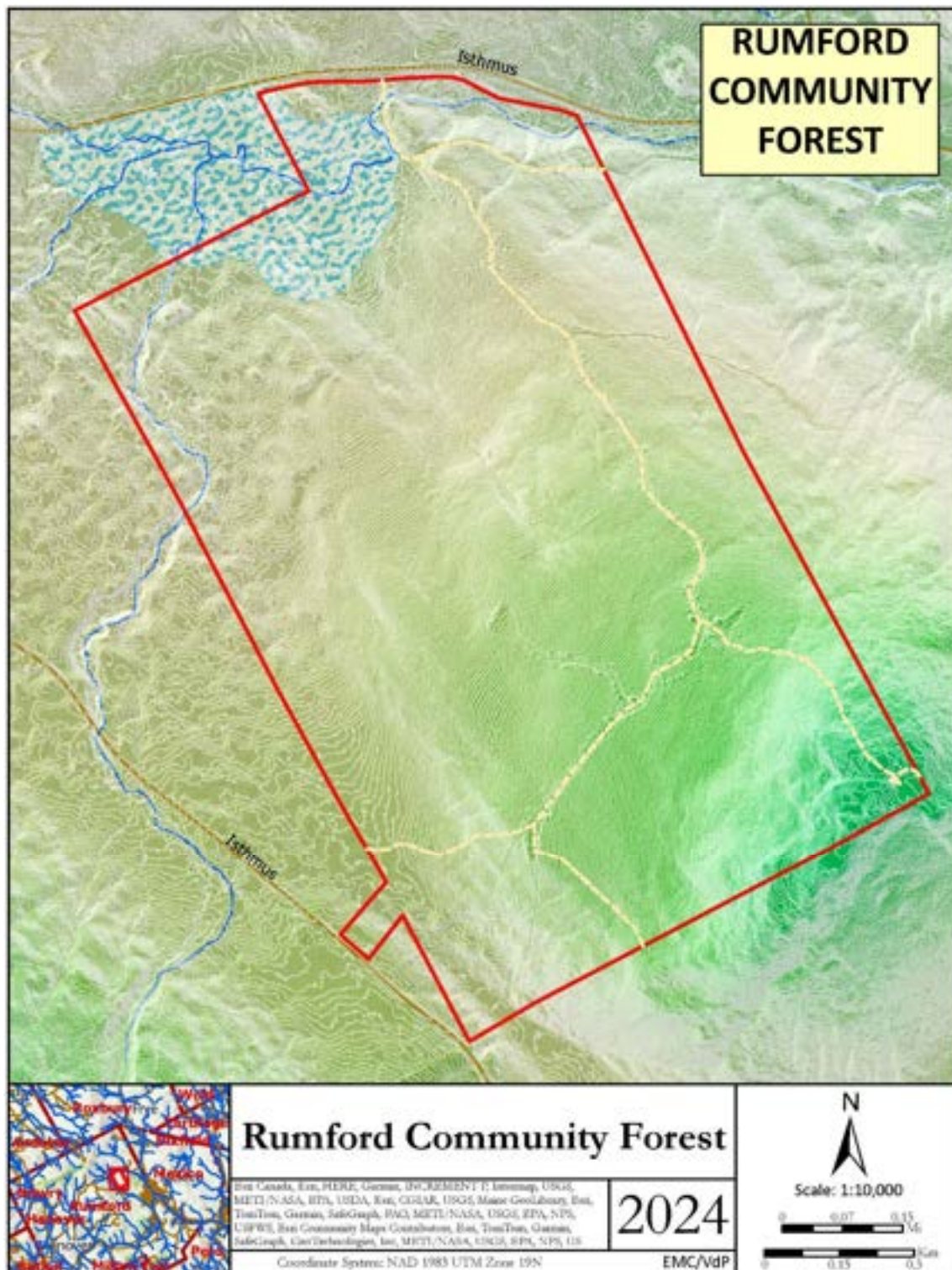
View of Scotty Brook at boundary with Black Mountain in background

Prepared for the

TRUST FOR PUBLIC LAND

**Rick Van de Poll, Ph.D.
Ecosystem Management Consultants
30 North Sandwich Rd.
Center Sandwich, NH 03227
rickvdp@gmail.com**

March 2024



[Boundary Note: The above map reflects the parcel map boundary, which was supplied to EMC by the Trust for Public Land in July, 2023]

EXECUTIVE SUMMARY

The Rumford Community Forest (RCF) was surveyed during the fall and winter of 2023-24 by Ecosystem Management Consultants (EMC) for the Trust for Public Lands (TPL). The purpose of this rapid ecological assessment (REA) was to provide ecological information to compliment a forest management plan (FMP) that was being prepared by William Haslam, Forester. This ecological information was obtained through remote map source research and onsite investigations during the late growing and non-growing seasons.

Four site visits were completed on October 4 & 5, November 15, 2023, and January 21, 2024. All external boundaries were visited twice, all internal trails were followed once, and several additional areas of the property were visited to determine wildlife usage and habitat information. All major features were recorded with an iPhone 15 Pro using the GaiaGPS app and a Canon SX60HS PowerShot digital camera.

The Rumford Community Forest is a mostly forested landscape on the North side of a low hill just west of Rumford village. Isthmus Road circumnavigates most of the property and crosses Scotty Brook, which forms the primary watershed surrounding the RCF. Several smaller streams bisect the property, most of which are intermittent and represent run-off channels coming off the top of the hill. One perennial stream cuts across the northwest corner of the property and originates, in part, from a black (brown) ash swamp along the western edge of the RCF.

Nearly the entire property is underlain by basal glacial till that is very stony, moderately to strongly acidic, and firm to very firm in the substratum. This has resulted in a forest that contains seasonally high water tables, with a number of springs and seeps scattered across the slope breaks on the property. Nearly all of the low-lying areas along the western and northern parts of the RCF are jurisdictional wetlands. The scrub-shrub and emergent marshes along Scotty Brook provide some of the best wetland wildlife habitat on the property and is recognized as an important inland waterfowl and wading bird habitat by the Maine Natural Areas Program.

Except for the open marsh systems, all of the wildlife habitat found on the property is forested. Most of this is in a regeneration state since extensive timber harvesting has occurred for several decades on the property. At least four major timber harvesting events have occurred during the last seventy years, all of which have caused significant alterations to the landscape of the RCF. Most of the high water table areas have deep ruts and erosion channels that have altered the surface hydrology. A number of new wetland areas have been created and those that pre-existed the last timber harvest in the early 2000s have been expanded.

Existing trails follow all of the main skid roads that accessed the property, although the timber bridge across Scotty Brook has washed out within the last

couple years. A well-used snowmobile trail traverses the RCF south to north along the most recently used skid road. Other trails branch off of this one, including a recently closed trail that formerly led to Black Mountain. Although ATVs are disallowed from using the trail system, some evidence of recent use was noted in certain places.

Some of the important forest wildlife habitat contains uncommon or unique elements that should be carefully managed in the future. The forested woodland pool at the top of the hill contained evidence of being a vernal pool that likely contains obligate vernal pool salamanders and/or wood frogs. Only one other pool area near Scotty Brook was found that could support such wildlife species. The lowland spruce-fir forest (also known as a Spruce-fir Wet Flat) in the northwest part of the property is likely a winter deer yard. The riparian wetlands that surround Scotty Brook and the adjoining marshlands contain high amounts of snowshoe hare, which is a choice prey species for many of the predators that were recorded on the RCF.

Other wildlife and plant species of concern are mentioned in the following descriptive narrative, along with a detailed accounting of soil, water resources, natural communities, and wildlife populations. The Appendix contains a number of maps and tables that illustrate most of these findings.

CONTENTS

<i>Lidar Location Map</i>	<i>i</i>
<i>Executive Summary</i>	<i>ii-iii</i>

I.	Introduction & General Description of the RCF	1
II.	Methods	
	A) Office	3
	B) Field	4
III.	Findings	
	A) Geology and Soils	6
	B) Water Resources	9
	C) Natural Communities	11
	D) Wildlife	17
IV.	Recommendations & Next Steps	24
V.	References	28

Appendices

A. Maps & Tables

1. Site Visit Map	A – 1
2. Bedrock Geology Map	A-2
3. Soil Type Map - NRCS	A – 3.1 – 3.3
4. Soil Type Map – EMC Field	A – 3.4
5. Soil Map Unit Legend	A – 3.5
6. Wetlands & Water Resources Map	A – 4.1
7. Wetland Type Table	A – 4.2
8. Cover Type & Natural Communities Map	A – 5.1
9. Cover Type & Natural Communities Legend	A – 5.2
10. Cover Type & Natural Community Table	A – 5.3
11. Mammal Transect Data & Chart	A - 6.1 – 6.2
12. Trails Map	A – 7
13. Protection Zones Map	A - 8

B. Species Lists

1. Amphibians – Reptiles – Fish	B-1 to B-2
2. Birds	B-3 to B-6
3. Mammals	B-7 to B-8
4. Vascular Plants	B-9 to B-38

C.	Slide show given on November 15, 2023	C-1 to C-16
-----------	--	--------------------

List of Figures & Tables

Figure 1. Topographic base map of the Rumford Community Forest	2
Figure 2. Bedrock geology map of the RCF property area	6
Figure 3. Two-mica granite stone on the summit	7
Figure 4. Speckled alder in the main marsh	8
Figure 5. Example of soil erosion from past timber harvesting operations	11
Figure 6. Typical view of sapling-pole mixed hardwoods	12
Figure 7. Vernal pool on the summit of the hill	14
Figure 8. Black ash swamp along the western edge of the RCF	15
Figure 9. Sand bar along Scotty Brook	17
Figure 10. Two coldwater fish in the perennial stream	18
Figure 11.1 Black-capped chickadee	20
Figure 11.2 Swamp sparrow nest in the main marsh	20
Figure 12. Snowshoe hare tracks in dense softwood cover	21
Figure 13. Small mammal tracks near red oak base	2
Table 1. Recommended Protection Zones	24

I. Introduction and General Description of the Rumford Community Forest

In late July, 2023, the Trust for Public Land (TPL) contacted Ecosystem Management Consultants (EMC) of Sandwich, New Hampshire to request a rapid ecological assessment (REA) of the 446-acre Rumford Community Forest (RCF). The purpose of the REA was to provide ecological information that could be factored into the general community forest goals, namely, to 1) provide a healthful, natural place to recreate near the center of town, 2) support a diversity of habitats for wildlife species that are native to the region, and 3) continue to provide timber products in a sustainable way that supports the local timber economy.

This report is intended to compliment a forest management plan and report being prepared by William Haslam, licensed forester. Not unlike other ecological reports that provide an ecosystem perspective on long-term management goals, one the singular objectives of this study was to identify and assess a variety of natural resources in order to help guide future use of the property. The following narrative description of the property includes findings and assessments of geology, soils, water resources, natural communities, and wildlife. Pertinent data tables, charts, species lists and maps are provided in the Appendix to augment the written text. Any errors or omissions are the sole responsibility of the author and in no way are meant to implicate the Trust for Public Land, the Town of Rumford public officials, or the associations or agencies who have a stake in the management of the property.

General Description of the Rumford Community Forest

The 446-acre Rumford Community Forest (MBCF) lies at elevations between 592 feet and 1372 feet.¹ The low point is along Scotty Brook as it exits the property in the northeast corner of the property near Isthmus Road, and the high point is in the southeast corner at the summit of the hill. From Isthmus Road, the terrain rises fairly steeply on the west side of the hill and moderately on the north side of the hill. A small drainage divide lies at the point where a former snowmobile trail connects the main trail to Black Mountain. The flowage to the north

¹ The actual acreage of the RCF may vary slightly based on which version map is used as the source. The acreage used here was derived from field-based GPS boundary data and Lidar imagery.

reaches Scotty Brook at the borderline marsh. The drainage to the south flows into Bean Brook near Swain Road.



Figure 1. Topographic base map of property located west of town and SE of Black Mountain

The town forest lot is almost entirely forested with a mix of hardwoods and conifers, with more softwoods at the lower elevations and in riparian wetlands, and more hardwoods on the fairly uniform, stony till that mantles the property above the base elevation of about 725 feet. The RCF has been heavily harvested for its timber in the past 75+ years, wherein at least four different logging events have removed all of the timber that has grown up since the days of former pasturage. At least one 19th century resident lived on the property, as evidenced by a substantial cellar hole and stone wall corrals in the very center of the lot.

II. Methods

A. Office

Several literature and online resources were reviewed prior to conducting the ecological assessment. Besides the base maps that the Trust for Public Land provided, there was a forest inventory report prepared by American Forest Management (AFM) that was released in June 2023, or roughly one month before this contract started. This contained basic timber cruise information, timber stocking by species and class, and specifications for each merchantable product type. In addition, both the Bedrock Geology Map of Maine (Osberg et al 1985), and the Geologic Map of the Rumford Quadrangle, Oxford and Franklin Counties, Maine (Moench and Hildreth 1976) were very useful in understanding the foundational ‘underlayment’ of the community forest.

A number of GIS resources were viewed in both ArcGIS 10.x and ArcPro 3.3 platforms. These included the state’s web map service for Lidar imagery, aerial photography, and the latest hydrography, topography, and water resource layers. Additional data was available from Maine GIS relative to inland waterfowl and wading bird areas, significant ecological areas, and conservation lands.

Other remote resources included the following:

Soils – Soils were derived from existing NRCS soil mapping as available at the web soil survey (<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>). Mapped soils units were then checked in the field (see below).

Water Resources – Wetlands were initially derived from shapefile coverages compiled by the National Wetlands Inventory or NWI, which were then compared to areas of mapped hydric soils and NHD surface water coverages. These were then refined by closely comparing and adjusting wetland boundaries using Lidar and 2-foot contours. Initial map work was checked in the field during each outing. Stream alignments were also mapped using Lidar and 2-foot contours.

Natural Communities – these were initially identified and mapped using the Maine Inland Fisheries and Wildlife habitat map of the property, which was then integrated with the remote-source wetland maps. Aerial photographs (2004 Maine GIS, 2018 GoogleEarth, and 2020 ESRI World Imagery) provided an additional source with which to estimate probable natural communities, especially when compared to soils, water resource, and topographic features. Fieldwork allowed for the adjustment of these boundaries and for site specific investigation of indicator plants (e.g. black

ash (*Fraxinus nigra*) in the Black Ash Swamp sites). Most natural community type designations followed Gawler and Cutko (2010) unless otherwise indicated as explained below. Other cover types where natural community features were masked were identified and labeled on the basis of dominant characteristics (e.g. landing, ditch, etc.).

Wildlife – Wildlife habitats and their condition were initially derived from the 2015-25 Maine Wildlife Action Plan (WAP). Habitat types followed the state standard (The Northeast Terrestrial Habitat Classification System (NETHCS)), which were incorporated into the natural community regime. Since the natural community system provides a more comprehensive model for predicting wildlife occurrences, no attempt was made to update the WAP habitat type maps.

Species – species lists were initially derived from comparable species lists derived for other sites in the region, and added to on the basis of field observations and anecdotal reports from interested individuals. Rare species and probable species of greatest conservation need (SGCN) were mapped from field records.

B. Field

Field surveys utilized a hand-held iPhone and the GaiaGPS app for locating waypoints and routes. These were transferred as kml files and converted for use as shapefiles in ArcPro 3.3. They were then corrected for accuracy and precision using Lidar imagery and 2-foot contours. Natural resource features were also recorded using a Canon 60SXIS digital camera, which was post-processed using Microsoft and Affinity software. In terms of GPS data, an emphasis was placed on recording property boundaries, the boundaries of natural communities, rare plant and animal species, wetland and water resources, and immediate and past land uses. Digital field data was then used to analyze and delimit various natural resource overlays that appear on the attached maps. This entailed a combination of both field and GIS data analysis, with a heavy reliance on aerial photography and Lidar imagery.

Site specific field methods included the following:

Soils – Soils were identified on the basis of observable ground features and scattered Dutch auger and tile spade test pits. The latter were utilized particularly for hydric soils of wetland areas. Soil morphological data, such as color, texture, consistence, structure, and horizonation, were used to determine hydric versus non-hydric conditions according to version 4 of *Field Identification of Hydric Soils of New England* (NEIWPCC 2016) and *Field Indicators of Hydric Soils in the United States*,

Version 7.0 (USDA NRCS 2010). Non-hydric soils in areas that were not visited were identified on the basis of existing map units, surface topography, calculated slope, and aspect.

Wetlands – “waters of the United States” were identified using the *Wetlands Delineation Manual* (U.S. Army Corps of Engineers 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (U.S. Army Corps of Engineers 2011). Due to the rapid nature of the field surveys, no data forms were completed for this project. Instead, wetland boundaries were identified on the basis of site specific soil auger tests and visual confirmation of hydrophytic plants. Wetland areas that were not visited were conservatively mapped on the basis of Lidar imagery and 2-foot contour mapping.

Streams – flowing waters were mostly mapped by using Lidar imagery but occasionally realigned on the basis of field (i.e. GPS) data. The latter were particularly important in areas of dense softwood cover where remote data sources were deemed imprecise. That said, the positional accuracy of a handheld GPS unit (i.e. +/- 5 – 7 m) should be kept in mind. Designation of perennial versus intermittent was made on the basis of observed features on the ground, and guidance provided by the *N.C. Stream Assessment Method (NC SAM) Draft User Manual* (N.C. Stream Functional Assessment Team 2013).

Natural Communities and Cover Types – natural communities and generalized cover types were identified on the basis of observed features on the ground. Whereas natural communities were mostly identified using Gawler and Cutko (2010), some types were felt to be better described by Sperduto and Kimball (2011) from New Hampshire. Examples included “Seasonally Flooded Red Maple Swamp” and “Mixed Tall Graminoid Scrub-Shrub Swamp.” On occasion, an artificial *cover type* was designated due to the variable nature of the forest unit. A good example of this included “Riparian Forest,” where a mix of hardwood and softwood species were found along Scotty Brook with variable soil types and drainage classes. This type, and its wetland analogue, “Riparian Wetland,” were far better identified as a wildlife habitat type rather than a natural community type. It should be noted that neither statewide natural community systems denotes these habitats.

Wildlife – mammals were mostly identified on the basis of sign, as indicated in the species list in Appendix B. The winter track survey in January provided the most extensive data set for this group of vertebrates. The latter included 5268 meters of a mostly straight-line transect around the perimeter of the property (see Appendix A). Birds were recorded on the basis of site location and not by number of individuals. In most cases, species occurrences did not overlap and the frequency data provided offers a good idea about how common an observer may encounter a given species. All other species records were made on the basis of incidental observations and therefore only reflect a casual census of vertebrate/invertebrate fauna.

III. Findings

A. Geology and Soils

The “Bedrock Geologic Map of Maine” (Osberg, Hussey & Boone 1985) shows a magmatic pluton in the area of the hill that encompasses the property. The ‘Rumford Pluton’ is denoted by the “D1b(m)” code on the map, and refers to a Devonian age intrusion of granite and granodiorite with biotite and muscovite as common mafic minerals. This is essentially the same as its preceding type in the “Geologic Map of the Rumford Quadrangle” (Moench & Hildreth 1976), wherein the two-mica granite unit was called “Dgsg,” described as containing “abundant sphene-bearing inclusions² in the granodiorite, tonalite, and quartz diorite.” As depicted on the

map at right, the pluton also contains two slabs of “Da,” a tremolite-rich metagabbro that is dark and typified by calcium-rich minerals such as bytownite, labradorite, and augite.

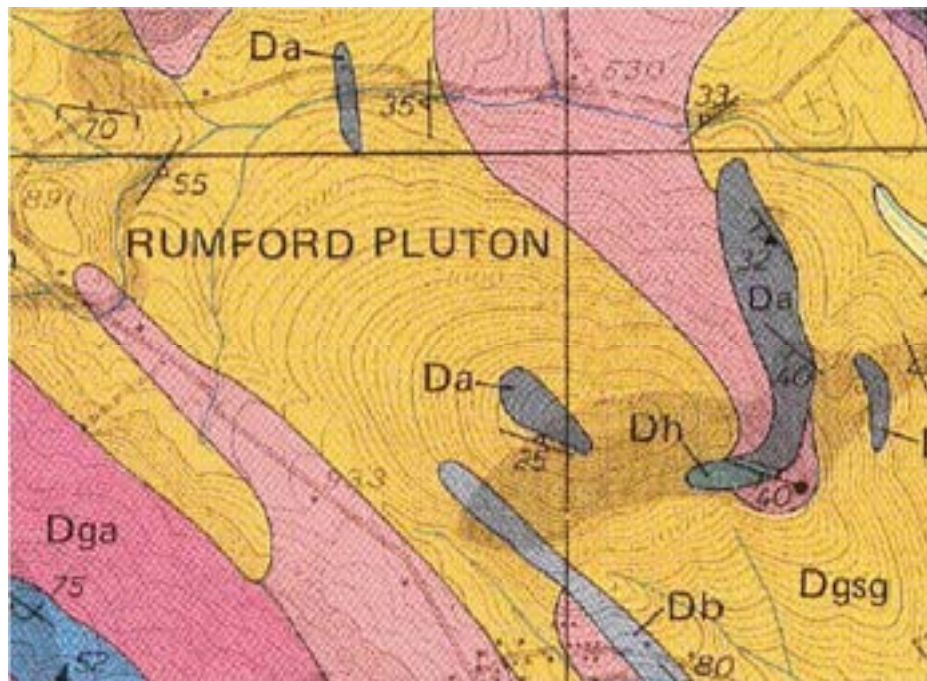


Figure 2. Bedrock geology map of the Rumford Community Forest area

Field surveys of bedrock exposures at the RCF confirmed the presence of two-mica granite, with various inclusions of larger crystalline pegmatite trending in a northeast to southwest direction. The summit of the primary hill at RCF was underlain by pegmatite, as well as the aforementioned

² Sphene is a yellow to brown mineral of the formula CaTiSO_5 otherwise known as titanite.

sphene-bearing granodiorite. The rock depicted at right was found on the summit, and exhibits both the two-mica granite and the pegmatite, with some quartzite veins associated with the localized intrusion of the darker metagabbro type of rock. It is very likely that this combination of minerals was responsible for the observed “sweeter soil” (i.e. calcium bearing) in the summit area.



Figure 3. Two-mica granite with pegmatite "face" near the hilltop

The basis of the parent material that was affected by tens of thousands of years of glacial activity is therefore medium to large-crystalline granite and granodiorite. Physical and chemical weathering of this bedrock has resulted in a mix of sandy loams and loamy sands of intermediate minerology between acidic and basic. Soil parent materials are slightly coarser near Scotty Brook, likely on account of the movement by glacial meltwater. Just downstream of the main marsh in the northwest part are glacial tills that are underlain by fairly deep sandy deposits. Both Hermon and Monadnock soil series have been identified for this area. A good exposure of these sandy deposits can be seen just above the bend in the main snowmobile and hiking trail near its junction with the trail that formerly crossed a bridge near Isthmus Road.

Higher up on the hill are moderately deep fine sandy loams of the Dixfield series that are characterized by being moderately well-drained above a dense basal till substratum. The latter retains a high water table through the spring and early summer, and as a result, is subject to deep rutting when impacted by heavy equipment. Skid trail troughs are frequent on the entire north-facing slope of the hill, and in many areas, the groundwater discharge that has broken out of the surface layers after the last logging event has caused severe surface erosion. Dixfield soils are innately better suited for retaining surface nutrients, and because of this, the north

slope of the hill has favored the regeneration of sugar maple, white ash, yellow birch, and beech instead of acid-loving softwoods.

The summit of the hill and the steep west slope have been largely scraped of their surface till materials and therefore contains shallow-to-bedrock soils in the Lyman and Tunbridge series. Bedrock exposures are fairly common and the surface stone complement can often be found directly on ledge. These soils tend to dry out more quickly in the spring, and as a consequence favor the growth and regeneration of oak, beech and chestnut. Red oak is the current dominant canopy species in most of these areas, although its common cohort, white pine, is also present as well. Beech forms the understory dominant throughout most of the upper part of the hill, largely on account of the timber management practices that have favored stump and root sprout suckering.

Much of the lower lands in the northwest part of the property are variously wet in the surface horizons. The Telos series soils comprise most of the somewhat poorly drained soils below the moderately well-drained Dixfield soils, and the poorly drained Pillsbury soils are found below



Figure 4. Speckled alder (*Alnus incana*) in the main marsh

this nearer to the main marsh. All three series have firm substrata that keep soil water near the surface late into the growing season. Areas that retain saturation through the summer have developed organic surface horizons, with the Peacham series soils being the most frequent as one nears the marsh, and then Wonsqueak series soils in the marsh proper. Like the Peacham series, the latter soil type is very poorly drained but has greater than 16 inches of surface organics in a very well decomposed state. These sites where soil oxygen is severely limited due to inundation or saturation

throughout the year support plant species with specialized adaptations to these conditions, such as alders with air-breathing lenticels and willows with aerial root capabilities.

B. Water Resources

Wetlands made up 7.3% of the Rumford Community Forest or about 32 acres of the 446-acre total. As shown in Appendix A-4.2, this includes the three perennial streams that were mapped for the property, which totaled about 2.5 acres. Wetlands were primarily located in the northwest part of the property in what has been termed the “main marsh,” as well as in two watershed divide basins along the western property boundary and in the beaver flowage in the southwest part near Isthmus Road. The main marsh is directly associated with Scotty Brook and is comprised of a mix of tussock sedge meadows surrounded by an alder-dominated scrub-shrub marsh, and a border of balsam fir and red maple. Whereas the main marsh has been variously inundated by beaver dams over the past millennia, it was found to be devoid of any active impoundments at the time of the survey. Nonetheless, this meadow serves as an important floodwater retention zone above the Scotty Brook and Swift River flowages.

The two wet forested swamps along the western boundary had the unique distinction of supporting a prevalence of black or brown ash (*Fraxinus nigra*). The combination of compact tills of the Brayton series, toe slope seepages from the western slopes of the property, and the lack of a central stream flowage has produced one of the most important habitats of the RCF. Owing to the increasing abundance of emerald ash borer (EAB), all ash species in the Northeastern United States and Canada are subject to eradication. Because of the site-specific conditions that exist in this wetland basin, and the threat from EAB, this habitat should be protected from any land use activities. Besides black ash, it is also host to a number of wetland plant and animal species found nowhere else on the property, such as *Climacium* moss, Robbins ragwort (*Packera schweinitziana*), nesting common grackles, and possibly rusty blackbirds. Although most of these species are not uncommon elsewhere in the state, they are locally uncommon and only occur on the property in this locale.

The beaver flowage in the southwest part of the property was the most dynamic wetland system on the RCF. Between the time of the first site visit in October and the forestry tour in November a new beaver dam and impoundment was created. The main lodge was located in the southernmost impoundment and an active cache was observed in January. The amount of surface water feeding this system and the abundance of available forage in the form of sapling aspens, birch, and maple appear to make this a perfect site for recolonization by this industrious species. Unless the beavers are trapped out or otherwise killed by predators, they should continue to expand and diversify this habitat for a number of species that are otherwise uncommon on the property. This has and will continue to include a number of waterfowl species, mink, otter, various dragonflies and damselflies, aquatic macro-invertebrates, and aquatic plants such as water-lily (*Nymphaea spp.*), bladderworts (*Utricularia spp.*), and pondweeds (*Potamogeton spp.*).³

Scotty Brook is a third order stream that flows through the north part of the property. This brook drains the southeast side of Black Mountain and flows down along Isthmus Road into the Swift River just north of town. It is variously 'flashy,' as attested by the wash out of the trail bridge in the last two years. The RCF property provides at least one perennial and several intermittent stream drainages that feed into Scotty Brook and help contribute to its high flow during certain times of year. The largest contributor originates below Oak Crest Road to the west, crosses Isthmus Road and cuts across the northwest part of the property. Recent erosion banks on this stream indicate that it has a substantial flow into Scotty Brook. It also characterizes the riparian forests in this corner of the property, which includes a number of spruce-fir wet flats as described below. Other intermittent stream systems feed Scotty Brook from the south, some of which have transported large amounts of sediment from the sandy soils that have been destabilized by logging events on the property. Virtually all of the skid trails and roads on the property have been similarly affected, and some trail treads have been eroded down to bedrock. In sum, the movement of water across this property and the wetlands

³ One species of this group was identified as *P. vaseyi*, a state-endangered plant that should be confirmed.

that serve to drop sediment, transform nutrients, and stop floodwaters deserve the greatest amount of management attention of any ecological system on the RCF.



Figure 5. Example of how past logging actions on the Rumford Community Forest have destabilized soils, created new ephemeral run-off channels, and exposed roots of residual trees

C. Natural Communities

Natural communities are naturally occurring aggregations of plants, animals, and other organisms in their physical environment (Sperduto and Kimball 2011). Several edaphic factors tend to favor certain “indicator species,” such as black ash in the Black Ash Swamp. Without significant, community altering disturbance, these natural communities tend to maintain and/or replicate themselves over time. With significant disturbance, either artificial (i.e. manmade) or natural (e.g. hurricane), natural communities can transition to another type,

slowly recover back to their original state, or have a fate that is as yet unknown. In light of global warming and climate change, the latter option is becoming more and more the norm.

At the Rumford Community Forest every attempt was made to identify natural communities according to their proximal or probable state. Since nearly all of the RCF has been harvested for its timber and only one natural community system was found to be in a relatively undisturbed condition (the marsh/scrub-shrub area along the northern boundary), most of the RCF required a “best guess” as to which natural community was present. Fully one third of the RCF contained cover types that either did not fit into the neatly defined natural communities (N = 6), or were cover types that were artificial (N = 4). Good examples of the former included “Riparian Forest,” “Riparian Swamp,” “Perennial Stream,” and “Intermittent Stream,” all of which involved flowing waters and their immediate buffers. Good examples of the latter included “Landing,” “Access Road,” and “Skid Road/Trail,” all of which have been highly altered by human means.

Appendix A-5.3 includes a list of all 60 cover type units that were identified for the RCF in alphabetical order according to designated type.



Figure 6. Typical view of the sapling-pole, mixed hardwood-softwood forest on the RCF

As can be seen on the Natural Communities Map in Appendix 5.1, the most prevalent natural community type on the Rumford Community Forest is the **Beech-Birch-Maple Forest** designated as “NH” on the map. Fully one half of the property and > 55% of the upland areas was comprised of this type. Based on the soils and logging history, and as indicated in the Forest Inventory, American beech and red maple make up nearly half of the basal area of the entire forest and >52% of the hardwoods. Although hard (sugar) maple makes up only two percent of the basal area, this number should increase over time as it succeeds red maple in the canopy. Similarly, the small basal area percentage of yellow birch (4%) should also increase as the forest matures. Without accounting for long-term effects of climate change, pathogens, or future management actions, each of the three dominant species of this northern hardwood triumvirate should be roughly equal in dominance as the forest approaches a climax state.

The second most prevalent natural community type on the RCF was the **Red Oak-Northern Hardwood-White Pine Forest**, designated as RO-NH-WP. This forest type made up much of the remaining upland areas of the RCF or about 25% of the total. Since this is a mixed forest type that has been subjected to a variety of stressors such as pathogens and timber harvesting over the past 100 years, the residual stands that comprise this natural community are fairly dynamic. For example, American chestnut, which was once a dominant canopy species on the RCF as evidenced by residual stumps, is no longer present as a canopy tree. In its stead red oak has successfully responded to suitably warm, sub-acidic soils and proliferated across the entire western slope of the property. On the east side of the summit of the hill, white pine has persisted due to the shallower, droughty soils, and absence of logging. Down along the intermittent streams along the northwest boundary, eastern hemlock forms a substantial amount of the canopy. Soils in this area have higher water tables and the cool air along the streams favor species such as this and balsam fir that can photosynthesize in low light under moist conditions. Beech and other northern hardwoods mix in with other hardwood and softwood species when site-specific conditions are suitable for their growth. The variability of the site conditions are such that in general, a natural mixture of hardwoods and softwoods will regenerate regardless of past logging events and vagaries of weather and pathogens.

Red oak and white pine become the exclusive co-dominants in shallow, droughty soils that are exposed to wind and intense solar gain. Because these conditions exist at the top of the main hill on the RCF, an **Oak Pine Forest** (PO code) was designated in that locale. The 19-acre patch on the upper west side of the hill has several bedrock exposures, some of which include the aforementioned “sphene-bearing inclusions” in the metagabbro (code Da). These have supported the growth of different herbaceous plants such as communal sedge and white-edge sedge, hairy solomon’s-seal, and sessile-leaved bellwort. It is probable that other plants that only occur in these habitat types can be identified from this area. On the summit, some of the same calcium-bearing outcrops exist that have diversified the canopy to include hop-hornbeam as well. This ‘dry rich’ indicator would not likely have regenerated here without this rich bedrock being present. Also in the summit area is the only probable **Vernal Pool**, which, because of its very small size (8 x 22 m) was not mapped as a separate cover type unit.



Figure 7. The only probable vernal pool on the property lies at the top of the hill

On the opposite end of the soil moisture spectrum where soils are deep and water tables are higher, more softwoods enter the RCF forests. These are particularly pronounced along intermittent and perennial drainages at the base of the north-facing slope. In these locales a substantial percent of conifers can be found, as was described for hemlock in the cooler and wetter streamside mixed forests. In this case, the low slope and frequent groundwater seepages results in a high amount of spruce and fir along with northern hardwoods such as yellow birch and sugar maple. The **Spruce-Fir-Northern Hardwood Forest** and the **Spruce-Fir Wet Flat** were named for these kinds of natural community types, with the former occurring on slightly drier and more steeply sloped soils and that latter reserved for sub-hydric flats. The lower central part of the RCF was identified as the first spruce-fir type where several intermittent streams help to create perennial high moisture ravines and toe slopes. Somewhat poorly drained Telos soils were identified for this unit. Below this and closer to the perennial stream in the northwest part are the three units of spruce-fir flats. Poorly drained Brayton soils were identified for these units. Both offer excellent habitat for snowshoe hare, moose, and wintering white-tailed deer.

Just in the way that the spruce and fir-dominated wetlands are somewhat self-sustaining, their hardwood equivalent, the **Black Ash Swamp** is also self-sustaining on account of soil and water features. In this case, the seepages that break out across the landscape occur in sufficient quantities and across a shallow enough slope that the groundwater provides a steady supply of nutrient-laden water year-round. Although these sites can intermix with softwoods such as balsam fir and red spruce, the two patches of this natural community type on the RCF are nearly pure hardwoods. Black ash stands as the dominant canopy species, although red maple, American elm, and quaking aspen are mixed in as well. Some of this is likely the result of former agriculture and possibly the selective removal of spruce, however it appears that these two sites contain a self-sustaining population of black ash (at least until EAB arrives in force). As noted above, these are somewhat unique forested wetland types with between 25 – 80% canopy coverage with an understory of plants such as winterberry holly, witherod, mountain holly, sensitive fern, marsh fern, royal fern, Robbin's ragwort, turtlehead, and foamflower.



Figure 8. Black Ash Swamp along western boundary

Natural communities along Scotty Brook provided most of the remainder of the identifiable wetland cover types. The core of the open wetland that runs along the stream channel is dominated by tussock sedge, bluejoint reedgrass, wool-grass, speckled alder, sweet gale, and a variety of perennial forbs such as spotted joe-pye weed, swamp goldenrod, and water purslane. Since this community is typically a mix of herbs and shrubs, it has been designated by the NH natural community type, **Mixed Tall Graminoid-Scrub Shrub Marsh**. Adjacent to this type where inundation is less severe and the diversity of old tussock sedge clumps provide well-aerated mounds, the **Alder Alluvial Thicket** can be discerned. The 80 – 90% canopy closure is dominated by speckled alder and only small wildlife species can easily pass. Beyond this occurs the hard-to-designate **Riparian Forest** and **Riparian Wetland**, which is usually a mixture of trees, shrubs, and forbs that change rapidly due to periodic inundation by beavers, winter floods, and spring storms. The movement of the alluvial soil during these events also creates the variable overflow channels of Scotty Brook, where some stabilize long enough for red maple trees to take hold, while others get scoured out by the next event and return to non-persistent grasses, sedges, and forbs. Over six acres of these riparian systems were denoted on the Natural Communities Map, and this does not include the two patches of the **Seasonally Flooded Red Maple Swamp** that have clear stabilized long enough to form flood-resistant forested wetlands.

Most of the other natural communities on the Rumford Community Forest were small, isolated, and evaded easy designation according to Gawler and Cutko (2012). Near the future parking area on Isthmus Road were several young stands of hardwood forest that currently have quaking or big-tooth aspen and paper birch in the canopy. Whereas these will likely succeed to another forest type, for the time being they were identified as **Aspen-Birch Forest**. Similarly, the two (now three) beaver ponds downstream from the parking area are simply called **Beaver Ponds**, since they are dynamic systems that are changing every day. Three areas that are dominated by seepages on moderately to steep slopes, and which contain tree and shrub species found in both upland and wetland systems, were merely called **Seeps**. The largest one along the northeast boundary is several acres in extent, and is comprised of a mix of upland and wetland soils and plant species. The **Hardwood Seep** across from the future parking area is more definable as to being a sloping groundwater seep with red maple and sensitive fern as the co-dominants. The third area was found just below Isthmus Road in the north part where large groundwater swales lead down towards Scotty Brook. In this case the canopy is a mix of balsam fir and red maple. Many of the usual seepage plants are present in the understory, such as golden saxifrage, Pennsylvania bittercress, foamflower, small enchanter's nightshade, and *Sphagnum squarrosum*.



Figure 9. Sand bar along Scotty Brook lined by variously flooded riparian forests and wetlands

D. Wildlife

During all field outings continuous records were kept of all wildlife species that were observed on the Rumford Community Forest. With the exception of the mammal tracking as noted above, all of the observation were qualitative. Most mammal records were made on the basis of sign, most bird records on the basis of calls and song, and all amphibian, reptile, and fish records were made on the basis of actual sightings. The latter groups of observations typically involved active searching in areas of suitable habitat, such as under stream cobbles and stones for stream salamanders, in clearwater pools for fish, and under rotting logs for redback salamanders and red efts. Given that this REA was a 3.5-day effort, the following account and species lists in the Appendix only represent a small fraction of the species that likely occur on the RCF. For that reason, each species list contains an “(X)” symbol for probable species that likely occur on the property, and which could likely be encountered during the right time of year and the right time of day. The same is true for vascular plants, wherein the list of probable species is almost as large as those that were observed.

Amphibians, Reptiles and Fish

The limited amount of wetlands and waterways on the Rumford Community Forest naturally limits the amount of amphibian, reptile and fish activity. That being said, there are some notable intermittent and perennial streams, as well as pockets of mesic forested habitats that support these classes of organisms. As noted in Appendix B, there were 10 out of 12 possible amphibians observed, one of nine possible reptiles observed, and three out of a possible six species of fish observed. The two most common fish species were eastern brook trout and blacknose dace, both of which are coldwater species that inhabit all of the perennial streams on the property. A third species, fallfish or roach, was also seen in the main tributary of Scotty Brook, as depicted at right.



Figure 10. Blacknose dace (above) and fallfish (below) in perennial stream above Scotty Brook

Nearly all of the common amphibians of the region were observed but in modest numbers. Redback salamanders were much less frequent than expected owing to absence of large, rotten coarse woody material (CWM) on the forest floor. Areas that were more populated with CWM had correspondingly higher number of these organisms. The same could be said for red-spotted newts, wherein the terrestrial red eft stage was only observed twice. Stream salamanders were more plentiful in their respective habitats, with northern dusky salamanders and two-lined salamanders both being found in suitable gravel-cobble-stone substrates in the coldwater stream that feeds into Scotty Brook. The high number of caddisfly, mayfly and stonefly larvae in

this stream attested to its food supply for these salamanders as well as the coldwater fish that were observed.

Frogs and toads were also limited in numbers owing to the near absence of ponds and vernal pools. The one area with ample surface water was the beaver pond area in the south corner of the lot. The oldest and largest pool that was cut in half by the boundary contained green frog, pickerel frog, wood frog, spring peeper, and gray treefrog. American toads were not far away in the moist, riparian uplands. This pond also contained ample numbers of the adult red-spotted newt. The only other water body to contain this species was the meandering section of Scotty Brook in the main marsh. Both green and pickerel frogs were seen there as well, and this was the one site where bullfrog may be located.

Reptiles were much less common, wherein only a single garter snake was seen. The RCF habitats are suitable for a number of other species, including northern water snake, northern brownsnake, northern redbelly snake, northern ribbon snake, and possibly eastern smooth green snake. The latter is considered a declining species in the region, although it has been recorded in Rumford.⁴ The tussock sedge meadow in the main marsh appears to have suitable habitat for this species. In terms of turtles, eastern painted turtle should be expected in the beaver ponds, and snapping turtle is likely in the main marsh. Greater search efforts during the growing season should result in observations of these two species on the property.

Birds

A total of 36 species of birds were observed on the property during the four outings. Given the time of year (late fall and winter), this was not a surprising number. The observation list in the Appendix indicates that at least another 83 species are possible, many of which should be expected to breed on the RCF. The actual observation count, which was based on the number of times an observation location was recorded (i.e. *not* the number of individuals), provides an initial sense of how frequent one might encounter a particular species on the property. Blue Jay (N = 26) and Black-capped chickadee (N = 18) were the two clear dominants in terms of

⁴ See the Maine Amphibian and Reptile Atlas (<https://www.maine.gov/ifw/fish-wildlife/wildlife/species-information/reptiles-amphibians/smooth-greensnake.html#status>).

frequent encounters, and they can be expected throughout the property as a whole. Turkey was also widespread (N = 11), with most of their numbers being recorded during the winter track transect along the western boundary of the RCF. Ruffed grouse (N = 8) was also frequent in this area, largely on account of the ample cover provided in the black ash swamp and the abundance of quaking aspen browse in this area.

Other species that were readily observed and should be considered common permanent residents included pileated woodpecker, downy woodpecker, hairy woodpecker, American crow, common raven, red-breasted nuthatch, white-breasted nuthatch, purple finch, dark-eyed junco, and song sparrow. Depending on the type of winter and amount of shrub fruit and conifer seed crop, American robin, red crossbill, and pine siskin will also occur year-round as



Figure 11.1 Black-capped chickadee



they did in 2023-24. The October site visit yielded several migrants who will likely return to breed in the spring, such as northern flicker, blue-headed vireo, winter wren, gray catbird, hermit thrush, white-throated sparrow, common grackle, common yellowthroat, and yellow-rumped warbler. As depicted in the image at left, the swamp sparrow should also return to build more nests in the scrub-shrub marsh in the main meadow.

Figure 11.2 Swamp sparrow nest in a browsed red maple sapling at the edge of the main marsh along the northern boundary of the Rumford Community Forest

Mammals

A total of 24 species of mammals were recorded on the Rumford Community Forest in the fall and winter of 2023-24. Most of these were recorded during the winter track transect survey on January 21, 2024, although many others were detected during the fall on the basis of other sign. As noted in Appendix B-7, at least 17 other species are likely to be observed on the RCF property. Many of these are only active during the growing season, such as black bear, woodchuck, striped skunk, star-nosed mole, meadow and woodland jumping mouse, northern flying squirrel, and at least four bat species. Others may have been active but were not encountered owing to their generally infrequent occurrence in the region, such as American marten, gray fox, and southern bog lemming. Camera and/or bait traps would enhance the opportunity for their detection.

Appendix A-6.1 and 6.2 provides a visual and tabular basis for track frequency during the January 21st outing. Without question the clear “winner” in terms of track frequency was snowshoe hare. A total of 261 track intercepts were recorded along the straight-line transect segment adjacent to the main marsh. Not including the small mammal tracks, this was over

50% of the total numbers of tracks recorded along the 5268-meter transect that circumnavigated the property. The abundance of low, balsam fir and spruce cover and the adjacent scrub-shrub and emergent marsh wetlands provided the perfect conditions for this high density. Given that this species tends to cycle on an eight to 10 year basis, it is apparent that at the RCF this was its peak year.

Other frequent track-makers along the transect line included red squirrel (N = 6), gray squirrel (N = 91), ermine (N = 42), and eastern coyote (N = 41). The squirrel numbers were actually low compared to other sites during this past winter, where two to three times as many per meter have been recorded. Part of this was due to the site conditions during the time of the survey, wherein high winds and cold temperatures had prevented very much diurnal movement. Another significant factor was the absence

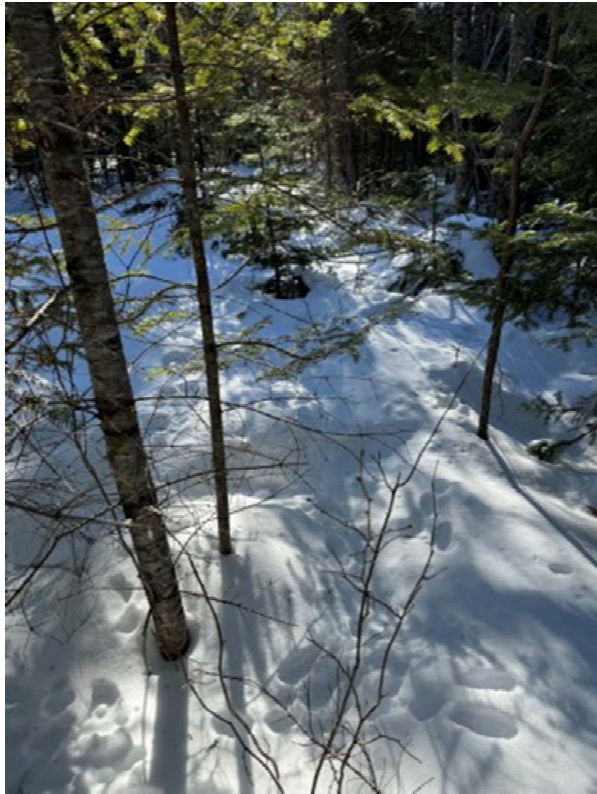


Figure 12. Dense softwood cover near the main marsh produced the highest density track count of any mammal

of good mast. Although acorns were in abundance this year, they were only present where sufficiently large oaks were present, which was restricted to the boundary trees along the southern edge of the property. Gray squirrel numbers virtually dropped out north and east of the summit. A similar situation was faced by relatively poor seed-eating opportunities for red squirrel owing to the paucity of white pine on the property in general. Wherever there were good numbers of pines the red squirrels were in abundance. This included the northeastern boundary and the northwestern boundary areas.



Ermine was concentrated on the southwest slope of the Rumford Community Forest where acorn mast had yielded a high population response from a variety of small mammals. Deer/white-footed mouse, red-backed vole, and masked shrew were all frequent track-makers in this area in spite of the wind-blown conditions. The ratio of ermine tracks to small mammal tracks, at roughly 1:6, which indicated their likely choice of this area to hunt. Given the time of the year (i.e. breeding season), it is probable that at least two individuals were making the tracks that were recorded. Only one other area was noted as ermine hunting habitat; this was along the upper east boundary.

Figure 13. Mouse, chipmunk, gray squirrel and ermine tracks were concentrated around this base of this large red oak boundary tree

As a predator, eastern coyote provided an equivalently high number of track intercepts as the ermine, however they were far more widespread. This wide-ranging animal is currently our largest carnivore in winter and has effectively replaced the now mostly extirpated eastern gray wolf. Coyote tracks were recorded throughout the property from the southern edge where the small mammal tracks were the most abundant, to the summit area where gray squirrels were actively feeding, to the northern lowlands near the main marsh. The predominant number of track sets per encounter was one to two.

Occasionally I noted three individuals but this was exception. Given the fact that this was the start of their breeding season, having pair-bonded individuals together made sense. Across the entire property, both during the winter track survey and the other site visits, there was no evidence found of predated or scavenged deer. Deer numbers were fairly low on the property except in the winter yarding softwood area in the northwest corner where other predators were present as well.

Other less common track makers included bobcat, river otter, fisher, and short-tailed shrew. Bobcat tracks were found primarily near the snowshoe hare activity area, and this corroborated mud track evidence found in the fall. River otter tracks and slides were found exclusively in the main marsh, but should be expected all along Scotty Brook and possibly in the beaver pond chain in the southern corner. Fisher tracks were a welcome addition to the predator base, since this species has been in severe decline regionally. The single track intercept was recorded along the western boundary near the black ash swamp. Short-tailed shrews tunnels and tracks were scattered across the property margin. These tenacious predators were only infrequent due to the time of year. Otherwise, they should be expected across the property wherever suitable small mammals and insect larvae populations are sufficient to support them.

Although the Rumford Community Forest is fairly large and contains a number of habitats, there were some species that were either observed infrequently or not observed at all owing to the types of habitats available. The very young age of the forest, for example, was likely responsible for an absence of porcupine records. These species prefer older woodlands where cavities, large tree branch structures, and large tip-up mounds can provide denning areas. The large boundary oaks are perhaps the best place to look for this species. A second uncommonly encountered mammal was red fox. Not unlike the undetected gray fox, they prefer edge habitats and old fields that are filled with a good source of prey, namely, a variety of small mammals. Only one red fox track was recorded, and this was well away from any open habitat. Additionally, based on the observation of over 300 individual track sets of small mammals, it did not appear that a suitable prey base was absent. Localized rabies, canine, distemper, and/or trapping pressure may have been responsible for their abnormally low numbers. The same could be said for gray fox, which went undetected during all four of the outings.

IV. Recommendations and Next Steps

The Rumford Community Forest represents one of the best opportunities to provide a multi-use, natural area for the town of Rumford. Its proximity to the village, its relatively remote landscape across from Black Mountain, and an existing trail network that already provides access to the property favors its use by local residents. Given this property's long history of use and current state of the forest, the primary question that remains as the town takes ownership and begins to manage the property for multiple uses is, 'how can the natural ecology of the site be protected and integrated into an actively used recreation and timber management area?'

The above report describes some of the significant ecological resources that will require public consideration in order to meet the stewardship objectives of protecting native diversity, managing for timber products, and offering recreational access. As discussed during the November site walk that involved many of the stakeholders interested in the RCF, it appears that a careful, zone or compartment-based approach is required. For example, the data above suggest that Scotty Brook, and specifically the main marsh that it runs through along the northern boundary contains the highest diversity of plants and animals on the property. Second in importance to wildlife and habitat diversity is the southwestern ponds and marshes that are currently being actively "managed" by beaver. A third area that has a high degree of ecological value is the summit of the hill, where soil enrichment has favored a high diversity of plants and an isolated basin provides one of the only vernal pools on the property. A fourth area that is somewhat unique ecologically is the black ash swamps along the western boundary. Lastly, the northwest corner of the property contains the riparian zone for an inflowing perennial stream that includes the only spruce-fir flats on the property. These softwood dominated forests may serve as a wintering yard for ungulates. The value of each of these sites to wildlife and habitat diversity suggests that they be generally protected from active recreation or timber management. These areas are summarized in the following table.

Table 1. Recommended Protection Zones at the Rumford Community Forest

Protection Zone	Natural Comm. Types	ACRES
Scotty Brook Protection Zone	Riparian Swamp & Forest	35.80
Northwest Softwoods Protection Zone	Mixed Lowlands	77.93

Southwest Wetlands Protection Zone	Black Ash Swamp	14.68
Summit Protection Zone	Oak-Pine Forest	36.54
NE Seep Protection Zone	Forested Seep	2.85

Protection Zone Recommendations

- A. Scotty Brook** – this +/- 36-acre area includes all of the riparian woodlands and wetlands along Scotty Brook from its entry into the property to its outflow. Aside from the stream itself, it includes the largest wetland complex referred to as the main marsh. This part of the property contains some of the highest wildlife diversity and some of the most sensitive wetlands. Upland buffers have been included along the brook on both sides from Isthmus Road to approximately 100 feet on the south side of the stream. The former access trail and washed out bridge are not a part of this zone, with the understanding that this may be rebuilt as an access point for the property. If it is, then it is suggested that this remain a foot path and foot bridge only, so as to concentrate the motorized vehicle use along the existing snowmobile trail. Any future logging should not use the old skid trail that bisects this area since it is extremely wet and has been significantly damaged in the past. The western edge of the unit provides a seamless connection to the next Protection Zone to the west and should be treated as a contiguous unit in terms of being free from trails, timber management, and any form of passive recreation other than hunting and fishing.
- B. Northwest Softwoods Protection Zone** – most of this +/- 78-acre area contains a mixture of red spruce, balsam fir, eastern hemlock, and white pine. There are also a few scattered northern white-cedars and black spruce as well. In all, these five species comprise over 55% of the basal area for this unit and highlights an otherwise hardwood dominated community forest. As noted above, this forest contains several wet spruce flats that provided exceptional habitat for snowshoe hare, and as a consequence, a number of predators that actively seek out this species as prey, such as eastern coyote, bobcat, and fisher. This is also the site of a high potential, deer wintering area. The number of balsam fir saplings also provide an attraction for wintering moose, which likely utilize this area from time to time during a season when they are normally at much higher elevations. Given the stress that moose are currently under from winter tick, this may provide an adaptive advantage for them in future years. With the exception of some light thinning or small patch cuts that could encourage browse at the edge of this unit, this zone is recommended as a timber management free zone that is also free from trails and passive or motorized recreation.
- C. Southwest Wetlands Protection Zone** – this +/- 15-acre area includes all of the wetlands that lead into the series of recent beaver ponds along the southwest boundary. The upper edge begins at the former snowmobile trail to Black Mountain,

which crosses the height-of-land. It includes the southernmost black ash swamp and all of the seepage wetlands that feed into the intermittent stream that supports the beaver activity. As of this writing there are at least three beaver impoundments that provide open water habitat for organisms that are found nowhere else on the property. At least one of these are uncommon to rare in the region, and further inventory work is warranted in this area in order to fully understand the diversity and sensitivity of the species that reside here. Other than a possible trail crossing of the inflow stream in order to provide a connection between the planned parking lot and the former snowmobile trail, it is recommended that this area also remain as free as possible from human intrusion. An adequate timber management buffer should be left to prevent erosion and siltation of the stream system. That being said, future light management of the riparian zone could help enhance beaver foraging habitat over the long-term.

- D. Summit Protection Zone** – atop the highest hill on the property is an area of about 37 acres that is characterized by shallow, sub-acidic soils that are strongly influenced by the underlying bedrock. This has created a forest type that is oak-dominated and intermixed with hop-hornbeam, sugar maple, and beech. A number of uncommon plants that are calcium-loving (i.e. calciphilic), have been found in this area. An additional “signature” feature is the vernal pool that lies in a small saddle between two low peaks of the summit ridge. Although not yet confirmed for obligate breeding amphibians, its depth, size, and invertebrate community suggests that it will support one of more of these species, including but not limited to wood frog and spotted salamander. Besides providing a timber harvesting buffer from this pool, it is recommended that timber management in this zone be slight if any. A proposed viewpoint was mentioned during the November site walk and it appears that opening up a patch clearing in this area could provide this without unduly harming any of the native flora and fauna. In fact, this type of activity might actually stimulate the occurrence of sun-loving, calciphilic plants that are uncommon in the region. One additional, mechanical activity that has been suggested and may prove to be a valid wildlife management action is to enhance the skidder-created vernal pool area in the very southeast corner of the lot. Although this will require communication with an abutter (since some of the proposed pool area lies off of the property), it would help augment the singular vernal pool in this area. Given that no other vernal pools were identified for the property, this represents a significant wildlife resource.
- E. NE Seep Protection Zone** – this minor habitat is only about three acres in size but significant because of its uniqueness on the property. Although there are several other areas where groundwater seeps characterize the forest floor, this area has an extensive system of seeps that reside in a relatively mature mixed forest zone. Although previously managed for timber, any future cutting in this area will likely destroy the

hydrologic integrity of the forest as it has elsewhere on the property. Although no known unique species exist in this seepage area, there are likely several species found nowhere else on the RCF, some of which includes various bryophytes such as *Sphagnum* spp. and members of the Mniaceae. The mixed forest habitat, if allowed to mature, could provide an additional late successional resources suitable for porcupine, flying squirrel, bear, fisher, raccoon, and barred owl.

Aside from the above recommendations, a number of other activities could take place on the RCF that complement the ecological and wildlife management suggestions made above. Trail stabilization and erosion control are primary to the success of developing a solid trail system for recreational use, and good signage that instructs visitors to the allowed uses and the times of year they are acceptable would also enhance user experience. These actions and the development of the proposed parking area are important additions to the above natural resource recommendations that seek to balance the overall use and visitation to the property.

In terms of timber management, although this is largely the purview of Bill Haslam and the AMF forest planning effort, there are a few practices that may enhance wildlife as well. Notable among these is the addition of coarse woody material to the forest floor through a planned and funded thinning of the heavily stocked sapling/pole hardwoods that cover two-thirds of the property. A cut-and-leave approach will help enrich a soil that is depauperate in nutrients owing the repeated clearcuts and patch cuts that have taken place in the past. It will also help stabilize the innumerable erosion channels that have removed soil and changed the local hydrology of many of the catchments on the north slope. Strategic wood additions to the intermittent and perennials streams would also help desynchronize floodflows and protect downstream roads and property. All of this will have to be self-funded since any timber removal at this point may not be worth the value of whatever wood products are generated.

In sum, the town of Rumford has a tremendous opportunity to restore some of the degraded habitats on the Rumford Community Forest, and enhance future uses by showcasing proper land management and long-term stewardship practices that both protect native biodiversity and teach the general public about its importance. Continued, careful planning on the part of the town can ensure that the short-term opportunities for recreation, education, and aesthetic enjoyment of the property remain intact, and that the long-term sustainability of its ecological resources are integral to proper stewardship.

V. References

- Boyd, Lynn. 2001. Buffer zones and beyond: Wildlife use of wetland buffer zones and their protection under the Massachusetts Wetland Protection Act. Project report to the Department of Natural Resources Conservation, University of Massachusetts, July. Duplicated.
- Chapman, Donald. 1974. New Hampshire's Landscape: How it was formed. *New Hampshire Profiles* January: 41-56. Geology Reprint, Portsmouth.
- Colburn, E.A. ed. 1991. *Certified! A Citizen's Step-by-Step Guide to Protecting Vernal Pools*. 4th ed. Lincoln: Massachusetts Audubon Society.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service. FWS/OBS – 79/31. Washington, D.C.: Government Printing Office.
- DeGraaf, R.M., M. Yamasaki. B.B. Leak, and J.W. Lanier. 1992. *New England Wildlife: Management of Forested Habitats*. Radnor, PA: USDA Forest Service, Northeastern Forest Experiment Station, GTR NE-144.
- DeGraaf, Richard, and Mariko Yamasaki. 2001. *New England Wildlife*. 2nd ed. Amherst: University of Massachusetts and the Northeast Forest Experiment Station, USDA. Gen. Tech. Rpt. NE-108.
- Ernst, Carl, Jeffrey E. Lovich, and Roger W. Barbour. 1994. *Turtles of the United States and Canada*. Washington: Smithsonian Institute.
- Gawler, Susan, & Andrew Cutko. *Natural Landscapes of Maine, A Guide to Natural Communities and Ecosystems*. Augusta: Maine Natural Areas Program.
- <https://ebird.org/home>
- <https://maine.maps.arcgis.com/home/index.html>
- <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- Lyons, Charles, Eugene Boudette, et al. 1997. New Hampshire Bedrock Geology Map (with annotations). NH Department of Environmental Services, Concord, NH.
- Moench, R.H., and Hildreth, C.T., 1976, Geologic map of the Rumford quadrangle, Oxford and Franklin Counties, Maine. Reston, VA: United States Geological Survey. U.S. Geological Survey Map GQ-1272, 1:62,500 scale.
- Miller, Jeremy, & Elizabeth Farrell. 2023. Forest Inventory Report, Rumford, Oxford County, Maine. Duplicated. Prepared for the Trust for Public Land.
- NAAMP. 2012. North American Amphibian Monitoring Project website:
<http://www.pwrc.usgs.gov/naamp/>
- N.C. Stream Functional Assessment Team. 2013. *N.C. Stream Assessment Method (NC SAM) Draft User Manual*. North Carolina Department of Environment and Natural Resources.

- NH GRANIT. 2020. GIS data from Complex Systems Resources Center, Durham, NH.
- NH Natural Heritage Bureau. 2016. Rare and endangered species list published by the NH Natural Heritage Inventory, Concord, NH. July.
- New England Interstate Water Pollution Control Commission. 2016. Field Identification of Hydric Soils. v4. Concord, MA: NEIWPCC.
- Oehler, James, Katharine Callahan, and Rachel Stevens. 2019. *Trails for People and Wildlife. A Guide to Planning Trails that allow People to Enjoy Nature and Wildlife to Thrive*. Concord: NH Fish & Game Department.
- Osberg, Philip H., Arthur M. Hussey, & Gary Boone. 1985. *Bedrock Geology Map of Maine*. Augusta: Maine Geological Survey.
- Sperduto, D. D., and Ben Kimball. 2011. *The Nature of New Hampshire: Natural Communities of the Granite State*. New Hampshire Natural Heritage Bureau and The Nature Conservancy. Department of Resources and Economic Development, Concord, New Hampshire.
- Stone, Amanda, Frank Mitchell, Rick Van de Poll, & Nancy Rendall. 2015. *Method for Inventorying and Evaluating Freshwater Wetlands in New Hampshire v.3*. Durham: UNH Cooperative Extension.
- U.S. Army Corps of Engineers. 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. Vicksburg, MI: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 1987. *Wetlands Delineation Manual*. Technical Report 1-3-87. Washington, D.C.: Government Printing Office.
- United States Department of Agriculture Natural Resources Conservation Service. 2011. *New Hampshire State-wide Numerical Soils Legend, Issue #10*. Durham, NH: USDA, NRCS.
- United States Department of Agriculture Natural Resources Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States, Version 7.0*. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.) USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- United States Department of Agriculture (USDA). 2020. Natural Resource Conservation Service. *Web Soil Survey*: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- U.S. EPA. 2001. Protocols for Rapid Bioassessments of Wetlands:
<http://www.epa.gov/OWOW/monitoring/techmon.html>
- Van de Poll, R.D. 1996. Natural and cultural resource inventories: A guide to comprehensive methods for the private landowner in New England. Doctoral thesis. The Union Institute. UMI Publications. Cincinnati, OH.

Appendix A

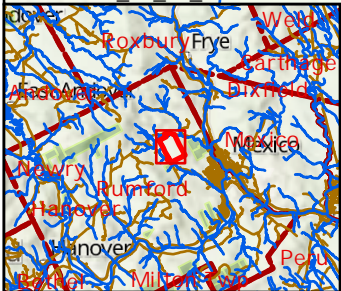
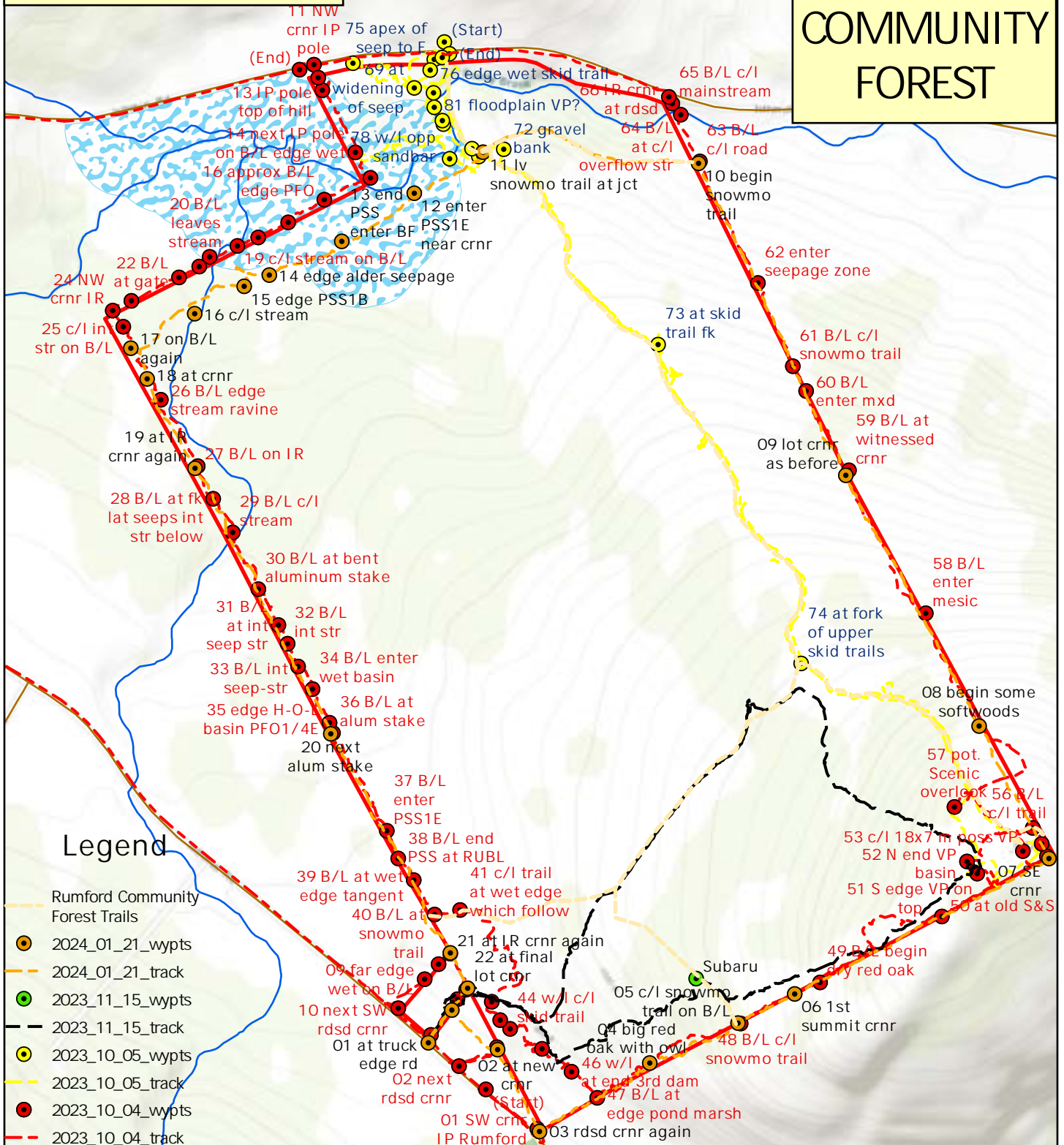
List of Maps & Tables

A. Maps & Tables

1. Site Visit Map	A – 1
2. Bedrock Geology Map	A-2
3. Soil Type Map - NRCS	A – 3.1 – 3.3
4. Soil Type Map – EMC Field	A – 3.4
5. Soil Map Unit Legend	A – 3.5
6. Wetlands & Water Resources Map	A – 4.1
7. Wetland Type Table	A – 4.2
8. Cover Type & Natural Communities Map	A – 5.1
9. Cover Type & Natural Communities Legend	A – 5.2
10. Cover Type & Natural Community Table	A – 5.3
11. Mammal Transect Data & Chart	A - 6.1 – 6.2
12. Trails Map	A – 7
13. Protection Zones Map	A - 8

SITE VISIT MAP

RUMFORD
COMMUNITY
FOREST



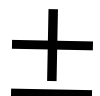
Rumford Community Forest

Esi Canada, Esi, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, Esi, CGIAR, USGS, Esi, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS, Esi Community Maps Contributors, Esi, TomTom, Garmin, SafeGraph, GeoTechnologies Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Coordinate System: NAD 1983 UTM Zone 19N

2024

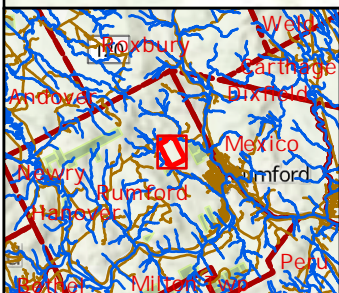
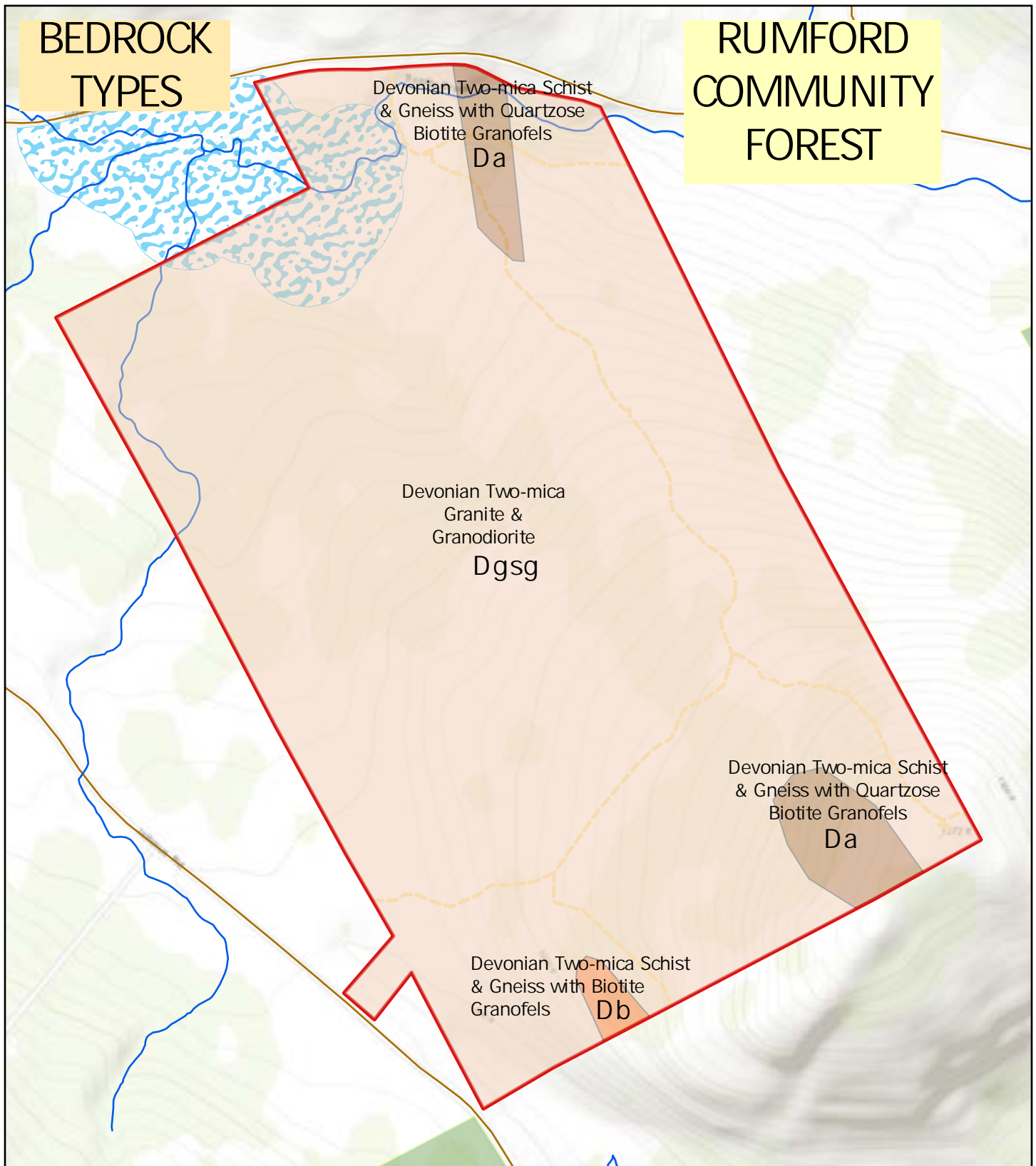
EMC/VdP



Scale: 1:10,000

0 0.07 0.15 Mi

A horizontal scale bar with a black background and white markings. It is divided into three equal segments by white vertical lines. Below the bar, the numbers 0, 0.15, and 0.3 are printed in white. To the right of the bar, the text 'Km' is printed in black.



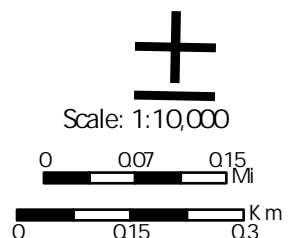
Rumford Community Forest

Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, CGIAR, USGS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

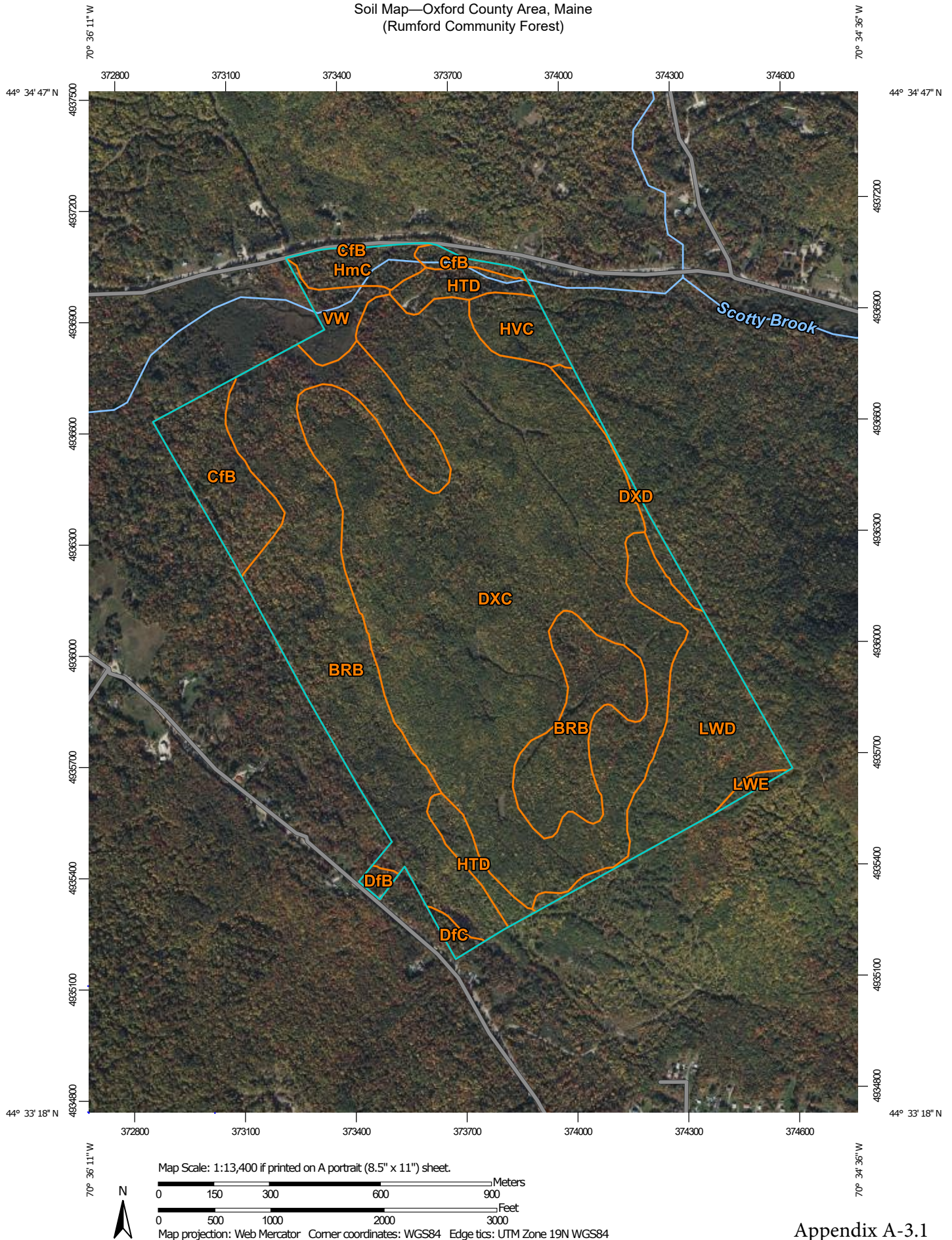
2023

Coordinate System: NAD 1983 UTM Zone 19N

EMC/VdP



Soil Map—Oxford County Area, Maine (Rumford Community Forest)



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

Appendix A-3.1

11/13/2023
Page 1 of 3

Soil Map—Oxford County Area, Maine
(Rumford Community Forest)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Oxford County Area, Maine

Survey Area Data: Version 25, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

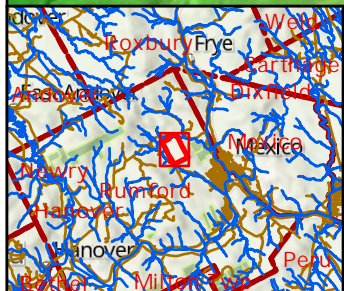
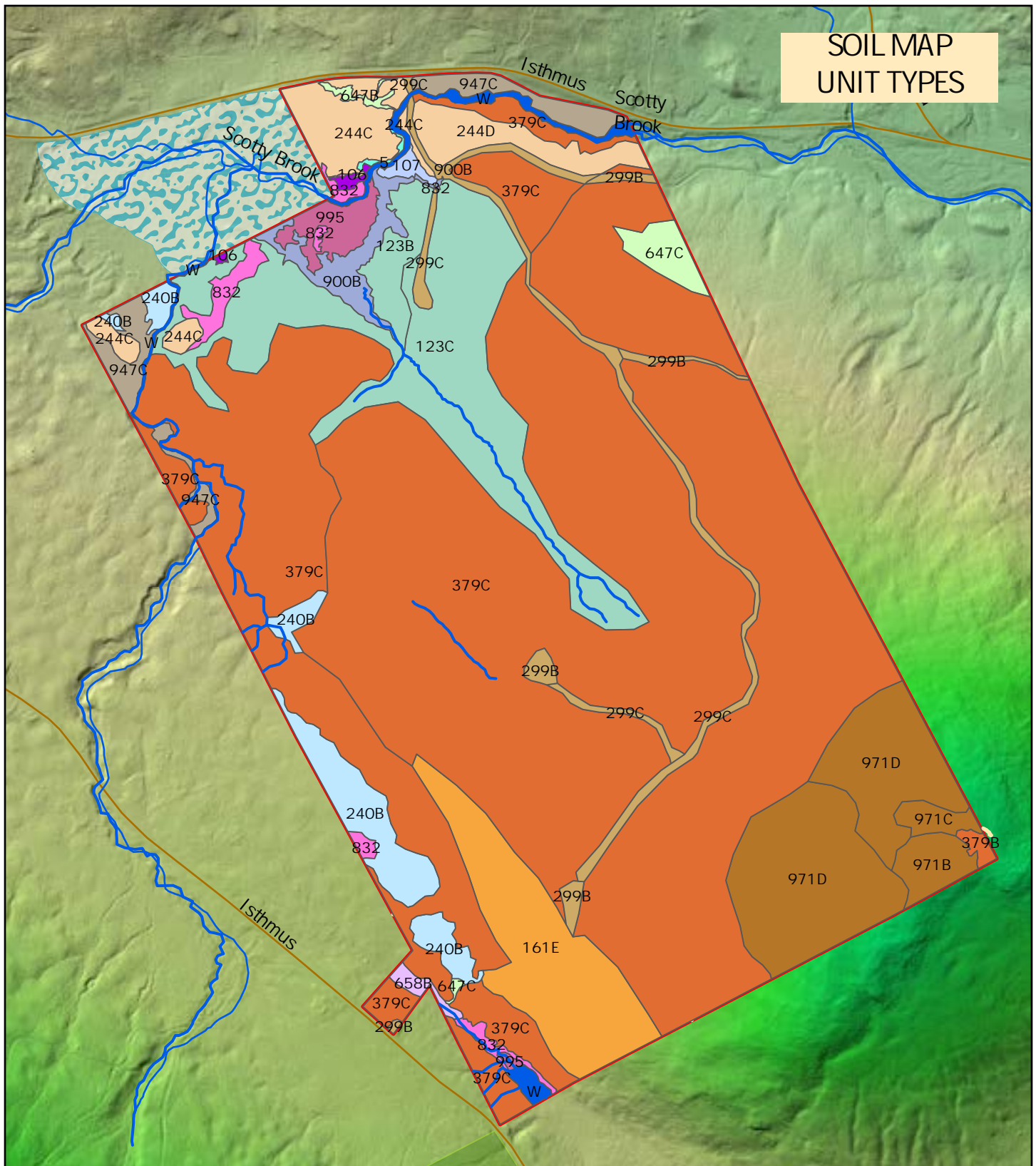
Date(s) aerial images were photographed: Jul 11, 2021—Oct 29, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.




Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BRB	Brayton-Peacham complex, gently sloping, very stony	117.0	26.2%
CfB	Colonel fine sandy loam, 0 to 8 percent slopes, very stony	22.3	5.0%
DfB	Peru fine sandy loam, 3 to 8 percent slopes	1.3	0.3%
DfC	Peru fine sandy loam, 8 to 15 percent slopes	1.8	0.4%
DXC	Peru-Marlow association, 3 to 15 percent slopes, very stony	219.8	49.3%
DXD	Peru-Marlow association, 15 to 35 percent slopes, very stony	4.4	1.0%
HmC	Hermon sandy loam, 8 to 15 percent slopes, very stony	8.3	1.9%
HTD	Monadnock-Hermon association, 15 to 35 percent slopes, very stony	12.7	2.9%
HVC	Hermon-Skerry association, 0 to 15 percent slopes, very stony	9.0	2.0%
LWD	Lyman-Tunbridge-Monadnock complex, 15 to 35 percent slopes, very stony	40.9	9.2%
LWE	Lyman-Tunbridge-Monadnock complex, 35 to 60 percent slopes, very stony	1.4	0.3%
VW	Vassalboro-Wonsqueak association	7.1	1.6%
Totals for Area of Interest		446.1	100.0%



<h1>Rumford Community Forest</h1>	
<p>Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, Esri, CGIAR, USGS, Maine GeoLibrary, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS, Esri Community Maps Contributors, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US</p>	<h1>2024</h1>
<p>Coordinate System: NAD 1983 UTM Zone 19N</p>	<p>EMC/VdP</p>



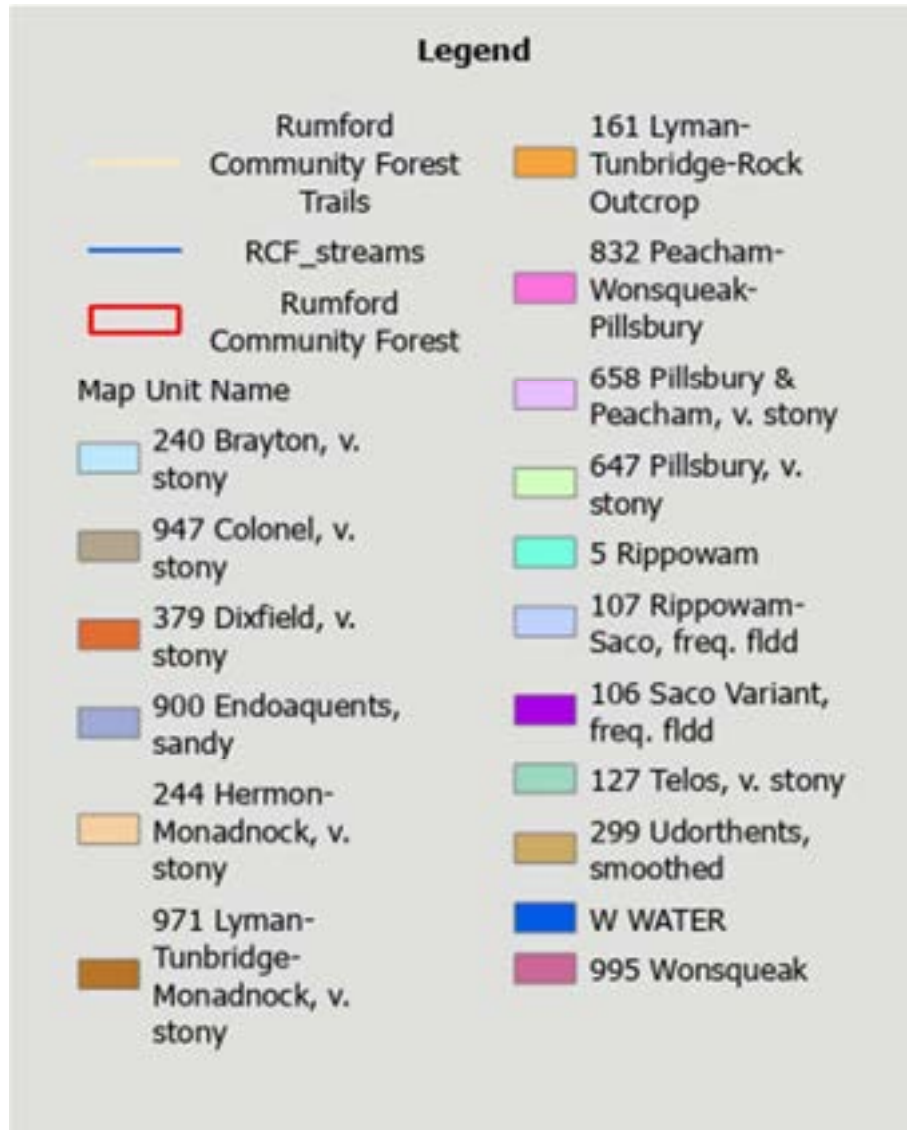
Scale: 1:10,000

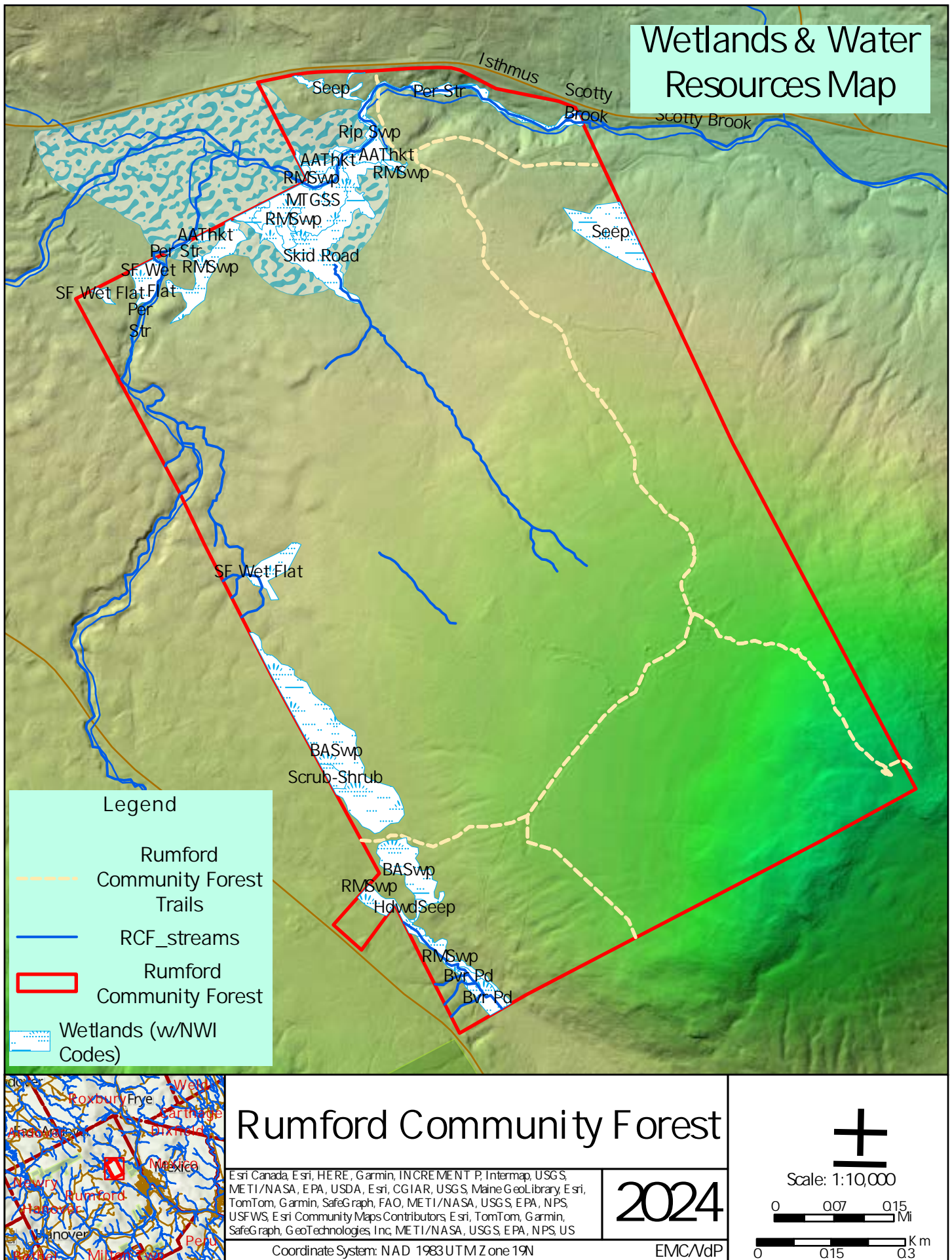
0 007 015 Mi

0 015 03 Km

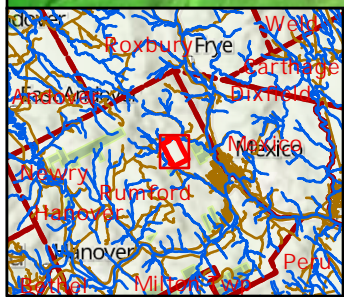
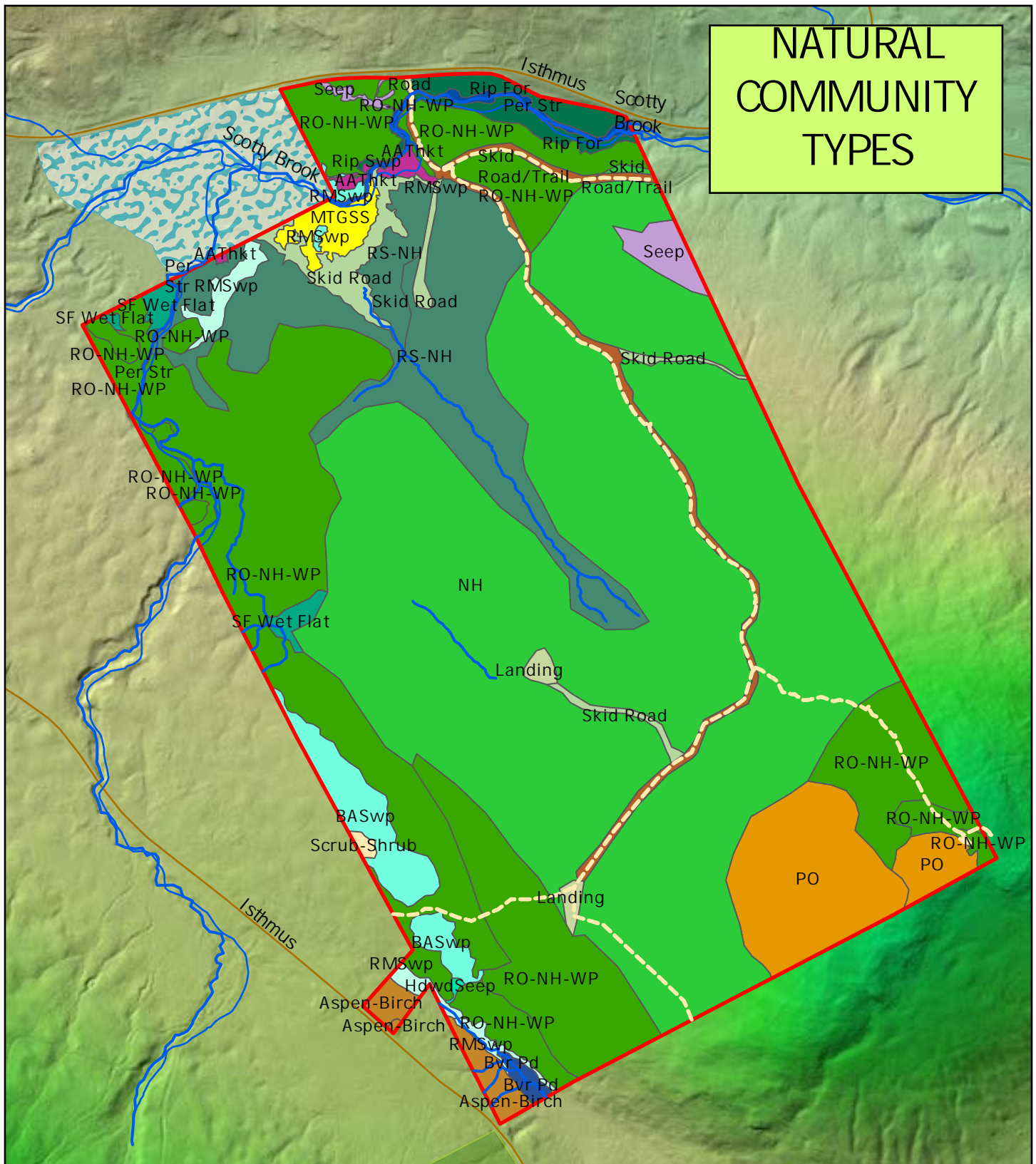
Appendix 3.5

SOIL MAP UNIT LEGEND





Id	GIS_ACRES	NWI_code	MU_sym	MU_name	Hydric	NC_Code	NC_Name	Perimeter	Area
7	3.42	PEM1/SS1E	995	Wonsqueak	A	MTGSS	Mixed Tall Emergent-Scrub Shurb Marsh	3335.86	148981.52
10	1.89	PFO1/4/SS1E	832	Peacham-Wonsqueak-Pillsbury	A	RMSwp	Red Maple Swamp	2332.95	82259.75
4	0.22	PFO1/4D	5	Rippowam	B	Rip Swp	Riparian Wetland	1104.19	9624.10
3	0.45	PFO1/SS1E	832	Peacham-Wonsqueak-Pillsbury	A	RMSwp	Seasonally Flooded Red Maple Swamp	1209.38	19745.77
8	0.17	PFO1/SS1E	832	Peacham-Wonsqueak-Pillsbury	A	RMSwp	Seasonally Flooded Red Maple Swamp	505.19	7248.23
19	0.82	PFO1/SS1Eb	832	Peacham-Wonsqueak-Pillsbury	A	RMSwp	Red Maple Swamp	2136.67	35927.60
21	0.16	PFO1B	647C	Pillsbury, v. stony	B	HdwdSeep	Hardwood Seepage Swamp	482.44	6930.61
23	7.01	PFO1B/E	240B	Brayton, v. stony	B	BASwp	Black Ash Swamp	3767.76	305342.89
22	2.03	PFO1E	240B	Brayton, v. stony	B	BASwp	Black Ash Swamp	1663.74	88252.24
20	0.84	PFO1E/R4SB3/7E	658B	Pillsbury & Peacham, v. stony	A	RMSwp	Red Maple Swamp	1312.22	36647.38
2	0.51	PFO4/1B	647B	Pillsbury, v. stony	B	Seep	Forested Seep	1920.69	22266.05
24	2.85	PFO4/1B	647C	Pillsbury, v. stony	B	Seep	Forested Seep	1702.20	124032.47
14	0.93	PFO4/1E	240B	Brayton, v. stony	B	SF Wet Flat	Spruce-Fir Wet Flat	966.11	40714.67
15	0.18	PFO4/1E	240B	Brayton, v. stony	B	SF Wet Flat	Spruce-Fir Wet Flat	446.62	7833.93
26	0.01	PFO4/1E	832	Peacham-Wonsqueak-Pillsbury	A	RMSwp	Red Maple Swamp	64.31	243.11
27	1.20	PFO4/1E	240B	Brayton, v. stony	B	SF Wet Flat	Spruce-Fir Wet Flat	1264.55	52310.51
18	0.20	PFO5/UB3Gb	995	Wonsqueak	A	Bvr Pd	Beaver Pond	436.08	8827.26
5	0.34	PSS1/EM1E	106	Saco Variant, freq. fldd	A	AATHkt	Alder Alluvial Thicket	862.30	14648.68
6	0.75	PSS1E	107	Rippowam-Saco, freq. fldd	A	AATHkt	Alder Alluvial Thicket	1117.96	32549.60
9	4.61	PSS1E	900B	Endoaquents, sandy	B	Skid Road	Skid Road	5909.47	200873.64
11	0.09	PSS1E	106	Saco Variant, freq. fldd	A	AATHkt	Alder Alluvial Thicket	292.64	3818.45
16	0.38	PSS1E	832	Peacham-Wonsqueak-Pillsbury	A	Scrub-Shrub	Scrub-Shrub Swamp	564.10	16723.34
25	0.04	PSS1E	900B	Endoaquents, sandy	B	Skid Road	Skid Road	232.51	1813.27
17	0.74	PUB3/EM1/2Gb	W	WATER	W	Bvr Pd	Beaver Pond	768.87	32381.47
12	0.05	R3UB1/2G	W	WATER	W	Per Str	Perennial Stream	413.36	2042.83
1	2.11	R3UB1/2H	W	WATER	W	Per Str	Perennial Stream	5462.70	92039.21
13	0.32	R3UB1/2H	W	WATER	W	Per Str	Perennial Stream	1887.46	13834.36



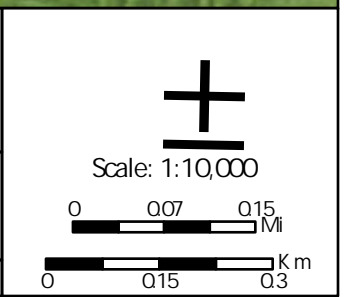
Rumford Community Forest

Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, Esri, CGIAR, USGS, Maine GeoLibrary, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS, Esri Community Maps Contributors, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

Coordinate System: NAD 1983 UTM Zone 19N

2024

EMC/VdP

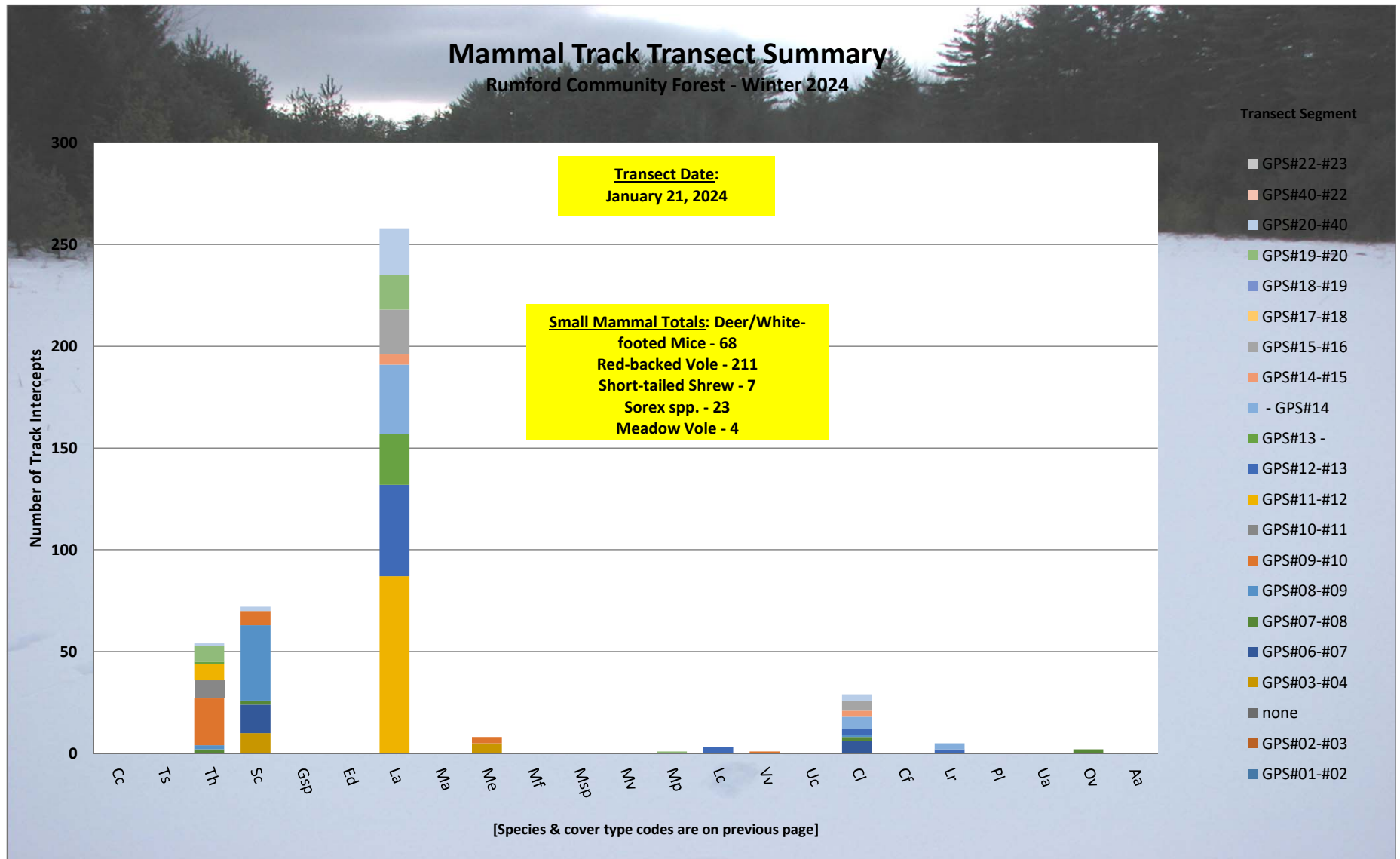


Appendix 5.2

NATURAL COMMUNITIES LEGEND

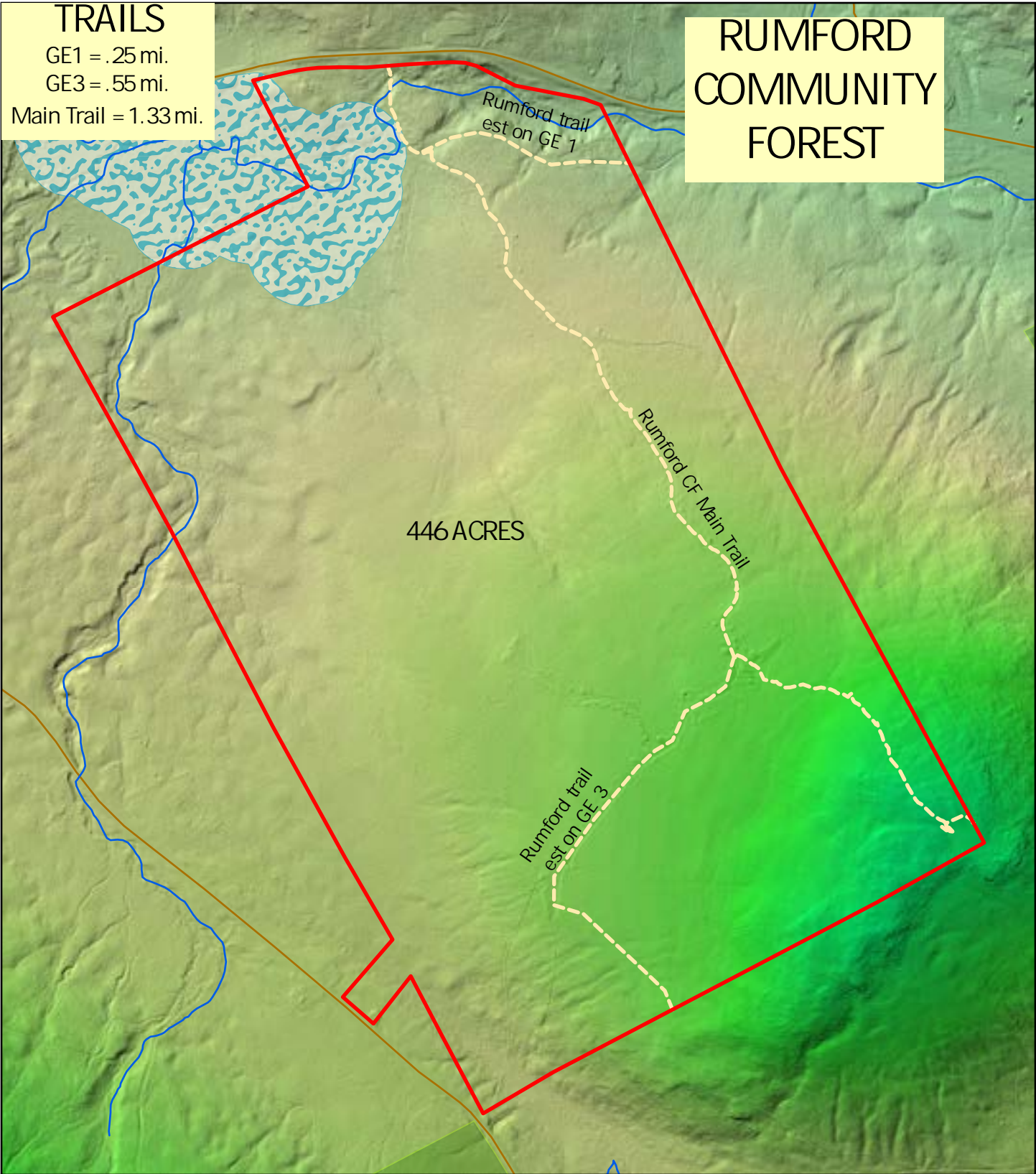


Id	GIS_ACRES	NC_Code	NC_Name	MU_sym	MU_name	NWI_code	Hydric	Perimeter	Area
8	0.34	AATHkt	Alder Alluvial Thicket	106	Saco Variant, freq. fldd	PSS1/EM1E	A	862.30	14648.68
9	0.75	AATHkt	Alder Alluvial Thicket	107	Rippowam-Saco, freq. fldd	PSS1E	A	1117.96	32549.60
14	0.09	AATHkt	Alder Alluvial Thicket	106	Saco Variant, freq. fldd	PSS1E	A	292.64	3818.45
23	1.28	Aspen-Birch	Aspen-Birch Forest	379C	Dixfield, v. stony		N	973.72	55735.15
24	2.39	Aspen-Birch	Aspen-Birch Forest	379C	Dixfield, v. stony		N	1771.76	104240.09
32	0.09	Aspen-Birch	Aspen-Birch Forest	299B	Udorthents, smoothed		N	272.46	4130.63
30	2.03	BASwp	Black Ash Swamp	240B	Brayton, v. stony	PFO1E	B	1663.74	88252.24
31	7.01	BASwp	Black Ash Swamp	240B	Brayton, v. stony	PFO1B/E	B	3767.76	305342.89
25	0.74	Bvr Pd	Beaver Pond	W	WATER	PUB3/EM1/2Gb	W	768.87	32381.47
26	0.20	Bvr Pd	Beaver Pond	995	Wonsqueak	PFO5/UB3Gb	A	436.08	8827.26
29	0.16	HdwdSeep	Hardwood Seepage Swamp	647C	Pillsbury, v. stony	PFO1B	B	482.44	6930.61
54	0.66	Landing	Landing	299B	Udorthents, smoothed		N	811.37	28890.97
60	0.70	Landing	Landing	299B	Udorthents, smoothed		N	673.40	30482.31
10	3.42	MTGSS	Mixed Tall Emergent-Scrub Shurb Marsh	995	Wonsqueak	PEM1/SS1E	A	3335.86	148981.52
52	211.89	NH	Beech-Birch-Maple Forest	379C	Dixfield, v. stony		N	33418.17	9230024.01
2	2.11	Per Str	Perennial Stream	W	WATER	R3UB1/2H	W	5462.70	92039.21
15	0.05	Per Str	Perennial Stream	W	WATER	R3UB1/2G	W	413.36	2042.83
16	0.32	Per Str	Perennial Stream	W	WATER	R3UB1/2H	W	1887.46	13834.36
35	19.04	PO	Oak-Pine Forest	971D	Lyman-Tunbridge-Monadnock, v. stony		N	3539.62	829531.79
36	3.36	PO	Oak-Pine Forest	971B	Lyman-Tunbridge-Monadnock, v. stony		N	1686.00	146239.80
3	3.27	Rip For	Riparian Forest	947C	Colonel, v. stony		N	3002.03	142375.67
46	2.39	Rip For	Riparian Forest	379C	Dixfield, v. stony		N	3195.99	104254.42
7	0.22	Rip Swp	Riparian Wetland	5	Rippowam	PFO1/4D	B	1104.19	9624.10
6	0.45	RMSwp	Seasonally Flooded Red Maple Swamp	832	Peacham-Wonsqueak-Pillsbury	PFO1/SS1E	A	1209.38	19745.77
11	0.17	RMSwp	Seasonally Flooded Red Maple Swamp	832	Peacham-Wonsqueak-Pillsbury	PFO1/SS1E	A	505.19	7248.23
13	1.89	RMSwp	Red Maple Swamp	832	Peacham-Wonsqueak-Pillsbury	PFO1/4/SS1E	A	2332.95	82259.75
27	0.82	RMSwp	Red Maple Swamp	832	Peacham-Wonsqueak-Pillsbury	PFO1/SS1Eb	A	2136.67	35927.60
28	0.84	RMSwp	Red Maple Swamp	658B	Pillsbury & Peacham, v. stony	PFO1E/R4SB3/7E	A	1312.22	36647.38
50	0.01	RMSwp	Red Maple Swamp	832	Peacham-Wonsqueak-Pillsbury	PFO4/1E	A	64.31	243.11
4	0.09	Road	Access Road	299C	Udorthents, smoothed		N	319.24	3908.22
1	6.87	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	244C	Hermon-Monadnock, v. stony		N	4648.93	299040.61
19	2.63	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	947C	Colonel, v. stony		N	2855.69	114451.98
20	1.05	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	947C	Colonel, v. stony		N	2273.28	45823.22
21	1.78	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	379C	Dixfield, v. stony		N	2012.72	77341.74
33	0.91	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	244C	Hermon-Monadnock, v. stony		N	932.14	39551.98
34	3.87	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	379C	Dixfield, v. stony		N	2361.38	168614.73
37	0.65	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	379B	Dixfield, v. stony		N	861.44	28108.88
38	1.76	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	971C	Lyman-Tunbridge-Monadnock, v. stony		N	1414.88	76806.71
39	11.73	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	971D	Lyman-Tunbridge-Monadnock, v. stony		N	3575.59	511127.28
40	20.79	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	161E	Lyman-Tunbridge-Rock Outcrop		N	5441.43	905512.40
43	50.41	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	379C	Dixfield, v. stony		N	15599.15	2195684.25
45	0.35	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	244C	Hermon-Monadnock, v. stony		N	1070.70	15360.60
47	6.03	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	244D	Hermon-Monadnock, v. stony		N	3558.92	262788.32
48	4.95	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	379C	Dixfield, v. stony		N	2194.26	215667.15
57	0.80	RO-NH-WP	Red Oak-No. Hardwood-White Pine Forest	244C	Hermon-Monadnock, v. stony		N	718.65	34683.55
42	39.54	RS-NH	Spruce-Northern Hardwood Forest	123C	Telos, v. stony		N	16583.55	1722239.74
56	4.62	RS-NH	Spruce-Northern Hardwood Forest	123B	Telos, v. stony		N	3005.29	201076.24
22	0.38	Scrub-Shrub	Scrub-Shrub Swamp	832	Peacham-Wonsqueak-Pillsbury	PSS1E	A	564.10	16723.34
5	0.51	Seep	Forested Seep	647B	Pillsbury, v. stony	PFO4/1B	B	1920.69	22266.05
41	2.85	Seep	Forested Seep	647C	Pillsbury, v. stony	PFO4/1B	B	1702.20	124032.47
17	0.93	SF Wet Flat	Spruce-Fir Wet Flat	240B	Brayton, v. stony	PFO4/1E	B	966.11	40714.67
18	0.18	SF Wet Flat	Spruce-Fir Wet Flat	240B	Brayton, v. stony	PFO4/1E	B	446.62	7833.93
58	1.20	SF Wet Flat	Spruce-Fir Wet Flat	240B	Brayton, v. stony	PFO4/1E	B	1264.55	52310.51
12	4.61	Skid Road	Skid Road	900B	Endoaquents, sandy	PSS1E	B	5909.47	200873.64
49	0.04	Skid Road	Skid Road	900B	Endoaquents, sandy	PSS1E	B	232.51	1813.27
51	0.86	Skid Road	Skid Road	299C	Udorthents, smoothed		N	1583.68	37355.96
53	0.53	Skid Road	Skid Road	299B	Udorthents, smoothed		N	1735.90	23286.15
59	0.84	Skid Road	Skid Road	299C	Udorthents, smoothed		N	2080.05	36695.59
44	0.45	Skid Road/Trail	Skid Road/Trail	299B	Udorthents, smoothed		N	936.95	19603.87
55	6.71	Skid Road/Trail	Skid Road/Trail	299C	Udorthents, smoothed		N	14480.47	292444.40



SUMMARY OF WINTER SNOW TRACK TRANSECTS - RUMFORD COMMUNITY FOREST

Transect	Interval	Notes	Cc	Ts	Th	Sc	Gsp	Ed	La	Ma	Me	Mf	Msp	Mv	Mp	Lc	Vv	Uc	Cl	Cf	Lr	Pl	Ua	Ov	Aa	TOTAL	# nights	Adj. Int.	Pero	Cg	Bb	Sorex	Mpe	TOTAL	Gamebirds
Length (m)		Condition																																	
169	GPS#01-#02	windblown pole H																								0	2.5	#DIV/0!			1			1	1
166	GPS#02-#03	windblown pole H																								0	2.5	#DIV/0!						0	
49	none	windblown riparian																								0	2.5	#DIV/0!						0	
187	GPS#03-#04	pole H, some B/L trees				10					5															15	2.5	31.2	27	16				43	
174	GPS#04-#05	pole H, some melt, edge		8		9					22													4		43	2.5	10.1	2	8		1	4	15	
116	GPS#05-#06	pole H, windblown ridge				10					12									12						34	2.5	8.5	3	21		2		26	
520	GPS#06-#07	pole/subm.H, some wind				14													6							20	2.5	65	9	39	4			52	
270	GPS#07-#08	submat.H, scatt. RS-BF			2	2												2						2		8	2.5	84.4	2	25		4		31	
515	GPS#08-#09	submat.MSH, AB-RS-BF-WP			2	37													1							40	2.5	32.2	3	32		4		39	
624	GPS#09-#10	pole/submat. MHS			23	7					3						1									34	2.5	45.9	11	11		6		28	
451	GPS#10-#11	Snowmo. Trail + pole Mxd			9																					9	2.5							0	
146	GPS#11-#12	PFO1/4 + MHS sap/pole			8					87																95	2.5	3.8						0	17
158	GPS#12-#13	PSS1E Alders, some marsh								45						3			3		2					53	2.5	7.5						0	8
25	GPS#13 -	PFO1/4 + MHS sap/pole			1					25																26	2.5	2.4						0	
122	- GPS#14	MHS RM-QA-BF								34									6		3					43	2.5	7.1						0	
61	GPS#14-#15	PSS1B Alder seepage								5									3							8	2.5	19.1						0	1
156	GPS#15-#16	MHS RM-QA-BF								22									5							27	2.5	14.4	3	7				10	1
62	GPS#17-#18	Mxd poles																								0	2.5	#DIV/0!						0	
184	GPS#18-#19	Submat. Mxd Riparian			8					17					1											26	2.5	17.7		20				20	
539	GPS#19-#20	Submat. Mxd MWD			1	2				23									3							29	2.5	46.5	2	27	2	6		37	59
375	GPS#20-#40	PFO1B/E BA swp.			6					3																9	2.5	104.2	6	3				9	53
149	GPS#40-#22	Submat. Mxd MWD																								0	2.5	#DIV/0!		2				2	11
50	GPS#22-#23	windblown riparian																								0	2.5	#DIV/0!						0	
TOTAL	5268		0	8	60	91	0	0	261	0	42	0	0	0	1	3	1	0	41	0	5	0	0	6	0	519	2.5	25.4	68	211	7	23	4	313	
																												6.33	for all tracks						
			Cc	Beaver			Gsp	Flying squirrel			Me	Ermine			Mp	Fisher	Cl	Eastern coyote	Ua	Black bear						Pero	Peromyscus sp.								
			Ts	Chipmunk			Ed	Porcupine			Mf	Long-tailed weasel			Lc	River otter	Cf	Domestic dog	Ov	White-tailed deer						Cg	Red-backed Vole								
			Th	Red squirrel			La	Snowshoe hare			Msp	Mustela sp.			Vv	Red fox	Lr	Bobcat	Aa	Moose						Bb	Short-tailed Shrew								
			Sc	Gray squirrel			Ma	Pine marten			Mv	Mink			Uc	Gray fox	Pl	Raccoon								Sorex	Masked Shrew								
																										Mpe	Meadow Vole								



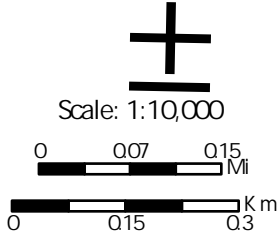
Rumford Community Forest

Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, CGIAR, USGS, Maine GeoLibrary, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

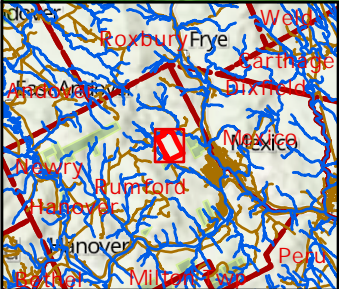
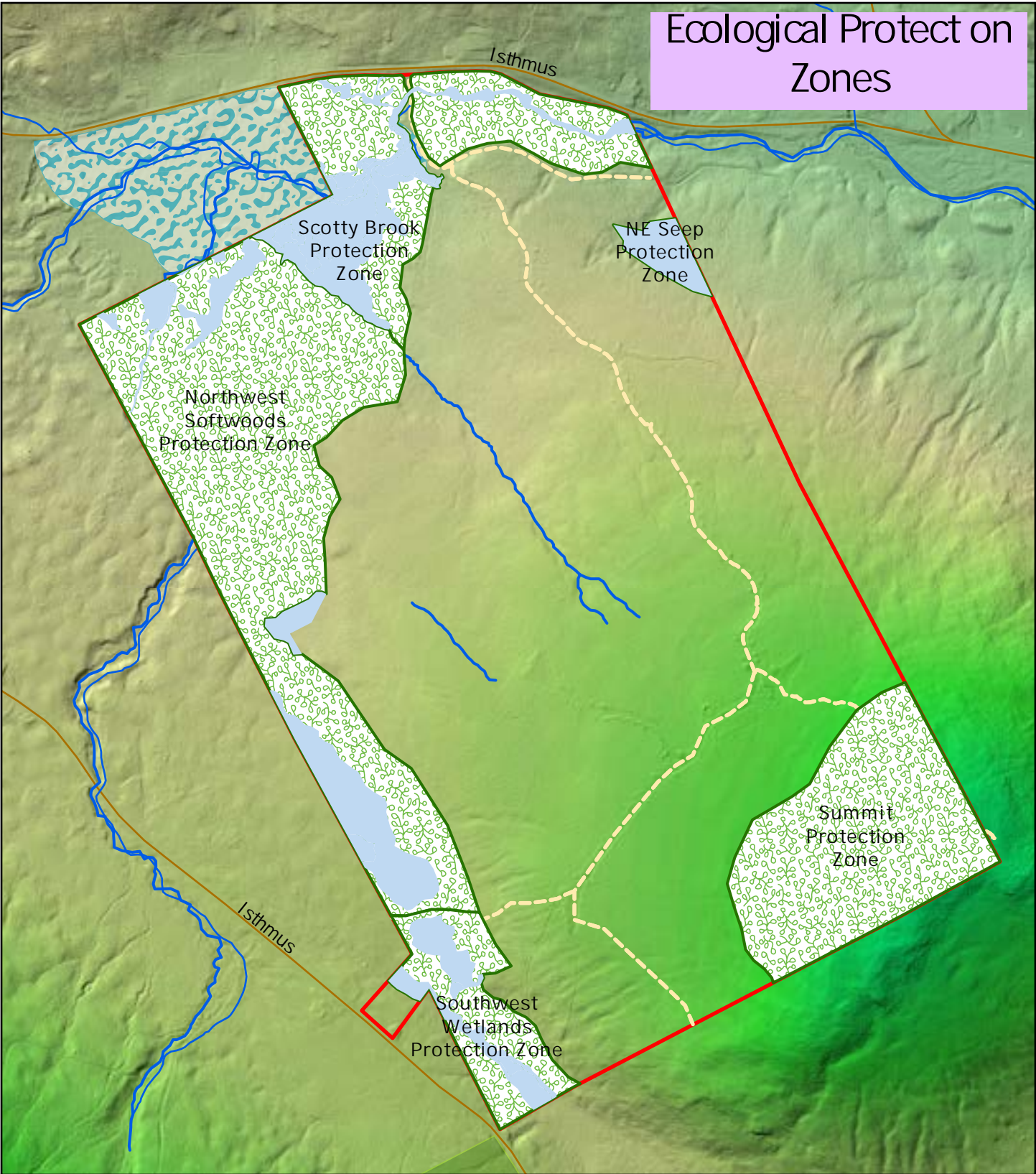
2023

Coordinate System: NAD 1983 UTM Zone 19N

EMC/VdP



Ecological Protection Zones



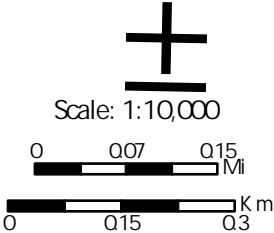
Rumford Community Forest

Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, Esri, CGIAR, USGS, Maine GeoLibrary, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS, Esri Community Maps Contributors, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

Coordinate System: NAD 1983 UTM Zone 19N

2024

EMC/VdP



Appendix B.

Species Lists

1. Amphibians – Reptiles – Fish	B-1 to B-2
2. Birds	B-3 to B-6
3. Mammals	B-7 to B-8
4. Vascular Plants	B-8 to B-38

RUMFORD COMMUNITY FOREST AMPHIBIANS, REPTILES & FISH LIST						
Highlighted species are rare						
(X) = Probable		AMPHIBIANS		Native?	Observ.	Location
X	Family	Scientific Name	Common Name		Types	Notes
(X)	Ambystomidae	Ambystoma maculatum	spotted salamander	Y		likely in summit vernal pool
		Ambystoma laterale-jeffersonianum	Jefferson-blue spotted salamander	Y		
X	Salamandridae	Notophthalmus viridescens	red-spotted newt	Y	efts	
X	Plethodontidae	Desmognathus fuscus	northern dusky salamander	Y	adult, juvenile	in perennial stream feeding Scotty Bk
X		Plethodon cinereus	redback salamander	Y	adults	relatively very few
		Hemidactylium scutatum	four-toed salamander	Y		
		Gyrinophilus porphyriticus	northern spring salamander	Y		
X		Eurycea bislineata	northern two-lined salamander	Y		in perennial stream feeding Scotty Bk
X	Bufonidae	Anaxyrus americanus	eastern American toad	Y	sighting along trail	
X	Pseudacridae	Pseudacris crucifer	northern spring peeper	Y	several heard	mostly in lower marsh
X	Hylidae	Hyla versicolor	gray treefrog	Y	two heard	one in BA swamp
(X)	Ranidae	Lithobates catesbeiana	bullfrog	Y		possible in lower marsh
X		Lithobates clamitans	green frog	Y	adults, juveniles	scattered
X		Lithobates sylvatica	wood frog	Y	adult	along main trail (photo)
		Lithobates pipiens	no. leopard frog	Y		
X		Lithobates palustris	pickerel frog	Y	adults, juveniles	near Scotty Bk in marsh
		REPTILES				
(X)	Chelydridae	Chelydra serpentina serpentina	snapping turtle	Y		probable in main marsh
	Kinosternidae	Sternotherus odoratus	stinkpot or musk turtle	Y		
(X)	Emydidae	Chrysemys picta picta	eastern painted turtle	Y		probable in main marsh
		Chrysemys picta marginata	midland painted turtle	Y		
		Clemmys guttata	spotted turtle	Y		
		Glyptemys insculpta	wood turtle	Y		
		Emydoidea blandingii	Blanding's turtle	Y		
(X)	Colubridae	Nerodia sipedon sipedon	northern water snake	Y		probable in main marsh
(X)		Storeria dekayi dekayi	northern brown snake	Y		possible in open, disturbed areas
(X)		Storeria occipito-maculata	northern redbelly snake	Y		possible in open, disturbed areas
X		Thamnophis sirtalis sirtalis	eastern garter snake	Y	adult	along western boundary
(X)		Thamnophis sauritus septentrionalis	northern ribbon snake	Y		probable in main marsh
(X)		Diadophis punctatus edwardsi	northern ringneck snake	Y		possible in open, disturbed areas
(X)		Opheodrys vernalis vernalis	eastern smooth green snake	Y		possible in main sedge marsh
		Lampropeltis t. triangulum	eastern milk snake	Y		
		FISHES				
	Osmeridae	Osmerus mordax	American or Rainbow smelt	Y		
	Coregonidae	Coreogonus clupeaformis	Lake whitefish (shad)	N		
		neo-hantoniensis				
	Salmonidae	Salmo salar sebago	Atlantic salmon (land-locked)	Y		

RCF Wildlife Spp Lists

RUMFORD COMMUNITY FOREST AMPHIBIANS, REPTILES & FISH LIST						
Highlighted species are rare						
(X) = Probable		AMPHIBIANS		Native?	Observ.	Location
X	Family	Scientific Name	Common Name		Types	Notes
X		Salvelinus fontinalis	E. brook trout	Y	several in perennial streams	
		Salvelinus namaycush namaycush	Lake trout	Y		
		Onchorhynchus mykiss	Rainbow trout	N		
	Catostomidae	Catostomus commersoni	White sucker	Y		
X	Cyprinidae	Semotilus corporalis	Fallfish (roach)	Y	in perennial streams	photo
		Semilotus atromaculatus	Creek Chub	Y		
		Notropis bifrenatus	Bridle shiner	Y		
		Notropis cornutus	Common shiner (redfin)	Y		
		Notemigonus chrysoleucas	Golden shiner	Y		
		Couesius plumbeus	Lake chub	Y		
X		Rhinichthys atratulus	Blacknose dace	Y	in Scotty Brook	photo
		Rhinichthys cataractae	Longnose dace	Y		
		Chrosomus eos	Redbelly dace	Y		
		Fundulus diaphanus	Banded killifish	Y		
	Ameiuridae	Ameiurus(Ictalurus) nebulosus	Brown bullhead (horned pout)	Y		
	Esocidae	Esox niger	Chain pickerel	Y		
	Serranidae	Morone americana	White perch	N		
	Centrarchidae	Micropterus dolomieu	Smallmouth black bass	N		
		Micropterus salmoides	Largemouth bass	N		
(X)		Lepomis gibbosus	Pumpkinseed sunfish	Y		
		Lepomis auritus	Yellowbelly (redbreast) sunfish	Y		
(X)	Percidae	Perca flavescens	Yellow perch	Y		
(X)	Cottidae	Cottus cognatus	Freshwater or slimy sculpin	Y		
	Gadidae	Lota lota maculosa	Burbot (cusk)	Y?		
	OTHER SPECIES					
14	TOTAL SPP. OBS.					
13	POSSIBLE SPP.					

RUMFORD COMMUNITY FOREST BIRD LIST										
(Nomenclature follows 64th AOU list; does not include Casual or Accidental species)										
BREEDING: SI = Sighted; PO = Possible Breeder; PR = Probable Breeder; CO = Confirmed Breeder										
(X) = Probable										
X	Scientific Name	English Name	AOU Code	Probable Breeding Status	Freq. Rec.	10/4/2023	10/5/2023	#####	1/21/2024	TOTAL
	Anser caerulescens	Snow Goose	SNGO	M	0					0
	Anser caerulescens	Greater White-fronted Goose	GWFG	M	0					0
	Branta bernicla bernicula	Atlantic Brant	ATBR	M	0					0
(X)	Branta canadensis	Canada Goose	CANG	PO	0					0
(X)	Aix sponsa	Wood Duck	WODU	PR	0					0
	Spatula discors	Blue-winged Teal	BWTE	M	0					0
	Spatula clypeata	Northern Shoveler	NSHO	M	0					0
	Mareca streptera	Gadwall	GADW	M	0					0
	Mareca americana	American Wigeon	AMWI	M	0					0
X	Anas platyrhynchos	Mallard	MALL	PR	4	2				2
(X)	Anas rubripes	American Black Duck	ABDU	PO	0					0
	Anas acuta	Northern Pintail	NOPI	M	0					0
	Anas crecca carolinensis	American Green-winged Teal	AGWT	M	0					0
	Aythya collaris	Ring-necked Duck	RNDU	M	0					0
	Melanitta perspicillata	Surf Scoter	SUSC	M	0					0
	Melanitta deglandi	White-winged Scoter	WWSC	M	0					0
	Melanitta americana	Black Scoter	BLSC	M	0					0
	Bucephala albeola	Bufflehead	BUFF	M	0					0
	Bucephala clangula	Common Goldeneye	COGO	M	0					0
(X)	Lophodytes cucullatus	Hooded Merganser	HOME	PR	0					0
	Mergus merganser	Common Merganser	COME	M	0					0
X	Meleagris gallopavo	Wild Turkey	WITU	CO	22			1	10	11
X	Bonasa umbellus	Ruffed Grouse	RUGR	PR	16		1	1	6	8
	Podilymbus podiceps	Pied-billed Grebe	PBGR	M	0					0
	Podiceps auritus	Horned Grebe	HOGR	M	0					0
	Podiceps grisegena	Red-necked Grebe	RNGR	M	0					0
	Columba livia	Rock Pigeon	RODO	T	0					0
X	Zenaidura macroura	Mourning Dove	MODO	PR	2			1		1
	Coccyzus americanus	Yellow-billed Cuckoo	YBCU	PO	0					0
(X)	Coccyzus erythrophthalmus	Black-billed Cuckoo	BBCU	PR	0					0
	Chordeiles minor	Common Nighthawk	CONI	PO	0					0
	Anstroctomus vociferus	Eastern Whip-poor-will	EWPPW	PO	0					0
(X)	Chaetura pelagica	Chimney Swift	CHSW	PO	0					0
(X)	Archilochus colubris	Ruby-throated Hummingbird	RTHU	PR	0					0
	Rallus limicola	Virginia Rail	VIRA	ST	0					0
(X)	Porzana carolina	Sora	SORA	ST	0					0
	Fulica americana	American Coot	AMCO	M	0					0
	Antigone canadensis	Sandhill Crane	SACR	M	0					0
	Pluvialis squatarola	Black-bellied Plover	BBPL	M	0					0
	Pluvialis dominica	American Golden-Plover	AMGP	M	0					0
	Charadrius vociferus	Killdeer	KILL	M	0					0
	Pluvialis semipalmatus	Semipalmated Plover	SEPL	M	0					0
	Calidris minutilla	Least Sandpiper	LESA	M	0					0
	Calidris pusilla	Semipalmated Sandpiper	SESA	M	0					0
	Limnodromus griseus	Short-billed Dowitcher	SBDO	M	0					0
(X)	Scolopax minor	American Woodcock	AMWO	PO	0					0
(X)	Gallinago delicata	Wilson's Snipe	COSN	PO	0					0
(X)	Actitis macularia	Spotted Sandpiper	SPSA	ST	0					0
	Tringa solitaria	Solitary Sandpiper	SOSA	M	0					0
	Tringa flavipes	Lesser Yellowlegs	LEYE	M	0					0
	Tringa melanoleuca	Greater Yellowlegs	GRYE	M	0					0
	Phalaropus lobatus	Red-necked Phalarope	RNPH	M	0					0
	Chroicocephalus philadelphia	Bonaparte's Gull	BOGU	ST	0					0
	Larus delawarensis	Ring-billed Gull	RBGU	T	0					0
	Larus argentatus	Herring Gull	HERG	T	0					0
	Larus marinus	Great Black-backed Gull	GBBG	T	0					0
	Chlidonius niger	Black Tern	BLTE	M	0					0
	Sterna hirundo	Common Tern	COTE	ST	0					0
	Gavia stellata	Red-throated Loon	RTLO	M	0					0
	Gavia immer	Common Loon	COLO	M	0					0
	Nannopterum auritum	Double-crested Cormorant	DCCO	M	0					0

RUMFORD COMMUNITY FOREST BIRD LIST										
(Nomenclature follows 64th AOU list; does not include Casual or Accidental species)										
BREEDING: SI = Sighted; PO = Possible Breeder; PR = Probable Breeder; CO = Confirmed Breeder										
(X) = Probable										
X	Scientific Name	English Name	AOU Code	Probable Breeding Status	Freq. Rec.	10/4/2023	10/5/2023	#####	1/21/2024	TOTAL
(X)	Botaurus lentiginosus	American Bittern	AMBI	M	0					0
(X)	Ardea herodias	Great Blue Heron	GBHE	ST	0					0
	Ardea alba	Great Egret	GREG	ST	0					0
(X)	Butorides virescens	Green Heron	GRHE	ST	0					0
	Nycticorax nycticorax	Black-crowned Night-Heron	BCNH	M	0					0
	Coragyps atratus	Black Vulture	BLVU	ST	0					0
(X)	Cathartes aura	Turkey Vulture	TUVU	ST	0					0
(X)	Pandion haliaetus	Osprey	OSPR	ST	0					0
	Aquila chrysaetos	Golden Eagle	GOEA	M	0					0
	Circus hudsonius	Northern Harrier	NOHA	M	0					0
X	Accipiter striatus	Sharp-shinned Hawk	SSHA	PR	2	1				1
(X)	Accipiter cooperii	Cooper's Hawk	COHA	PO	0					0
(X)	Accipiter atricapillus	American Goshawk	AGOS	PO	0					0
(X)	Haliaeetus leucocephalus	Bald Eagle	BAEA	ST	0					0
(X)	Buteo lineatus	Red-shouldered Hawk	RSHA	PO	0					0
(X)	Buteo platypterus	Broad-winged Hawk	BWHA	PR	0					0
X	Buteo jamaicensis	Red-tailed Hawk	RTHA	PO	2			1		1
	Megascops asio	Eastern Screech Owl	EASO	T	0					0
	Bubo virginianus	Great Horned Owl	GHOW	PO	0					0
(X)	Strix varia	Barred Owl	BAOW	CO	0					0
(X)	Aegolius acadicus	Northern Saw-whet Owl	NSWO	PO	0					0
X	Megascops alcyon	Belted Kingfisher	BEKI	T	2		1			1
(X)	Melanerpes carolinus	Red-bellied Woodpecker	RBWO	PO	0					0
(X)	Sphyrapicus varius	Yellow-bellied Sapsucker	YBSA	PR	0					0
X	Dryobates pubescens	Downy Woodpecker	DOWO	PR	8	1		1	2	4
X	Dryobates villosus	Hairy Woodpecker	HAWO	PR	6			2	1	3
X	Colaptes auratus	Northern Flicker	NOFL	PR	6	3				3
X	Dryocopus pileatus	Pileated Woodpecker	PIWO	PR	12	2	2	1	1	6
(X)	Falco sparverius	American Kestrel	AMKE	M	0					0
	Falco columbarius	Merlin	MERL	M	0					0
	Falco peregrinus	Peregrine Falcon	PEFA	M	0					0
(X)	Myiarchus crinitus	Great Crested Flycatcher	GCFL	PR	0					0
(X)	Tyrannus tyrannus	Eastern Kingbird	EAKI	PO	0					0
	Contopus cooperi	Olive-sided Flycatcher	OSFL	M	0					0
(X)	Contopus virens	Eastern Wood-Pewee	EAWP	PR	0					0
	Empidonax flaviventris	Yellow-bellied Flycatcher	YBFL	M	0					0
(X)	Empidonax alnorum	Alder Flycatcher	ALFL	PO	0					0
(X)	Empidonax traillii	Willow Flycatcher	WIFL	PO	0					0
(X)	Empidonax minimus	Least Flycatcher	LEFL	PO	0					0
(X)	Sayornis phoebe	Eastern Phoebe	EAPH	PR	0					0
	Vireo flavifrons	Yellow-throated Vireo	YTVI	PO	0					0
X	Vireo solitarius	Blue-headed Vireo	BHVI	PR	2	1				1
	Vireo philadelphicus	Philadelphia Vireo	PHVI	M	0					0
	Vireo gilvus	Warbling Vireo	WAVI	M	0					0
(X)	Vireo olivaceus	Red-eyed Vireo	REVI	PR	0					0
(X)	Lanius borealis	Northern Shrike	NSHR	WT	0					0
	Perisoreus canadensis	Canada Jay	CAJA	WT	0					0
X	Cyanocitta cristata	Blue Jay	BLJA	PR	52	8	11	3	4	26
X	Corvus brachyrhynchos	American Crow	AMCR	PO	10	2	1	2		5
	Corvus ossifragus	Fish Crow	FICR	T	0					0
X	Corvus corax	Common Raven	CORA	PR	2			1		1
X	Poecile atricapillus	Black-capped Chickadee	BCCH	CO	36	7	6	3	2	18
	Poecile hudsonicus	Boreal Chickadee	BOCH	WT	0					0
(X)	Baeolophus bicolor	Tufted Titmouse	ETTI	PR	0					0
	Eremophila alpestris	Horned Lark	HOLA	M	0					0
	Riparia riparia	Bank Swallow	BANS	M	0					0
(X)	Tachycineta bicolor	Tree Swallow	TRES	PO	0					0
	Stelgidopteryx serripennis	No. Rough-winged Swallow	NRWS	M	0					0
	Progne subis	Purple Martin	PUMA	ST	0					0
(X)	Hirundo rustica	Barn Swallow	BARS	ST	0					0
	Petrochelidon pyrrhonota	Cliff Swallow	CLSW	M	0					0

RUMFORD COMMUNITY FOREST BIRD LIST										
(Nomenclature follows 64th AOU list; does not include Casual or Accidental species)										
BREEDING: SI = Sighted; PO = Possible Breeder; PR = Probable Breeder; CO = Confirmed Breeder										
(X) = Probable										
X	Scientific Name	English Name	AOU Code	Probable Breeding Status	Freq. Rec.	10/4/2023	10/5/2023	#####	1/21/2024	TOTAL
X	Corthylio calendula	Ruby-crowned Kinglet	RCKI	M	12	3	3			6
X	Regulus satrapa	Golden-crowned Kinglet	GCKI	WT	2		1			1
(X)	Bombycilla garrulus	Bohemian Waxwing	BOWA	WT	0					0
(X)	Bombycilla cedrorum	Cedar Waxwing	CEDW	PO	0					0
X	Sitta canadensis	Red-breasted Nuthatch	RBNU	PR	10	1	3	1		5
X	Sitta carolinensis	White-breasted Nuthatch	WBNU	PR	16	5		2	1	8
(X)	Certhia americana	Brown Creeper	BRCR	PR	0					0
	Polioptila caerulea	Blue-gray Gnatcatcher	BGGN	PO	0					0
	Thryothorus ludovicianus	Carolina Wren	CAWR	PO	0					0
(X)	Troglodytes aedon	House Wren	HOWR	PO	0					0
X	Troglodytes hiemalis	Winter Wren	WIWR	PR	2			1		1
(X)	Cistothorus palustris	Marsh Wren	MAWR	PO	0					0
X	Dumetella carolinensis	Gray Catbird	GRCA	PO	4	2				2
	Toxostoma rufum	Brown Thrasher	BRTH	M	0					0
	Mimus polyglottos	Northern Mockingbird	NOMO	T	0					0
	Sturnus vulgaris	European Starling	EUST	T	0					0
X	Sialia sialis	Eastern Bluebird	EABL	PO	2		1			1
(X)	Catharus fuscescens	Veery	VEER	PR	0					0
	Catharus bicknelli	Bicknell's Thrush	BITH	M	0					0
(X)	Catharus ustulatus	Swainson's Thrush	SWTH	M	0					0
X	Catharus guttatus	Hermit Thrush	HETH	PR	2	1				1
	Hylocichla mustelina	Wood Thrush	WOTH	PO	0					0
X	Turdus migratorius	American Robin	AMRO	PR	6	2		1		3
	Passer domesticus	House Sparrow	HOSP	T	0					0
	Anthus rubescens	American Pipit	AMPI	M	0					0
	Coccothraustes vespertinus	Evening Grosbeak	EVGR	WT	0					0
(X)	Pinicola enucleator	Pine Grosbeak	PIGR	WT	0					0
(X)	Haemorhous mexicanus	House Finch	HOFI	ST	0					0
X	Haemorhous purpureus	Purple Finch	PUFI	PO	2	1				1
(X)	Acanthis flammea	Common Redpoll	CORE	WT	0					0
(X)	Acanthis hornemanni	Hoary Redpoll	HORE	WT						0
X	Loxia curvirostra	Red Crossbill	RECR	PO	2				1	1
(X)	Loxia leucoptera	White-winged Crossbill	WWCR	WT	0					0
X	Spinus pinus	Pine Siskin	PISI	WT	2				1	1
X	Spinus tristis	American Goldfinch	AGOL	PO	2	1				1
	Calcarius lapponicus	Lapland Longspur	LALO	M	0					0
	Plectrophenax nivalis	Snow Bunting	SNBU	WT	0					0
	Ammodramus savannarum	Grasshopper Sparrow	GRSP	M	0					0
(X)	Spizella passerina	Chipping Sparrow	CHSP	PO	0					0
	Spizella pusilla	Field Sparrow	FISP	M	0					0
(X)	Passerella iliaca	Fox Sparrow	FOSP	M	0					0
(X)	Spizelloides arborea	American Tree Sparrow	ATSP	WT	0					0
X	Junco hyemalis	Dark-eyed Junco	DEJU	PR	4			2		2
	Zonotrichia leucophrys	White-crowned Sparrow	WCSP	M	0					0
X	Zonotrichia albicollis	White-throated Sparrow	WTSP	PR	6	1	1	1		3
	Poecetes gramineus	Vesper Sparrow	VESP	M	0					0
	Passerculus sandwichensis	Savannah Sparrow	SAVS	M	0					0
X	Melospiza melodia	Song Sparrow	SOSP	PR	12	5	1			6
(X)	Melospiza lincolni	Lincoln's Sparrow	LISP	M	0					0
X	Melospiza georgiana	Swamp Sparrow	SWSP	PR	0					0
(X)	Pipilo erythrophthalmus	Eastern Towhee	EATO	PO	0					0
	Dolichonyx oryzivorus	Bobolink	BOBO	M	0					0
	Sturnella magna	Eastern Meadowlark	EAME	M	0					0
	Icterus spurius	Orchard Oriole	OROR	PO						0
(X)	Icterus galbula	Baltimore Oriole	BABO	PO	0					0
(X)	Agelaius phoeniceus	Red-winged Blackbird	RWBL	PO	0					0
(X)	Molothrus ater	Brown-headed Cowbird	BHCO	PR	0					0
(X)	Euphagus carolinus	Rusty Blackbird	RUBL	M	0					0
X	Quiscalus quiscula	Common Grackle	COGR	PO	2	1				1
(X)	Seiurus aurocapillus	Ovenbird	OVEN	CO	0					0
(X)	Parkesia motacilla	Louisiana Waterthrush	LOWA	PO	0					0

RUMFORD COMMUNITY FOREST BIRD LIST										
(Nomenclature follows 64th AOU list; does not include Casual or Accidental species)										
BREEDING: SI = Sighted; PO = Possible Breeder; PR = Probable Breeder; CO = Confirmed Breeder										
(X) = Probable										
X	Scientific Name	English Name	AOU Code	Probable Breeding Status	Freq. Rec.	10/4/2023	10/5/2023	#####	1/21/2024	TOTAL
(X)	<i>Parkesia noveboracensis</i>	Northern Waterthrush	NOWA	PO	0					0
	<i>Vermivora cyanoptera</i>	Blue-winged Warbler	BWWA	PO	0					0
(X)	<i>Mniotilta varia</i>	Black-and-white Warbler	BAWW	PR	0					0
(X)	<i>Leiothlypis peregrina</i>	Tennessee Warbler	TEWA	M	0					0
(X)	<i>Leiothlypis ruficapilla</i>	Nashville Warbler	NAWA	PR	0					0
	<i>Geothlypis philadelphia</i>	Mourning Warbler	MOWA	M	0					0
X	<i>Geothlypis trichas</i>	Common Yellowthroat	COYE	PR	2		1			1
(X)	<i>Setophaga ruticilla</i>	American Redstart	AMRE	PO	0					0
(X)	<i>Setophaga tigrina</i>	Cape May Warbler	CMWA	M	0					0
(X)	<i>Setophaga americana</i>	Northern Parula	NOPA	PR	0					0
(X)	<i>Setophaga magnolia</i>	Magnolia Warbler	MAWA	PO	0					0
(X)	<i>Setophaga castanea</i>	Bay-breasted Warbler	BBWA	M	0					0
(X)	<i>Setophaga fusca</i>	Blackburnian Warbler	BLBW	PR	0					0
(X)	<i>Setophaga petechia</i>	Yellow Warbler	YEWA	PO	0					0
(X)	<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler	CSWA	PR	0					0
(X)	<i>Setophaga striata</i>	Blackpoll Warbler	BLPW	M	0					0
(X)	<i>Setophaga caerulescens</i>	Black-throated Blue Warbler	BTBW	CO	0					0
(X)	<i>Setophaga palmarum</i>	Palm Warbler	PAWA	M	0					0
(X)	<i>Setophaga pinus</i>	Pine Warbler	PIWA	PR	0					0
X	<i>Setophaga coronata</i>	Yellow-rumped Warbler	YRWA	PR	4	1	1			2
	<i>Setophaga discolor</i>	Prairie Warbler	PRAW	PO	0					0
(X)	<i>Setophaga virens</i>	Black-throated Green Warbler	BTNW	PR	0					0
(X)	<i>Cardellina canadensis</i>	Canada Warbler	CAWA	PO	0					0
(X)	<i>Cardellina pusilla</i>	Wilson's Warbler	WIWA	M	0					0
(X)	<i>Piranga olivacea</i>	Scarlet Tanager	SCTA	PR	0					0
(X)	<i>Cardinalis cardinalis</i>	Northern Cardinal	NOCA	PO	0					0
(X)	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	RBGR	PR	0					0
	<i>Passerina cyanea</i>	Indigo Bunting	INBU	PO	0					0
36	TOTAL SPP OBSERVED									
83	TOTAL OTHER PROBABLE SPP									
5	= # of confirmed (CO)									
45	= # of Probable (PR)									
49	= # of Possible (PO)									
74	= # of Migrants (M)									
13	= # of Winter Transients (WT)									
15	= # of Summer Transients (ST)									
10	= # of Transients (T)									
211	= Sum All Possible									
119	= Sum All Probable									

RUMFORD COMMUNITY FOREST MAMMAL LIST

Highlighted species are rare - please provide GPS data!

(X) = Probable

X	Scientific Name	Common Name	Observational Sign	Sample Locales
	Didelphimorphia – Didelphidae			
	<i>Didelphis virginiana</i>	Virginia opossum		
	Insectivora - Soricidae			
X	<i>Sorex cinereus</i>	Masked shrew	tracks x 23 sets during survey	mostly west slopes, also NW corner
X	<i>Sorex palustris</i>	Northern water shrew	tracks in sand	along Scotty Bk at end marsh
	<i>Sorex fumeus</i>	Smoky shrew		
	<i>Sorex dispar</i>	Long-tailed shrew		
	<i>Sorex hoyi thompsoni</i>	Pygmy shrew		
X	<i>Blarina brevicauda</i>	Short-tailed shrew	tracks, tunnels, odor	scattered throughout
	Insectivora - Talpidae			
X	<i>Parascalops breweri</i>	Hairy-tailed mole	tunnels & mounds	on old skid trail near base
(X)	<i>Chondylura cristata</i>	Star-nosed mole		likely along Scotty Bk above bridge
	Chiroptera - Vespertilionidae			
(X)	<i>Myotis lucifugus</i>	Little brown myotis		
(X)	<i>Myotis septentrionalis</i>	Northern myotis (long-eared)		
	<i>Myotis leibii</i>	Eastern small-footed bat		
	<i>Lasionycteris noctivagans</i>	Silver-haired bat		
	<i>Pipistrellus subflavus</i>	Eastern pipistrelle		
(X)	<i>Eptesicus fuscus</i>	Big brown bat		
(X)	<i>Lasiurus borealis</i>	Red bat		
	<i>Lasiurus cinereus</i>	Hoary bat		
	Lagomorpha - Leporidae			
X	<i>Lepus americanus</i>	Snowshoe hare	tracks, scat, browse	dense near scrub-shrub marsh; SF Flats
	Rodentia - Sciuridae			
(X)	<i>Marmota monax</i>	eastern woodchuck		
X	<i>Tamias striatus</i>	Eastern chipmunk	sighting, tracks, tunnels	scattered throughout
X	<i>Sciurus carolinensis</i>	Gray Squirrel	sighting, tracks, drey, caches	most hardwood areas, some in mxd forest
X	<i>Tamiasciurus hudsonicus</i>	Red squirrel	sighting, tracks, middens	wherever softwoods are found, esp. WP
	<i>Glaucomys volans</i>	Southern flying squirrel		
(X)	<i>Glaucomys sabrinus</i>	Northern flying squirrel		likely in older wood in NW part
	Rodentia – Castoridae			
X	<i>Castor canadensis</i>	beaver	dam, lodge, tracks, slides, browse	fresh in SW wetland system (new dams)
	Rodentia - Muridae			
X	<i>Peromyscus maniculatus</i> ^A	Deer mouse	tracks, tunnels, scat	mostly west slope with oaks
X	<i>Peromyscus leucopus</i> ^A	White-footed mouse	tracks, tunnels, scat	mostly west slope with oaks
X	<i>Myodes gapperi</i>	Red-backed vole	tracks, tunnels, scat	throughout property
X	<i>Microtus pennsylvanicus</i>	Meadow vole	tracks x 4	edge property along skid trail on W slope
	<i>Microtus chrotorrhinus</i>	Rock (yellow-nosed) vole		
(X)	<i>Pitymus pinetorum</i>	Woodland or pine vole		
(X)	<i>Ondatra zibethicus</i>	Muskrat		likely in main marsh
(X)	<i>Synaptomys cooperi</i>	Southern bog lemming		likely in main marsh

RUMFORD COMMUNITY FOREST MAMMAL LIST

Highlighted species are rare - please provide GPS data!

(X) = Probable

X	Scientific Name	Common Name	Observational Sign	Sample Locales
	<i>Rattus norvegicus</i>	Norway rat		
	<i>Mus musculus</i>	House mouse		
	Rodentia - Zapodidae			
(X)	<i>Zapus hudsonius</i>	Meadow jumping mouse		likely in main marsh
(X)	<i>Napeozapus insignis</i>	Woodland Jumping Mouse		edge habitats with cover
	Rodentia - Erethizontidae			
(X)	<i>Erethizon dorsatum</i>	Porcupine		probable in areas of older trees in NW part
	Carnivora - Canidae			
	<i>Canis lupus</i>	Eastern timber wolf		
X	<i>Canis latrans</i> var.	Eastern coyote	tracks, scat, voice	throughout property
X	<i>Vulpes vulpes</i>	Red fox	tracks (1 set E side, 1 set W side)	in mixed forest along boundary
(X)	<i>Urocyon cinereoargenteus</i>	Gray fox		likely along main trails and edges
	Carnivora - Ursidae			
X	<i>Ursus americanus</i>	Black bear	claw marks on beech	summit area; (also rep. by neighbor)
	Carnivora - Procyonidae			
X	<i>Procyon lotor</i>	Raccoon	tracks in sand; scat at base big B/L Oak	Scotty Bk; S boundary
	Carnivora - Mustelidae			
(X)	<i>Martes americana</i>	Pine marten		possible in SF Flats area
X	<i>Martes pennanti</i>	Fisher	track set x 1	NW corner mixed woods
X	<i>Mustela erminea</i>	Ermine or short-tailed weasel	track sets x 42	all in southern section of property
(X)	<i>Mustela frenata</i>	Long-tailed weasel		possible den site at vernal pool
X	<i>Mustela (Neovison) vison</i>	Mink	tracks, scat	along Scotty Bk at end marsh
(X)	<i>Mephitis mephitis</i>	Striped skunk		possible near road frontage
X	<i>Lontra canadensis</i>	River Otter	tracks, slides, scent piles	in main marsh & along Scotty Bk
	Carnivora - Felidae			
	<i>Felis concolor</i>	Mountain lion or cougar		
	<i>Lynx canadensis</i>	Lynx		
X	<i>Lynx rufus</i>	Bobcat	tracks in snow, mud	mostly near masrsh, also along roads
	Artiodactyla - Cervidae			
X	<i>Odocoileus virginianus</i>	White-tailed deer	sighting, tracks, scat, browse	mostly south part of property
X	<i>Alces alces</i>	Moose	tracks, browse, bed	along road, near marsh

24 TOTAL SPP OBSERVED ON PROPERTY

17 Other Probable Spp on Property

41 Likely Mammal Spp on Property^ *Peromyscus leucopus* and *maniculatus* defined on morphological features, not DNA tested

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
X	Abies balsamea	Fir, Balsam	Pinaceae	T	FAC	
E	Abutilon theophrasti	Indian-Mallow, Velvet-leaved	Malvaceae	H	UPL	
	Acalypha gracilens	Mercury, Slender Three-Seeded	Euphorbiaceae	H	FACU	SU
	Acalypha rhomboidea	Mercury, Common Three-Seeded	Euphorbiaceae	H	FACU	
	Acalypha virginica	Mercury, Three-seeded	Euphorbiaceae	H	FACU	SH
E	Acer ginnala	Maple, Amur	Sapindaceae	T	NI	
	Acer negundo	Maple, Ash-leaved or Boxelder	Sapindaceae	T,S	FAC	
	Acer nigrum	Maple, Black	Sapindaceae	T	FACU	S2
X	Acer pensylvanicum	Maple, Striped	Sapindaceae	S,T	FACU	
*	Acer platanoides	Maple, Norway	Sapindaceae	T	UPL	
X	Acer rubrum	Maple, Red	Sapindaceae	T	FAC	
	Acer saccharinum	Maple, Silver	Sapindaceae	T	FACW	
X	Acer saccharum	Maple, Sugar	Sapindaceae	T	FACU	
X	Acer spicatum	Maple, Mountain	Sapindaceae	S	FACU	
X	Achillea millefolium	Yarrow	Asteraceae	H	FACU	
E	Aconitum napellus	Monkshood, Garden	Ranunculaceae	H	NL	
E	Aconitum uncinatum	Monkshood, Wild	Ranunculaceae	H	NL	
	Acorus americanus	Sweet Flag, Many-veined	Acoraceae	H	OBL	
*	Acorus calamus	Sweet Flag, Single-veined	Acoraceae	H	OBL	
	Actaea pachypoda	Baneberry, White	Ranunculaceae	H	UPL	
	Actaea rubra	Baneberry, Red	Ranunculaceae	H	FACU	
	Actoscion (= Silene) armeria	Catchfly, Sweet William	Caryophyllaceae	H	UPL	
	Adiantum pedatum	Fern, Northern Maiden-hair	Pteridaceae	F	FACU	
	Adlumia fungosa	Fumitory, Climbing	Papaveraceae	H	UPL	S1
*	Aegopodium podagraria	Bishop's Goutweed	Apiaceae	H	FAC	
*	Aesculus glabra	Buckeye, Ohio	Sapindaceae	T	FAC	
	Agalinus maritima ssp. maritima	Gerardia, Salt-marsh	Orobanchaceae	H	FACW	S2
	Agalinus paupercula var. paupercula	False-foxglove, Small-flowered	Orobanchaceae	H	OBL	
	Agalinus purpurea	False-Foxglove, Large Purple	Orobanchaceae	H	FACW	
	Agastache schrophulariifolia	Giant Hyssop, Purple	Lamiaceae	H	UPL	SU
	Ageratina (=Eupatorium) altissima	Snakeroot, White	Asteraceae	H	FACU	
X	Agrimonia gryposepala	Groovebur, Tall Hairy	Rosaceae	H	FACU	
	Agrimonia rostellata	Groovebur, Beaked	Rosaceae	H	FACU	
	Agrimonia striata	Groovebur, Woodland	Rosaceae	H	FACU	
*	Agrostemma githago	Corn Cockle	Caryophyllaceae	H	UPL	
	Agrostis canina	Bentgrass, Brown	Poaceae	H	UPL	
X	* Agrostis capillaris (tenuis)	Bentgrass, Slender	Poaceae	H	FAC	
	Agrostis gigantea	Grass, Red Top	Poaceae	H	FACW	
	Agrostis hyemalis	Bentgrass, Winter	Poaceae	H	FAC	
	Agrostis mertensii (= A. borealis)	Bentgrass, Northern	Poaceae	H	FACU	S3
X	Agrostis perennans	Bentgrass, Perennial	Poaceae	H	FACU	
X	Agrostis scabra	Bentgrass, Rough	Poaceae	H	FAC	
(X)	Agrostis stolonifera	Bentgrass, Spreading	Poaceae	H	FACW	
*	Ailanthus altissima	Tree-of-Heaven	Simaroubaceae	T	NI	
E	Ajuga reptans	Carpet Bugle	Lamiaceae	H	NL	
E	Alcea rosea	Hollyhock	Malvaceae	H	NL	
E	Alchemilla monticola	Lady's-Mantle, Hairy	Rosaceae	H	NL	
	Aletris farinosa	Colic-Root, White	Nartheciaceae	H	UPL	SH
(X)	Alisma subcordatum	Water-Plantain, Subcordate	Alismataceae	H	OBL	
	Alisma triviale (= A. plantago-aquatica)	Water-Plantain, Broad-leaf	Alismataceae	H	OBL	
*	Alliaria petiolata (= A. officinalis)	Mustard, Garlic	Brassicaceae	H	FACU	
	Allium canadense var. canadense	Garlic, Meadow	Alliaceae	H	FACU	S1
*	Allium cepa	Onion, Common	Alliaceae	H	UPL	
	Allium schoenoprasum var. schoenoprasum	Native Chives or Ciboulette	Alliaceae	H	FACU	S1
*	Allium schoenoprasum var. sibiricum	Chives or Ciboulette	Alliaceae	H	FACU	
	Allium tricoccum var. burdickii	Leek, Narrow-leaf Wild	Alliaceae	H	FACU	S1
	Allium tricoccum var. tricoccum	Leek, Small White	Alliaceae	H	FACU	S3
*	Alnus glutinosa L.	Alder, Black or European	Betulaceae	S,T	FACW	
X	Alnus incana ssp. rugosa	Alder, Speckled	Betulaceae	S	FACW	
	Alnus serrulata	Alder, Brookside or Smooth	Betulaceae	S	OBL	
	Alnus viridis ssp. crispa	Alder, Green or Mountain	Betulaceae	S	FAC	
	Alopecurus aequalis	Grass, Foxtail	Poaceae	H	OBL	S3
	Alopecurus geniculatus	Grass, Marsh Foxtail	Poaceae	H	OBL	
	Alopecurus pratensis	Foxtail, Meadow	Poaceae	H	FAC	
*	Althaea officinalis	Mallow, Marsh	Malvaceae	H	FAC	
	Amaranthus albus	Tumbleweed, White	Amaranthaceae	H	FACU	
	Amaranthus blitoides (= A. graecizans)	Tumbleweed	Amaranthaceae	H	FACU	
*	Amaranthus cruentus	Amaranth, Purple	Amaranthaceae	H	UPL	
*	Amaranthus hybridus	Amaranth, Green	Amaranthaceae	H	UPL	
*	Amaranthus powellii	Amaranth, Powell's	Amaranthaceae	H	UPL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* <i>Amaranthus retroflexus</i>	Amaranth, Red-root (Pigweed)	Amaranthaceae	H	FACU	
	<i>Amaranthus tuberculatus</i>	Amaranth, Rough-fruit	Amaranthaceae	H	OBL	SU
X	<i>Ambrosia artemisiifolia</i>	Ragweed, Annual	Asteraceae	H	FACU	
	* <i>Ambrosia psilostachya</i>	Ragweed, Naked-spiked	Asteraceae	H	FAC	
	<i>Ambrosia trifida</i> var. <i>trifida</i>	Ragweed, Great	Asteraceae	H	FAC	SU
X	<i>Amelanchier arborea</i>	Serviceberry, Downy	Rosaceae	S,T	FACU	
	<i>Amelanchier bartramiana</i>	Serviceberry, Bartram's	Rosaceae	S	FAC	
(X)	<i>Amelanchier canadensis</i>	Serviceberry, Oblong-leaf	Rosaceae	S	FAC	
	<i>Amelanchier intermedia</i>	Shadbush, Intermediate	Rosaceae	S	FACU	SU
	<i>Amelanchier laevis</i>	Serviceberry, Smooth	Rosaceae	S	UPL	
	<i>Amelanchier nantucketensis</i>	Shadbush, Nantucket	Rosaceae	S	FACU	SU
	<i>Amelanchier sanguinea</i>	Serviceberry, Red-branched	Rosaceae	S	UPL	
	<i>Amelanchier spicata</i> (= <i>stolonifera</i>)	Serviceberry, Dwarf	Rosaceae	S	FACU	
	E <i>Amelopsis glandulosa</i>	Peppervine, Amur	Vitaceae	WV	UPL	
	<i>Amerorchis rotundifolia</i>	Orchid, Roundleaf	Orchidaceae	H	OBL	SH
	<i>Ammophila breviligulata</i> ssp. <i>breviligulata</i>	Grass, Beach	Poaceae	H	UPL	S3
	E <i>Amorpha fruticosa</i>	False Indigo	Fabaceae	H	FACW	
(X)	<i>Amphicarpaea bracteata</i>	Hog-Peanut, American	Fabaceae	H	FAC	SU
	* <i>Amsinckia lycopsoides</i> (= <i>A. barbata</i>)	Fiddle-neck, Bearded	Boraginaceae	H	UPL	
	* <i>Anagallis arvensis</i>	Pimpernel, Scarlet	Primulaceae	H	UPL	
	<i>Anaphalis margaritacea</i>	Everlasting, Pearly	Asteraceae	H	UPL	
	<i>Andersonglossum virginianum</i> ssp. <i>boreale</i>	Hound's-Tongue, Northern	Boraginaceae	H	UPL	S1
	<i>Andromeda polifolia</i> var. <i>glaucophylla</i>	Rosemary, Downy Bog	Ericaceae	S	OBL	
	<i>Andropogon gerardii</i>	Grass, Big Bluestem	Poaceae	H	FACU	
	<i>Andropogon virginicus</i>	Grass, Broom-sedge	Poaceae	H	FACU	
	<i>Anemone</i> (= <i>Hepatica</i>) <i>acutiloba</i>	Hepatica, Sharp-lobed	Ranunculaceae	H	UPL	S3
	<i>Anemone</i> (= <i>Hepatica</i>) <i>americana</i>	Hepatica, Round-lobed	Ranunculaceae	H	UPL	
	<i>Anemone canadensis</i>	Thimble-weed, Canada	Ranunculaceae	H	FACW	
	<i>Anemone cylindrica</i>	Anemone, Long-fruited	Ranunculaceae	H	UPL	SH
	<i>Anemone quinquefolia</i> var. <i>quinquefolia</i>	Thimble-weed, Woodland	Ranunculaceae	H	FACU	
	<i>Anemone virginiana</i> var. <i>alba</i> (= <i>A. riparia</i>)	Thimbleweed, Tall	Ranunculaceae	H	FACU	
	<i>Anemone virginiana</i> var. <i>virginiana</i>	Thimbleweed (Tall A.)	Ranunculaceae	H	FACU	
	<i>Angelica</i> (= <i>Coelopleurum</i>) <i>lucida</i>	Angelica, Seaside	Apiaceae	H	FAC	SU
	<i>Angelica atropurpurea</i>	Angelica, Purple-stem	Apiaceae	H	OBL	
	<i>Anserina egedii</i>	Silverweed, Pacific	Rosaceae	H	FACW	S3
	<i>Antennaria howellii</i> ssp. <i>canadensis</i>	Pussy-toes, Canada	Asteraceae	H	UPL	
X	<i>Antennaria howellii</i> ssp. <i>neodioica</i>	Pussy-toes, Smaller	Asteraceae	H	UPL	
	<i>Antennaria neglecta</i>	Pussy-toes, Field	Asteraceae	H	UPL	
	<i>Antennaria parlinii</i> ssp. <i>fallax</i>	Pussy-toes, Deceitful Parlin's	Asteraceae	H	UPL	
(X)	<i>Antennaria parlinii</i> ssp. <i>parlinii</i>	Pussy-toes, Parlin's	Asteraceae	H	UPL	
	<i>Antennaria plantaginifolia</i>	Pussy-toes, Plantain-leaved	Asteraceae	H	UPL	
	* <i>Anthemis arvensis</i>	Chamomile, Field	Asteraceae	H	UPL	
	* <i>Anthemis cotula</i>	Chamomile, Stinking or Mayweed	Asteraceae	H	UPL	
	<i>Anthoxanthum monticola</i> (= <i>Hierochloa alpinum</i>)	Holy-grass, Alpine	Poaceae	H	FACU	S2
	<i>Anthoxanthum nitens</i> (= <i>Hierochloa odorata</i>)	Grass, Sweet or Holy	Poaceae	H	FACU	
X	* <i>Anthoxanthum odoratum</i>	Grass, Sweet Vernal	Poaceae	H	FACU	
	* <i>Anthoxanthum ovatum</i> var. <i>aristatum</i>	Grass, Smaller Sweet Vernal	Poaceae	H	UPL	
	<i>Anthriscus sylvestris</i>	Wild Chervil	Apiaceae	H	UPL	
	* <i>Anthyllis vulneraria</i>	Lady's-fingers	Fabaceae	H	UPL	
(X)	<i>Apios americana</i>	Potato-bean, American	Fabaceae	H	FACW	
(X)	<i>Apocynum androsaemifolium</i>	Dogbane, Spreading	Apocynaceae	H	UPL	
	<i>Apocynum cannabinum</i> (incl. <i>A. sibiricum</i>)	Dogbane, Claspingleaf	Apocynaceae	S	FAC	
	<i>Aquilegia canadensis</i>	Columbine, Wild	Ranunculaceae	H	FACU	
	* <i>Aquilegia vulgaris</i>	Columbine, Garden	Ranunculaceae	H	UPL	
	* <i>Arabidopsis thaliana</i>	Mouse-ear-Cress	Brassicaceae	H	UPL	
	<i>Arabis pycnocarpa</i> var. <i>pycnocarpa</i>	Rock Cress, Hairy	Brassicaceae	H	UPL	S1
X	<i>Aralia hispida</i>	Sarsaparilla, Bristly	Araliaceae	H,DS	UPL	
X	<i>Aralia nudicaulis</i>	Sarsaparilla, Wild	Araliaceae	H,DS	FACU	
	<i>Aralia racemosa</i>	Spikenard	Araliaceae	H	FACU	
	<i>Arceuthobium pusillum</i>	Mistletoe, Dwarf	Viscaceae	S	NI	
	* <i>Arctium lappa</i>	Burdock, Great	Asteraceae	H	UPL	
	* <i>Arctium minus</i>	Burdock, Common	Asteraceae	H	FACU	
	* <i>Arctium tomentosum</i>	Burdock, Tomentose	Asteraceae	H	UPL	
	<i>Arctostaphylos uva-ursi</i>	Bearberry or Kinnikinnick	Ericaceae	S	UPL	
	<i>Arctous</i> (= <i>Arctostaphylos</i>) <i>alpina</i>	Bearberry, Alpine	Ericaceae	H	FAC	S1
	* <i>Arenaria serpyllifolia</i>	Sandwort, Thyme-leaved	Caryophyllaceae	H	FAC	
	<i>Arethusa bulbosa</i>	Arethusa or Dragon's-head	Orchidaceae	H	OBL	S1
	<i>Argentina</i> (= <i>Potentilla</i>) <i>anserina</i>	Silverweed	Rosaceae	H	FACW	S1
	<i>Argentina</i> (= <i>Potentilla</i>) <i>egedii</i>	Silverweed, Pacific	Rosaceae	H	FACW	S3
	<i>Arisaema dracontium</i>	Green Dragon	Araceae	H	FACW	S1
X	<i>Arisaema triphyllum</i> ssp. <i>triphyllum</i>	Jack-in-the-Pulpit, Swamp	Araceae	H	FAC	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	<i>Arisaema triphyllum</i> var. <i>stewardsonii</i>	Jack-in-the-Pulpit, Stewardson's	Araceae	H	FAC	
	<i>Aristida basiramea</i>	Grass, Branching Poverty	Poaceae	H	UPL	SU
	<i>Aristida dichotoma</i>	Grass, Poverty	Poaceae	H	FACU	
	<i>Aristida longespica</i> var. <i>geniculata</i>	Grass, Long-spiked Poverty	Poaceae	H	FACU	S2
	<i>Aristida tuberculosa</i>	Needlegrass, Sea-beach	Poaceae	H	UPL	S1
*	<i>Armoracia rusticana</i> (= <i>A. lapathifolia</i>)	Horseradish	Brassicaceae	H	UPL	
	<i>Arnica lanceolata</i> ssp. <i>lanceolata</i>	Arnica, Lanceleaf	Asteraceae	H	FAC	S1
*	<i>Arnoseris minima</i>	Lamb-Succory	Asteraceae	H	UPL	
	<i>Aronia</i> (= <i>Pyrus</i>) <i>arbutifolia</i>	Chokeberry, Red	Rosaceae	S	FACW	
	<i>Aronia</i> (= <i>Pyrus</i>) <i>floribunda</i>	Chokeberry, Purple	Rosaceae	S	FACW	
X	<i>Aronia melanocarpa</i>	Chokeberry, Black	Rosaceae	S	FAC	
*	<i>Arrhenatherum elatius</i>	Grass, Tall Oat	Poaceae	H	FACU	
*	<i>Artemisia absinthium</i>	Wormwood (Absinthium)	Asteraceae	H	UPL	
*	<i>Artemisia annua</i>	Wormwood, Annual	Asteraceae	H	FACU	
*	<i>Artemisia biennis</i>	Wormwood, Biennial	Asteraceae	H	UPL	
	<i>Artemisia campestris</i> ssp. <i>caudata</i>	Wormwood, Tall	Asteraceae	H	UPL	S1
	<i>Artemisia ludoviciana</i>	Mugwort, Western (White Sage)	Asteraceae	H	UPL	
*	<i>Artemisia pontica</i>	Wormwood, Roman	Asteraceae	H,S	UPL	
*	<i>Artemisia stelleriana</i>	Dusty Miller (Beach Wormwood)	Asteraceae	H	FACU	
X	* <i>Artemisia vulgaris</i>	Wormwood	Asteraceae	H	UPL	
	<i>Asarum canadense</i>	Ginger, Wild	Aristolochiaceae	H	UPL	S3
	<i>Asclepias amplexicaulis</i>	Milkweed, Blunt-leaved	Apocynaceae	H	UPL	S2
(X)	<i>Asclepias exaltata</i>	Milkweed, Poke	Apocynaceae	H	UPL	
(X)	<i>Asclepias incarnata</i>	Milkweed, Swamp	Apocynaceae	H	OBL	
	<i>Asclepias purpurascens</i>	Milkweed, Purple	Apocynaceae	H	FACU	SH
	<i>Asclepias quadrifolia</i>	Milkweed, Four-leaved	Apocynaceae	H	UPL	S1
(X)	<i>Asclepias syriaca</i>	Milkweed, Common	Apocynaceae	H	UPL	
	<i>Asclepias tuberosa</i> ssp. <i>tuberosa</i>	Butterflyweed	Apocynaceae	H	UPL	S1
*	<i>Asparagus officinalis</i>	Asparagus	Asparagaceae	H	FACU	
	<i>Asplenium</i> (= <i>Camptosorus</i>) <i>rhizophyllum</i>	Fern, Walking	Aspleniaceae	H	UPL	S1
	<i>Asplenium platyneuron</i>	Spleenwort, Ebony	Aspleniaceae	F	FACU	
	<i>Asplenium trichomanes</i> ssp. <i>quadrivalens</i>	Spleenwort, Maidenhair	Aspleniaceae	H	UPL	SU
	<i>Asplenium trichomanes</i> ssp. <i>trichomanes</i>	Spleenwort, Maidenhair	Aspleniaceae	F	UPL	SU
	<i>Astragalus alpinus</i> var. <i>brunetianus</i>	Milk-Vetch, Alpine	Fabaceae	H	FAC	S1
	<i>Astragalus robbinsii</i> var. <i>jesupi</i>	Milk-Vetch, Robbin's	Fabaceae	H	NL	S1
X	<i>Athyrium filix-femina</i> var. <i>angustum</i>	Lady Fern	Woodsiaceae	F	FAC	
	<i>Atriplex dioica</i>	Saltbush, Saline	Amaranthaceae	H	FAC	SU
	<i>Atriplex glabriuscula</i>	Orache, Smooth	Amaranthaceae	H	FACU	SU
	<i>Atriplex patula</i>	Saltbush, Halberd-leaved (Orach)	Amaranthaceae	H	FACW	
*	<i>Atriplex pentandra</i> (hortensis)	Orach, Garden	Amaranthaceae	H	UPL	
	<i>Atriplex prostrata</i> (= <i>A. arenaria</i>)	Orach, Seabeach	Amaranthaceae	H	FAC	
	<i>Atriplex subspicata</i> (= <i>A. glabriuscula</i> ?)	Orach	Amaranthaceae	H	UPL	S1
	<i>Aureolaria flava</i>	False-foxglove, Smooth	Orobanchaceae	H	UPL	S3
	<i>Aureolaria pedicularia</i> var. <i>intercedens</i>	False-foxglove, Fern-leaved	Orobanchaceae	H	UPL	S3
	<i>Aureolaria pedicularia</i> var. <i>pedicularia</i>	False-foxglove, Fern-leaved	Orobanchaceae	H	UPL	SU
	<i>Aureolaria virginica</i>	False-foxglove, Downy	Orobanchaceae	H	UPL	S1
*	<i>Avena fatua</i>	Grass, Oat	Poaceae	H	UPL	
*	<i>Avena sativa</i>	Grass, (Cultivated) Oat	Poaceae	H	UPL	
	<i>Azolla caroliniana</i>	Fern, Carolina Mosquito	Salviniaceae	F	OBL	
*	<i>Balsamita major</i> (= <i>Chrysanthemum</i> b.)	Costmary	Asteraceae	H	UPL	
E	<i>Baptisia australis</i>	False Indigo, Blue	Fabaceae	H	UPL	
	<i>Baptisia tinctoria</i>	Wild Indigo	Fabaceae	H	UPL	SU
	<i>Barbarea orthoceras</i>	Winter-cress, American	Brassicaceae	H	OBL	SH
(X)	* <i>Barbarea vulgaris</i>	Rocket, Yellow or Wintercress	Brassicaceae	H	FAC	
	<i>Bartonia iodandra</i>	Screwstem, Purple	Gentianaceae	H	FAC	S1
	<i>Bartonia paniculata</i>	Screwstem, Panicked	Gentianaceae	H	OBL	S1
	<i>Bartonia virginica</i>	Screwstem, Yellow	Gentianaceae	H	FACW	SU
*	<i>Bassia hirsuta</i>	Bassia, Hairy	Amaranthaceae	H	OBL	
	<i>Benthamidia</i> (= <i>Cornus</i>) <i>florida</i>	Dogwood, Flowering	Cornaceae	T,S	FACU	SU
X	* <i>Berberis thunbergii</i>	Barberry, Japanese	Berberidaceae	S	FACU	
*	<i>Berberis vulgaris</i>	Barberry, European (Common)	Berberidaceae	S	FACU	
*	<i>Berteroa incana</i>	Allysum, Hoary	Brassicaceae	H	UPL	
X	<i>Betula alleghaniensis</i>	Birch, Yellow	Betulaceae	T	FAC	
	<i>Betula glandulosa</i>	Birch, Dwarf	Betulaceae	DS	OBL	S2
	<i>Betula lenta</i>	Birch, Black	Betulaceae	T	FACU	
	<i>Betula minor</i>	Birch, Small	Betulaceae	S	FACU	S2
	<i>Betula nigra</i>	Birch, River	Betulaceae	S	FACW	S2
X	<i>Betula papyrifera</i>	Birch, Paper or White	Betulaceae	T	FACU	
	<i>Betula papyrifera</i> var. <i>cordifolia</i>	Birch, Heartleaf	Betulaceae	T	FACU	
X	<i>Betula populifolia</i>	Birch, Gray	Betulaceae	T	FAC	
	<i>Betula pumila</i>	Birch, Swamp	Betulaceae	S	OBL	S1

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Bidens (=Megalodonta) beckii	Water-marigold, White	Asteraceae	H	OBL	S2
E	Bidens aristosa	Tickseed-sunflower	Asteraceae	H	FACW	
(X)	Bidens cernua	Beggar-Ticks, Nodding	Asteraceae	H	OBL	
	Bidens connata	Beggar-Ticks, Purple-stem (Swamp)	Asteraceae	H	FACW	
	Bidens discoidea	Bidens, Small	Asteraceae	H	FACW	S3
X	Bidens frondosa	Beggar-ticks, Devil's	Asteraceae	H	FACW	
	Bidens hyperborea	Beggar-ticks, Northern	Asteraceae	H	OBL	SH
	Bidens laevis	Beggar's-ticks, Smooth	Asteraceae	H	OBL	S1
*	Bidens tripartita ssp. comosa	Beggar-ticks, European	Asteraceae	H	FACW	
	Bistorta (=Persicaria) vivipara	Knotweed, Viviparous	Polygonaceae	H	FACW	S1
	Blephilia hirsuta	Mint, Hoary Wood	Lamiaceae	H	FACU	
	Boechera (=Arabis) stricta (=drummondii)	Rock Cress, Canada	Brassicaceae	H	FACU	S3
	Boehmeria cylindrica	False-Nettle, Small-spike	Urticaceae	H	OBL	
	Bolboschoenus (= Scirpus) maritima	Bulrush, Saltmarsh	Cyperaceae	H	OBL	
	Bolboschoenus (= Scirpus) robustus	Bulrush, Saltmarsh	Cyperaceae	H	OBL	S3
*	Borago officinalis	Borage	Boraginaceae	H	UPL	
	Borodinia (=Arabis) canadensis	Sicklepod	Brassicaceae	H	UPL	S2
	Borodinia (=Arabis) laevigata	Rock Cress, Smooth	Brassicaceae	H	UPL	S1
	Borodinia (=Arabis) missouriensis	Rock Cress, Hair	Brassicaceae	H	UPL	S2
	Botrychium angustisegmentum (= B. lanceolatum ssp. a.)	Grape-Fern, Lance-leaved	Botrychiaceae	F	FACW	
(X)	Botrychium dissectum	Grape-Fern, Dissected	Botrychiaceae	F	UPL	
	Botrychium matricariifolium	Grape-Fern, Daisy-leaved	Botrychiaceae	F	FACU	
(X)	Botrychium multifidum	Grape-Fern, Leathery	Botrychiaceae	F	UPL	
	Botrychium oneidense	Garpe-Fern, Oneida	Botrychiaceae	F	FACW?	SU
	Botrychium simplex	Grape-Fern, Least or Dwarf	Botrychiaceae	F	FAC	
	Botrychium tenebrosum	Grape-Fern, Little	Botrychiaceae	F	NL	SU
	Botrychium virginianum	Rattlesnake Fern	Ophioglossaceae	F	UPL	
X	Brachyelytrum aristosum (=B. erectum var. septentrionale)	Grass, Woodland	Poaceae	H	FACU?	
	Brachyelytrum erectum	Grass, Southern Long-Awned Woodland	Poaceae	H	UPL?	S1
X	Brasenia schreberi	Watershield	Nymphaeaceae	H	OBL	
*	Brassica juncea	Mustard, Indian	Brassicaceae	H	UPL	
*	Brassica nigra	Mustard, Black	Brassicaceae	H	UPL	
	Brassica rapa	Mustard, Field	Brassicaceae	H	UPL	
*	Briza media	Grass, Quaking	Poaceae	H	UPL	
(X)	Bromus ciliatus	Brome, Fringed	Poaceae	H	FACW	
*	Bromus commutatus	Brome, Variable	Poaceae	H	UPL	
*	Bromus hordeaceus (= B. mollis)	Soft Chess	Poaceae	H	UPL	
(X)	* Bromus inermis ssp. inermis	Brome, Awnless	Poaceae	H	UPL	
	Bromus kalmii	Brome, Kalm's	Poaceae	H	FAC	SH
	Bromus latiglumis	Brome, Broad-glumed	Poaceae	H	FACW	SU
	Bromus pubescens	Brome, Hairy	Poaceae	H	FACU	S1
*	Bromus secalinus	Cheat or Chess	Poaceae	H	UPL	
*	Bromus tectorum	Grass, Cheat	Poaceae	H	UPL	
*	Buglossoides arvensis	Bugloss, Small	Boraginaceae	H	UPL	
X	Bulbostylis capillaris	Hairsedge, Dense-Tuft	Cyperaceae	H	FACU	
	Cakile edentula	Sea-rocket	Brassicaceae	H	FACU	
X	Calamagrostis canadensis	Reedgrass, Bluejoint	Poaceae	H	OBL	
	Calamagrostis canadensis var. langsdorfii (= C. nubila)	Blejoint, Harsh	Poaceae	H	OBL	S1
	Calamagrostis canadensis var. macouniana	Macoun's Bluejoint	Poaceae	H	OBL	
	Calamagrostis coarctata (cinnoidea)	Reedgrass, Small	Poaceae	H	FACW	S1
	Calamagrostis pickeringii	Reedgrass, Pickering's	Poaceae	H	FACW	S3
	Calamagrostis stricta ssp. inexpansa	Reedgrass, Pond	Poaceae	H	FACW	S2
	Calamagrostis stricta ssp. stricta	Reedgrass, Neglected	Poaceae	H	FACW	SH
(X)	Calla palustris	Calla, Wild	Araceae	H	OBL	
	Callitriche heterophylla var. heterophylla	Water-starwort, Larger	Plantaginaceae	H	OBL	
(X)	Callitriche palustris	Water-starwort, Spiny	Plantaginaceae	H	OBL	
*	Calluna vulgaris	Heather	Ericaceae	S	FAC	
	Calopogon tuberosus	Grass-pink	Orchidaceae	H	OBL	
(X)	Caltha palustris	Marsh-Marigold, Common	Ranunculaceae	H	OBL	
	Calypso bulbosa ssp. americana	Calypso or Fairy Slipper	Orchidaceae	H	FACW	SH
	Calystegia sepium	Bindweed, Hedge	Convolvulaceae	H,HV	FAC	
	Calystegia spithamea ssp. spithamea	Bindweed, Low	Convolvulaceae	H,HV	UPL	S1
*	Camelina microcarpa	False Flax	Brassicaceae	H	UPL	
*	Camelina sativa	Gold-of-Pleasure	Brassicaceae	H	FACU	
	Campanula divaricata	Bellflower, Appalachian	Campanulaceae	H	UPL	
*	Campanula glomerata	Bellwort, Clustered	Campanulaceae	H	UPL	
*	Campanula rapunculoides	Bellflower, Creeping	Campanulaceae	H	UPL	
	Campanula rotundifolia	Bellflower, Scotch or Harebell	Campanulaceae	H	FACU	
	Palustricodon (Campanula) uliginosa (= C. aparinoides)	Bellflower, Marsh	Campanulaceae	H	OBL	
*	Cannabis sativa ssp. indica	Hemp	Cannabaceae	H	UPL	
	Capnoides sempervirens	Corydalis, Pale	Papaveraceae	H	UPL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* Capsella bursa-pastoris	Purse, Common Shepherd's	Brassicaceae	H	FACU	
	Cardamine (= Dentaria) diphylla	Toothwort	Brassicaceae	H	FACU	
	Cardamine bellidifolia	Bitter-cress, Alpine	Brassicaceae	H	FACW	S1
	Cardamine bulbosa	Bitter-cress, Bulbous	Brassicaceae	H	OBL	S1
	Cardamine concatenata (= Dentaria laciniata)	Toothwort, Cutleaf	Brassicaceae	H	FACU	S1
	Cardamine dentata (=pratensis var. palustris)	Cuckoo Flower	Brassicaceae	H	FAC	SU
	* Cardamine flexuosa	Bitter-cress, Hairy	Brassicaceae	H	FAC	
	* Cardamine impatiens	Cress, Exploding	Brassicaceae	H	NL	
	Cardamine longii	Bitter-cress, Long's	Brassicaceae	H	OBL	SH
	Cardamine maxima	Toothwort, Large	Brassicaceae	H	FACU	S2
	Cardamine parviflora var. arenicola	Bittercress, Small-flowered	Brassicaceae	H	FAC	
X	Cardamine pennsylvanica	Bittercress, Pennsylvania	Brassicaceae	H	FACW	
	* Cardamine pratensis var. pratensis	Cuckoo Flower, Eurasian	Brassicaceae	H	UPL	
	Carex spp.	Unidentified Sedge(s)	Cyperaceae	H		
	Carex abscondita var. glauca	Sedge, Concealed	Cyperaceae	H	FACU	S3?
	Carex adusta	Sedge	Cyperaceae	H	UPL	SH
	Carex aestivalis	Sedge, Summer	Cyperaceae	H	UPL	S1
(X)	Carex albicans var. albicans (= C. artitecta, C. nigromarginata v	Sedge, Whitetinge	Cyperaceae	H	UPL	S3
	Carex albicans var. emmonsii	Sedge, Emmon's	Cyperaceae	H	UPL	S3
	Carex albolutescens	Sedge, Greenwhite	Cyperaceae	H	FACW	
	Carex albursina	Sedge, Sheldon's	Cyperaceae	H	UPL	S1
	Carex alopecoidea	Sedge, Fox	Cyperaceae	H	FACW	
	Carex amphibola	Sedge, Eastern Narrowleaf	Cyperaceae	H	FAC	
	Carex annectans (= brachyglossa)	Sedge, Yellow-fruit	Cyperaceae	H	FACW	
(X)	Carex appalachica		Cyperaceae	H	UPL	
	Carex aquatilis var. aquatilis	Sedge	Cyperaceae	H	OBL	
	Carex arcta	Sedge, Contracted	Cyperaceae	H	OBL	SU
X	Carex arctata	Sedge, Drooping Wood	Cyperaceae	H	FACU?	
	Carex arctogena	Sedge, Head-like	Cyperaceae	H	FAC	S1
E	Carex atherodes	Sedge, Awned	Cyperaceae	H	OBL	
	Carex atlantica var. atlantica	Sedge, Prickly Bog	Cyperaceae	H	FACW	
	Carex atlantica var. capillacea (incl. C. howei)	Sedge, Eastern	Cyperaceae	H	FACW	
	Carex atratiformis	Sedge, Blackish	Cyperaceae	H	FACW	S1
	Carex aurea	Sedge, Golden	Cyperaceae	H	FACW	S2
	Carex backii	Sedge, Back's	Cyperaceae	H	UPL	S1
	Carex baileyi	Sedge, Bailey's	Cyperaceae	H	OBL	S2
	Carex bebbii	Sedge, Bebb's	Cyperaceae	H	OBL	S3
	Carex bicknellii	Sedge, Bicknell's	Cyperaceae	H	FAC	SU
	Carex bigelowii ssp. bigelowii	Sedge, Bigelow's	Cyperaceae	H	FACW	S2
(X)	Carex billingsii (= C. trisperma var. b.)	Sedge, Billing's	Cyperaceae	H	OBL	
(X)	Carex blanda (= C. laxiflora var. b.)	Sedge, Woodland	Cyperaceae	H	FAC	
	Carex brevior	Sedge, Shorter	Cyperaceae	H	FAC	
	Carex bromoides	Sedge, Broom-like	Cyperaceae	H	FACW	
X	Carex brunnescens var. brunnescens	Sedge, Brownish Lowland	Cyperaceae	H	FACW	SU
	Carex brunnescens var. sphaerostachya	Sedge, Brownish Mountain	Cyperaceae	H	FACW	
	Carex bullata	Sedge	Cyperaceae	H	OBL	S1
	Carex buxbaumii	Sedge, Buxbaum's	Cyperaceae	H	OBL	S1
X	Carex canescens	Sedge, Hoary	Cyperaceae	H	OBL	
	Carex capillaris ssp. fuscicula	Sedge, Hair-like	Cyperaceae	H	FACW	S1
	* Carex caryophyllea	Sedge, Vernal	Cyperaceae	H	UPL	
	Carex castanea	Sedge, Chesnut	Cyperaceae	H	FACW	SH
	Carex cephaloidea	Sedge, Thinleaf	Cyperaceae	H	FACU	S2
	Carex cephalophora	Sedge, Oval-headed	Cyperaceae	H	FACU	
	Carex chordorrhiza	Sedge, Creeping	Cyperaceae	H	OBL	S1
X	Carex communis	Sedge, Colonial	Cyperaceae	H	UPL	
(X)	Carex comosa	Sedge, Bearded	Cyperaceae	H	OBL	
	Carex conoidea	Sedge, Field	Cyperaceae	H	FACW	
(X)	Carex crawfordii	Sedge, Crawford's	Cyperaceae	H	FACW	
X	Carex crinita	Sedge, Fringed	Cyperaceae	H	OBL	
	Carex cristatella	Sedge, Small Crested	Cyperaceae	H	FACW	S1
	Carex cryptolepis	Sedge, Northeastern	Cyperaceae	H	OBL	SU
	Carex cumulata	Sedge, Piled-up	Cyperaceae	H	FACU	S2
X	Carex debilis	Sedge, White-edge	Cyperaceae	H	FACW	
	Carex deflexa	Northern Sedge	Cyperaceae	H	UPL	
X	Carex deweyana	Sedge, Short-Scale	Cyperaceae	H	FACU	
	Carex diandra	Sedge, Lesser Panicked	Cyperaceae	H	OBL	S2
(X)	Carex digitalis	Sedge, Finger	Cyperaceae	H	UPL	
X	Carex disperma	Sedge, Soft-Leaf	Cyperaceae	H	OBL	
	Carex eburnea	Sedge, Ebony	Cyperaceae	H	FACU	S1
X	Carex echinata (= C. muricata)	Sedge, Little Prickly	Cyperaceae	H	OBL	
	Carex echinata var. angustata (= C. angustior)	Sedge, Little Prickly	Cyperaceae	H	OBL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
(X)	<i>Carex exilis</i>	Sedge, Meager	Cyperaceae	H	OBL	S1
	<i>Carex festucacea</i> (=straminea)	Sedge, Fescue	Cyperaceae	H	FAC	SH
	<i>Carex flava</i>	Sedge, Yellow	Cyperaceae	H	OBL	
X	<i>Carex folliculata</i>	Sedge, Long	Cyperaceae	H	OBL	
	<i>Carex garberi</i> var. <i>bifaria</i>	Sedge, Garber's	Cyperaceae	H	FACW	S2
	<i>Carex glaucoidea</i> (= <i>C. flaccosperma</i> var. <i>g.</i>)	Sedge, Flaccid	Cyperaceae	H	FAC	S1
	<i>Carex gracilescens</i>	Sedge, Slender	Cyperaceae	H	NL	
X	<i>Carex gracillima</i>	Sedge, Graceful	Cyperaceae	H	FACU	
	<i>Carex granularis</i> (= <i>c. g.</i> var. <i>haleana</i>)	Sedge, Granular	Cyperaceae	H	FACW	S1
	<i>Carex grisea</i> (= <i>amphibola</i> var. <i>rigida</i>)	Sedge, Ambiguous	Cyperaceae	H	FAC	SU
X	<i>Carex gynandra</i>	Sedge, Nodding or Perfect-awned	Cyperaceae	H	OBL	
(X)	<i>Carex haydenii</i>	Sedge, Hayden's	Cyperaceae	H	OBL	S3
	<i>Carex hirsutella</i>	Sedge	Cyperaceae	H	UPL	
	* <i>Carex hirta</i> L.	Sedge, Hammer	Cyperaceae	H	FACW?	
	<i>Carex hirtifolia</i>	Sedge, Hairy-leaved	Cyperaceae	H	UPL	SU
	<i>Carex hitchcockiana</i>	Sedge, Hitchcock's	Cyperaceae	H	UPL	S1
	<i>Carex hormathodes</i> (= <i>C. straminea</i> var. <i>invisa</i>)	Sedge, Marsh Straw	Cyperaceae	H	OBL	S3
	<i>Carex houghtoniana</i>	Sedge, Houghton's	Cyperaceae	H	UPL	S3
(X)	<i>Carex hystericina</i>	Sedge, Porcupine	Cyperaceae	H	OBL	S3
	<i>Carex interior</i>	Sedge, Inland	Cyperaceae	H	OBL	
X	<i>Carex intumescens</i>	Sedge, Bladder	Cyperaceae	H	FACW	
X	<i>Carex lacustris</i>	Sedge, Lakebank	Cyperaceae	H	OBL	
X	<i>Carex lasiocarpa</i> ssp. <i>americana</i>	Sedge, Wire	Cyperaceae	H	OBL	
	<i>Carex laxiculmis</i>	Sedge, Loose-flowered	Cyperaceae	H	UPL	SU
X	<i>Carex laxiflora</i>	Sedge, Loose-flowered	Cyperaceae	H	UPL	
	<i>Carex lenticularis</i>	Sedge	Cyperaceae	H	OBL	
(X)	<i>Carex leptalea</i>	Sedge, Bristly-stalk	Cyperaceae	H	OBL	
(X)	<i>Carex leptoneuria</i>	Sedge, Few-nerved	Cyperaceae	H	FAC	
	<i>Carex limosa</i>	Sedge	Cyperaceae	H	OBL	
	<i>Carex livida</i>	Sedge, Livid	Cyperaceae	H	OBL	S1
	<i>Carex lucorum</i>	Sedge, Distant	Cyperaceae	H	UPL	
(X)	<i>Carex lupulina</i>	Sedge, Hop	Cyperaceae	H	OBL	
X	<i>Carex lurida</i>	Sedge, Lurid	Cyperaceae	H	OBL	
	<i>Carex magellanica</i> (= <i>C. pauperula</i>)	Sedge, Poor	Cyperaceae	H	OBL	
	<i>Carex michauxiana</i>	Sedge, Michaux's	Cyperaceae	H	OBL	S3
	<i>Carex molesta</i>	Sedge, Troublesome	Cyperaceae	H	FAC	SH
	<i>Carex muehlenbergii</i> var. <i>enervis</i>	Sedge, Muhlenberg's	Cyperaceae	H	UPL	SU
	<i>Carex muhlenbergii</i> var. <i>muhlenbergii</i>	Sedge	Cyperaceae	H	UPL	S3
	<i>Carex nigra</i>	Sedge, Goodenough's	Cyperaceae	H	FACW	S1
(X)	<i>Carex normalis</i>	Sedge, Larger Straw	Cyperaceae	H	FACW	
	<i>Carex novae-angliae</i>	Sedge, New England	Cyperaceae	H	FACU	
	<i>Carex oligosperma</i>	Sedge, Few-seed	Cyperaceae	H	OBL	
	<i>Carex ormostachya</i>	Sedge, Necklace Chain	Cyperaceae	H	UPL	
	* <i>Carex ovalis</i> (= <i>leporina</i>)	Sedge	Cyperaceae	H	FAC	
	<i>Carex paleacea</i>	Sedge, Chaffy	Cyperaceae	H	OBL	
	* <i>Carex pallescens</i>	Sedge, Pale	Cyperaceae	H	FAC	
	* <i>Carex panicea</i>	Sedge, Millet-like	Cyperaceae	H	UPL	
	<i>Carex pauciflora</i>	Sedge, Few Flowered	Cyperaceae	H	OBL	
(X)	<i>Carex peckii</i> (= <i>C. nigromarginata</i> var. <i>minor</i>)	Sedge, Peck's	Cyperaceae	H	UPL	S3
X	<i>Carex pedunculata</i>	Sedge, Peduncled	Cyperaceae	H	FACU	
	<i>Carex pellita</i> (= <i>C. lanuginosa</i>)	Sedge, Woolly	Cyperaceae	H	OBL	SU
X	<i>Carex pensylvanica</i>	Sedge, Pennsylvania	Cyperaceae	H	UPL	
	<i>Carex plantaginea</i>	Sedge, Plantain-leaved	Cyperaceae	H	UPL	
	<i>Carex platyphylla</i>	Sedge, Broad-leaved	Cyperaceae	H	UPL	
	<i>Carex polymorpha</i>	Sedge, Many Forms	Cyperaceae	H	FACU	S1
	<i>Carex prasina</i>	Sedge, Drooping	Cyperaceae	H	OBL	S3
X	<i>Carex projecta</i>	Sedge, Necklace	Cyperaceae	H	FACW	
	<i>Carex pseudocyperus</i>	Sedge, False Cyperus	Cyperaceae	H	OBL	SU
(X)	<i>Carex radiata</i>	Sedge, Stellate	Cyperaceae	H	UPL	
	<i>Carex recta</i> (= <i>C. salina</i> var. <i>kattgatensis</i>)	Sedge, Saltmarsh	Cyperaceae	H	OBL	
	<i>Carex retroflexa</i>	Sedge, Reflexed	Cyperaceae	H	UPL	S1
	<i>Carex retrorsa</i>	Sedge, Knotsheath	Cyperaceae	H	OBL	SU
	<i>Carex rosea</i>	Sedge, Rose-like	Cyperaceae	H	UPL	
	<i>Carex rostrata</i>	Sedge, Beaked	Cyperaceae	H	OBL	S1
(X)	<i>Carex scabrata</i>	Sedge, Rough	Cyperaceae	H	OBL	
	<i>Carex scirpoidea</i> ssp. <i>scirpoidea</i>	Sedge, Scirpus-like	Cyperaceae	H	FACU	S2
(X)	<i>Carex scoparia</i>	Sedge, Pointed Broom	Cyperaceae	H	FACW	
	<i>Carex seorsa</i>	Sedge, Weak Stellate	Cyperaceae	H	FACW	S1
	<i>Carex siccata</i> (= <i>C. foenea</i> sensu Fernald)	Sedge, Dry Land	Cyperaceae	H	UPL	S1
	<i>Carex silicea</i>	Sedge	Cyperaceae	H	UPL	S3
	<i>Carex sparganioides</i>	Sedge, Bur	Cyperaceae	H	FACU	S1

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* Carex spicata (= C. contigua)	Sedge, Spiked	Cyperaceae	H	FACU	
	Carex sprengelii	Sedge, Long-beaked	Cyperaceae	H	FAC	S3
X	Carex stipata	Sedge, Stalk-grain	Cyperaceae	H	OBL	
	Carex straminea	Sedge, Yellowish	Cyperaceae	H	OBL	
	Carex striata var. brevis	Sedge, Walter's	Cyperaceae	H	OBL	S1
X	Carex stricta	Sedge, Uptight or Tussock	Cyperaceae	H	OBL	
X	Carex swanii	Sedge, Swan's	Cyperaceae	H	FACU	
(X)	Carex tenera	Sedge, Slender	Cyperaceae	H	FAC	
	Carex tenuiflora	Sedge, Sparse-flowered	Cyperaceae	H	OBL	S1
	Carex tetanica	Sedge, Wood's	Cyperaceae	H	FACW	SX
	Carex tinctoria	Sedge, Tinged	Cyperaceae	H	UPL	
X	Carex tosa	Sedge, Shaved	Cyperaceae	H	UPL	
	Carex torta	Sedge, Twisted	Cyperaceae	H	OBL	
X	Carex tribuloides	Sedge, Blunt Broom	Cyperaceae	H	FACW	
	Carex trichocarpa	Sedge, Hairy-fruited	Cyperaceae	H	OBL	S1
X	Carex trisperma var. trisperma	Sedge, Three-Seed	Cyperaceae	H	OBL	
	Carex tuckermanii	Sedge, Tuckerman's	Cyperaceae	H	OBL	S3
	Carex umbellata	Sedge, Umbellate	Cyperaceae	H	UPL	S1
X	Carex utriculata	Sedge, Beaked (Bottle-shaped)	Cyperaceae	H	OBL	
	Carex vacillans	Sedge, Swinging	Cyperaceae	H	OBL?	SU
X	Carex vesicaria	Sedge, Inflated	Cyperaceae	H	OBL	
	Carex vestita	Sedge, Stiff	Cyperaceae	H	UPL	SU
(X)	Carex virescens	Sedge, Gravelly Wood	Cyperaceae	H	UPL	
	Carex viridula var. viridula	Sedge, Greenish	Cyperaceae	H	OBL	SU
	Carex vulpinoidea	Sedge, Fox	Cyperaceae	H	OBL	
	Carex wiedgandii	Sedge, Wiegand's	Cyperaceae	H	OBL	S1
	Carpinus caroliniana	Hornbeam, American	Betulaceae	S,T	FAC	
	* Carum carvi	Caraway	Apiaceae	H	UPL	
	Carya cordiformis	Hickory, Bitternut	Juglandaceae	T	FAC	
	Carya glabra	Hickory, Pignut	Juglandaceae	T	FACU	
	Carya ovalis	Hickory, Sweet Pignut	Juglandaceae	T	UPL	
	Carya ovata	Hickory, Shagbark	Juglandaceae	T	FACU	
X	Castanea dentata	Chestnut, American	Fagaceae	T	UPL	S3
	Castilleja coccinea	Painted-cup, Scarlet	Orobanchaceae	H	FAC	SX
	Castilleja septentrionalis	Painted-cup, Pale	Orobanchaceae	H	FAC	S1
	* Catalpa speciosa	Catalpa, Northern	Bignoniaceae	T	FACU	
	Caulophyllum giganteum	Cohosh, Giant	Berberidaceae	H	UPL	S2
	Caulophyllum thalictroides	Cohosh, Blue	Berberidaceae	H	UPL	
	Ceanothus americanus	New Jersey Tea	Rhamnaceae	S	UPL	
X	* Celastrus orbiculatus	Bittersweet, European	Celastraceae	WV,S	UPL	
	Celastrus scandens	Bittersweet, American	Celastraceae	WV,S	FACU	SU
	Celtis occidentalis	Hackberry, Common	Cannabaceae	T	FAC	S3
	Cenchrus longispinus	Burgrass, Long-spined	Poaceae	H	UPL	S1
	* Centaurea cyanus	Bachelor's-button	Asteraceae	H	UPL	
	* Centaurea jacea	Knapweed, Brown	Asteraceae	H	UPL	
	* Centaurea nigra	Knapweed, Black	Asteraceae	H	UPL	
	* Centaurea nigrescens	Knapweed, Blackish	Asteraceae	H	UPL	
X	* Centaurea stoebe ssp. micranthos (= C. maculosa)	Knapweed, Spotted	Asteraceae	H	UPL	
(X)	Cephalanthus occidentalis	Buttonbush	Rubiaceae	S	OBL	
	*? Cerastium arvense	Chickweed, Meadow	Caryophyllaceae	H	FACU	
(X)	* Cerastium fontanum ssp. vulgare	Chickweed, Mouse-Ear	Caryophyllaceae	H	FACU	
	Cerastium strictum (=C. arvense var. s.)	Chickweed, Field	Caryophyllaceae	H	UPL	SU
(X)	Ceratophyllum demersum	Coon-tail or Hornwort	Ceratophyllaceae	H	OBL	
(X)	Ceratophyllum echinatum	Coontail, Spiny or Lesser	Ceratophyllaceae	H	OBL	SU
	* Chaenorhynchus minus	Snapdragon, Dwarf	Plantaginaceae	H	UPL	
	* Chamaecrista (= Cassia) fasciculata	Sensitive-pea, Partridge	Fabaceae	H	UPL	
	Chamaecrista (= Cassia) nictitans	Wild Sensitive Plant	Fabaceae	H	UPL	SH
	Chamaecyparis thyoides	Cedar, Atlantic White-	Cupressaceae	T	OBL	S3
X	Chamaedaphne calyculata	Leatherleaf	Ericaceae	S	OBL	
X	Chamaepericlymenum (= Cornus) canadensis	Bunchberry, Canada	Cornaceae	H,DS	FAC	
(X)	Chamerion (=Epilobium) angustifolium ssp. circumvagum	Fireweed, Narrow-leaved	Onagraceae	H	FAC	
	* Chelidonium majus	Celandine, Greater	Papaveraceae	H	UPL	
(X)	Chelone glabra	Turtlehead, White	Plantaginaceae	H	OBL	
	Chenopodium (=Blitum) capitatum	Strawberry-Blite	Amaranthaceae	H	UPL	SU
	* Chenopodium (=Oxybasis) rubrum	Coast-Blite	Amaranthaceae	H	OBL	S1
	Chenopodium (Chenopodiastrium) simplex (= C. hybridum)	Goosefoot, Maple-leaved	Amaranthaceae	H	UPL	S3
(X)	* Chenopodium album var. album	Goosefoot, White (Lamb's Quarters)	Amaranthaceae	H	FACU	
	* Chenopodium ambrosioides	Mexican-Tea	Amaranthaceae	H	UPL	
	Chenopodium berlandieri var. bushianum (= C. boscianum)	Goosefoot, Pitseed	Amaranthaceae	H	UPL	SU
	* Chenopodium botrys	Jerusalem-Oak	Amaranthaceae	H	UPL	
	Chenopodium foggii	Goosefoot, Fogg's	Amaranthaceae	H	UPL	S1

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* Chenopodium glaucum	Goosefoot, Oak-leaved	Amaranthaceae	H	FACW	
	* Chenopodium leptophyllum	Goosefoot, Slender-leaved	Amaranthaceae	H	FACU	
	* Chenopodium urbicum	Goosefoot	Amaranthaceae	H	UPL	
	Chimaphila maculata	Wintergreen, Spotted	Ericaceae	H	UPL	
(X)	Chimaphila umbellata ssp. cislantica	Pipsissewa	Ericaceae	H	UPL	
X	Chrysosplenium americanum	Golden-saxifrage, American	Saxifragaceae	H	OBL	
(X)	* Cichorium intybus	Chicory	Asteraceae	H	FACU	
(X)	Cicuta bulbifera	Water-Hemlock, Bulbet-bearing	Apiaceae	H	OBL	
(X)	Cicuta maculata	Water-Hemlock, Spotted	Apiaceae	H	OBL	
	Cinna arundinacea	Wood-reedgrass, Stout	Poaceae	H	FACW	
X	Cinna latifolia	Wood-reedgrass, Slender	Poaceae	H	FACW	
X	Circaea alpina	Nightshade, Small Enchanter's	Onagraceae	H	FACW	
	Circaea canadensis ssp. canadensis (= C. quadrisulcata)	Nightshade, Enchanter's	Onagraceae	H	FACU	
	* Cirsium arvense	Thistle, Canada	Asteraceae	H	FACU	
	Cirsium discolor	Thistle, Field	Asteraceae	H	UPL	
	Cirsium horridulum	Thistle, Yellow	Asteraceae	H	FACU	SH
	Cirsium muticum	Thistle, Swamp	Asteraceae	H	OBL	
	Cirsium pumilum	Thistle, Pasture	Asteraceae	H	UPL	
(X)	* Cirsium vulgare	Thistle, Bull	Asteraceae	H	FACU	
	Cladium mariscoides	Sawgrass, Smooth	Cyperaceae	H	OBL	
	Claytonia caroliniana	Spring Beauty, Broad-leaf	Portulacaceae	H	FACU	
	Claytonia virginica	Spring Beauty	Portulacaceae	H	FACU	
	Clematis occidentalis (= C. verticillaris) ssp. occidentalis	Clematis, Purple	Ranunculaceae	WV	UPL	S1
E	Clematis recta	Virgin's-Bower, Ground	Ranunculaceae	H	NL	
E	Clematis ternifolia (= C. paniculata)	Virgin's-Bower, Yam-leaved	Ranunculaceae	WV	NL	
X	Clematis virginiana	Virgin's-Bower, Virginia	Ranunculaceae	WV	FAC	
	Clethra alnifolia	Pepperbush, Coast	Clethraceae	S	FAC	
(X)	? Clinopodium vulgare (= Satureja vulgaris)	Basil, Wild	Lamiaceae	H	UPL	
X	Clintonia borealis	Bead-Lily, Blue	Liliaceae	H	FAC	
	Coeloglossum viride (= Habenaria v. var. bracteata)	Green Orchis, Long-bracted	Orchidaceae	H	FAC	S3
	Coleataenia longifolia ssp. longifolia	Grass, Long-leaved Panic	Poaceae	H	FACW	SH
	Coleataenia longifolia ssp. rigidula	Grass, Redtop Panic	Poaceae	H	FACW	
	Collinsonia canadensis	Horse-Balm	Lamiaceae	H	FAC	SH
E	Collomia linearis	Collomia, Pink	Polemoniaceae	H	FACU	
	Comandra umbellata	Toad-flax, Umbellate	Comandraceae	H	FACU	
	Comarum (= Potentilla) palustre	Cinquefoil, Marsh or Comaret	Rosaceae	H	OBL	
	* Commelina communis	Dayflower, Asiatic	Commelinaceae	H	FAC	
X	Comptonia peregrina	Sweetfern	Myricaceae	S	UPL	
	Conioselinum chinense	Hemlock-parsley	Apiaceae	H	FACW	S3
	* Conium maculatum	Poison-Hemlock	Apiaceae	H	FACW	
	Conopholis americana	Squawroot	Orobanchaceae	H	UPL	S3
	* Conringia orientalis	Mustard, Hare's-Ear	Brassicaceae	H	UPL	
(X)	* Convallaria majalis	Lily-of-the-Valley	Ruscaceae	H	UPL	
	* Convolvulus arvensis	Bindweed, Hedge	Convolvulaceae	HV	UPL	
X	Coptis trifolia	Goldthread	Ranunculaceae	H	FACW	
(X)	Corallorhiza maculata	Coralroot, Spotted	Orchidaceae	H	FACU	
	Corallorhiza odontorhiza	Coral-root, Autumn	Orchidaceae	H	UPL	S1
	Corallorhiza trifida	Coralroot, Early	Orchidaceae	H	FACW	
E	Coreopsis lanceolata	Coreopsis, Lance-leaved	Asteraceae	H	FACU	
	* Coronopus didymus	Cress, Wart or Swine	Brassicaceae	H	UPL	
	Corydalis aurea	Corydalis, Golden	Papaveraceae	H	UPL	SH
	Corylus americana	Hazelnut, American	Betulaceae	S	FACU	
X	Corylus cornuta	Hazelnut, Beaked	Betulaceae	S	FACU	
	* Cosmos bipinnatus	Cosmos, Garden	Asteraceae	H	UPL	
	Crassula (= Tillaea) aquatica	Pigmyweed	Crassulaceae	H	OBL	S1
	Crataegus biltmoreana	Hawthorn, Biltmore's	Rosaceae	S,T	NL	
	Crataegus chrysocarpa	Hawthorn, Fireberry	Rosaceae	S,T	NL	
	* Crataegus crus-galli	Hawthorn, Cockspur	Rosaceae	S,T	FAC	
	Crataegus dissona	Hawthorn, Northern	Rosaceae	S,T	NL	
	Crataegus faxonii	Hawthorn, Faxon's	Rosaceae	S,T	NL	S1
	Crataegus flabellata var. grayana	Hawthorn, Gray's	Rosaceae	S,T	NL	SU
	Crataegus flavida	Hawthorn, Yellow	Rosaceae	S,T	NL	SU
	Crataegus fluviatilis	Hawthorn, River	Rosaceae	S,T	NL	SU
	Crataegus holmesiana	Hawthorn, Holmes'	Rosaceae	S,T	NL	
	Crataegus intricata	Hawthorn, Entangled	Rosaceae	S,T	NL	SU
	Crataegus keepii	Hawthorn, Keep's	Rosaceae	S,T	NL	SU
	Crataegus macracantha var. macracantha	Hawthorn, Thorny	Rosaceae	S,T	NL	
	Crataegus macrosperma	Hawthorn, Large-seeded	Rosaceae	T	NL	
	* Crataegus monogyna	Hawthorn, One-seeded	Rosaceae	S	FACU	
	Crataegus oakesiana	Hawthorn, Oakes'	Rosaceae	S,T	NL	S1
	Crataegus populinea	Hawthorn, Poplar	Rosaceae	S	NL	SU

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	<i>Crataegus pringlei</i>	Hawthorn, Pringle's	Rosaceae	S	NL	
	<i>Crataegus pruinosa</i> var. <i>pruinosa</i>	Hawthorn, Frosted	Rosaceae	S	NL	SU
	<i>Crataegus punctata</i>	Hawthorn, Dotted	Rosaceae	S,T	NL	
	<i>Crataegus scabrada</i>	Hawthorn, Scabrous	Rosaceae	S,T	NL	SU
	<i>Crataegus schuettei</i> var. <i>basilica</i>	Hawthorn, Royal	Rosaceae	S	NL	SU
X	<i>Crataegus</i> spp.	Hawthorne	Rosaceae	S,T	-	
	<i>Crataegus submollis</i>	Hawthorn, Quebec	Rosaceae	S,T	FAC	
	<i>Crepis capillaris</i>	Hawksbeard, Smooth	Asteraceae	H	UPL	
*	<i>Crepis tectorum</i>	Hawksbeard, Narrow-leaved	Asteraceae	H	UPL	
	<i>Crocanthemum bicknellii</i>	Frostweed, Hoary	Cistaceae	H	UPL	
	<i>Crocanthemum canadense</i>	Frostweed, Canada	Cistaceae	H	UPL	
	<i>Crotalaria sagittalis</i>	Rattle-box, Arrow-headed	Scrophulariaceae	H	UPL	SH
	<i>Cryptogramma stelleri</i>	Cliff-Brake, Slender	Pteridaceae	F	FACU	S1
	<i>Cryptotaenia canadensis</i>	Honewort, Wild Chervil	Apiaceae	H	FAC	S3
*	<i>Cucurbita pepo</i>	Pumpkin, Squash	Cucurbitaceae	H	UPL	
	<i>Cuscuta cephalanthi</i>	Dodder, Buttonbush	Convolvulaceae	V	UPL	S1
	<i>Cuscuta gronovii</i> var. <i>gronovii</i>	Dodder, Common	Cuscutaceae	H	UPL	
	<i>Cuscuta pentagona</i>	Dodder, Five-angled	Convolvulaceae	HV	UPL	SH
*	<i>Cynanchum louiseae</i>	Swallowwort, Black	Apocynaceae	H,WV	UPL	
*	<i>Cynanchum rossicum</i>	Swallowwort, Pale	Apocynaceae	H,WV	UPL	
*	<i>Cynoglossum officinale</i>	Hound's-Tongue, Common	Boraginaceae	H	UPL	
*	<i>Cynosurus cristatus</i>	Dog's-Tail (Grass), Crested	Poaceae	H	UPL	
	<i>Cyperus bipartitus</i> Torr.	Flatsedge, Slender	Cyperaceae	H	FACW	
	<i>Cyperus dentatus</i>	Umbrella-Sedge, Toothed	Cyperaceae	H	OBL	
(X)	<i>Cyperus diandrus</i>	Flatsedge, Umbrella	Cyperaceae	H	OBL	
	<i>Cyperus erythrorhizos</i>	Flatsedge, Red-root	Cyperaceae	H	OBL	S1
(X)	<i>Cyperus esculentus</i>	Sedge, Yellow-nut	Cyperaceae	H	FACW	
	<i>Cyperus filicinus</i> (= <i>C. polystachos</i> var. <i>f.</i>)	Umbrella-Sedge	Cyperaceae	H	OBL	S3
*	<i>Cyperus fuscus</i>	Flatsedge, Brown	Cyperaceae	H	FAC	
	<i>Cyperus grayi</i>	Umbrella-Sedge, Gray's	Cyperaceae	H	UPL	S1
	<i>Cyperus houghtonii</i>	Umbrella-Sedge, Houghton's	Cyperaceae	H	UPL	S1
	<i>Cyperus lupulinus</i> var. <i>macilentus</i>	Flatsedge, Slender	Cyperaceae	H	FACU	
	<i>Cyperus odoratus</i>	Flatsedge, Rusty	Cyperaceae	H	OBL	S1
	<i>Cyperus squarrosus</i>	Umbrella-Sedge, Squarrose	Cyperaceae	H	OBL	S1
(X)	<i>Cyperus strigosus</i>	Flatsedge, Straw-color	Cyperaceae	H	FACW	
	<i>Cyperus subsquarrosus</i>		Cyperaceae	H	OBL	S1
X	<i>Cypripedium acaule</i>	Lady's-Slipper, Pink	Orchidaceae	H	FACU	
	<i>Cypripedium arietinum</i>	Lady's-Slipper, Ram's-head	Orchidaceae	H	FACU?	S1
	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Lady's-slipper, Small Yellow	Orchidaceae	H	FAC	S1
	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Lady's-Slipper, Large Yellow	Orchidaceae	H	FAC	S2
	<i>Cypripedium reginae</i>	Lady's-Slipper, Showy	Orchidaceae	H	FACW	S1
	<i>Cystopteris bulbifera</i>	Bulblet Fern	Woodsiaceae	F	FACW	S3
	<i>Cystopteris fragilis</i>	Fern, Brittle	Woodsiaceae	F	FACU	
	<i>Cystopteris tenuis</i>	Fern, Mackay's Brittle	Woodsiaceae	F	FACU	
*	<i>Cytisus scoparius</i>	Scotch Broom	Fabaceae	S	UPL	
*	<i>Dactylis glomerata</i>	Grass, Orchard	Poaceae	H	FACU	
(X)	<i>Danthonia compressa</i>	Oatgrass, Flattened	Poaceae	H	FACU	
X	<i>Danthonia spicata</i>	Wild Oat or Poverty Grass	Poaceae	H	UPL	
*	<i>Daphne mezereum</i>	Daphne or Mezereum	Thymelaeaceae	S	FACU?	
	<i>Dasiphora floribunda</i>	Cinquefoil, Shrubby	Rosaceae	S	FACW	
*	<i>Datura innoxia</i>	Jimsonweed	Solanaceae	H	UPL	
*	<i>Datura stramonium</i>	Jimsonweed, Thornapple	Solanaceae	H	UPL	
*	<i>Daucus carota</i>	Queen Anne's Lace	Apiaceae	H	UPL	
(X)	<i>Decodon verticillatus</i>	Swamp-Loosestrife, Hair	Lythraceae	S,H	OBL	
(X)	<i>Dendrolycopodium dendroideum</i>	Clubmoss, Prickly Tree	Lycopodiaceae	F	FACU	
	<i>Dendrolycopodium hickeyi</i>	Clubmoss, Hickey's Tree	Lycopodiaceae	F	FACU?	
X	<i>Dendrolycopodium obscurum</i>	Clubmoss, Flat-branched Tree	Lycopodiaceae	F	FACU	
X	<i>Dennstaedtia punctilobula</i>	Hay-scented Fern	Dennstaedtiaceae	F	UPL	
(X)	<i>Deparia acrostichoides</i>	Fern, Silvery Lady	Woodsiaceae	F	FAC	
?	<i>Deschampsia cespitosa</i>	Hairgrass, Tufted	Poaceae	H	FACW	
	<i>Deschampsia cespitosa</i> ssp. <i>glauca</i>	Hairgrass, Tufted	Poaceae	H	FACW	S3
x	<i>Deschampsia flexuosa</i>	Hairgrass, Common	Poaceae	H	UPL	
	<i>Descurainia pinnata</i> var. <i>brachycarpa</i>	Tansy-Mustard, Pinnate	Brassicaceae	H	UPL	SU
*	<i>Descurainia sophia</i>	Tansy-Mustard	Brassicaceae	H	UPL	
	<i>Desmodium canadense</i>	Tick Trefoil, Showy	Fabaceae	H	FAC	
	<i>Desmodium cuspidatum</i>	Tick Trefoil, Large-bracted	Fabaceae	H	UPL	SH
	<i>Desmodium marilandicum</i>	Tick Trefoil	Fabaceae	H	UPL	S1
	<i>Desmodium obtusum</i> (= <i>D. rigidum</i>)	Tick-trefoil, Stiff	Fabaceae	H	UPL	SH
	<i>Desmodium paniculatum</i>	Tick Trefoil, Panicked	Fabaceae	H	FACU	
	<i>Desmodium perplextum</i>	Tick Trefoil, Hair	Fabaceae	H	UPL	
	<i>Desmodium rotundifolium</i>	Tick-trefoil, Prostrate	Fabaceae	H	UPL	S2

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* Dianthus armeria	Pink, Deptford	Caryophyllaceae	H	UPL	
	* Dianthus barbatus	Sweet William	Caryophyllaceae	H	UPL	
	* Dianthus deltoides	Pink, Maiden	Caryophyllaceae	H	UPL	
	* Dianthus plumarius	Pink, Grass or Garden	Caryophyllaceae	H	UPL	
	Diapensia lapponica	Diapensia	Diapensiaceae	H	UPL	S2
	Dicentra canadensis	Squirrel Corn	Papaveraceae	H	UPL	S3
	Dicentra cucullaria	Dutchman's Breeches	Papaveraceae	H	UPL	
X	Dichanthelium acuminatum	Grass, Tapered Panic	Poaceae	H	FAC	
	Dichanthelium acuminatum ssp. columbianum	Grass, Hairy Rosette Panic	Poaceae	H	FAC	
(X)	Dichanthelium boreale	Witchgrass, Northern	Poaceae	H	FAC	
X	Dichanthelium clandestinum	Grass, Deer-tongue	Poaceae	H	FACW	
	Dichanthelium depauperatum	Grass, Panic	Poaceae	H	UPL	
(X)	Dichanthelium dichotomum	Witchgrass, Cypress	Poaceae	H	FAC	
	Dichanthelium latifolium	Grass, Broad-leaved Panic	Poaceae	H	FACU	
	Dichanthelium linearifolium	Grass, Linear-leaved Panic	Poaceae	H	UPL	
	Dichanthelium meridionale	Grass, Panic	Poaceae	H	UPL	
	Dichanthelium oligosanthes ssp. scribnerianum	Grass, Panic	Poaceae	H	FACU	
	Dichanthelium sphaerocarpon	Grass, Round-fruited Panic	Poaceae	H	FACU	S1
	Dichanthelium spretum	Grass, Panic	Poaceae	H	FACW?	
	Dichanthelium xanthophyllum	Grass, Yellow-fruited Panic	Poaceae	H	UPL	
X	Diervilla lonicera	Honeysuckle, Bush-	Caprifoliaceae	S	UPL	
	* Digitalis grandiflora	Foxglove, Large-flowered	Plantaginaceae	H	FACU	
	* Digitalis lanata	Foxglove, Grecian	Plantaginaceae	H	NL	
E	Digitalis lutea	Foxglove, Straw	Plantaginaceae	H	NL	
E	Digitalis purpurea var. purpurea	Foxglove, Purple	Plantaginaceae	H	FACU	
	Digitaria cognata (Schult.) Pilg.	Witchgrass, Fall	Poaceae	H	UPL	SU
	Digitaria filiformis var. filiformis	Crabgrass, Slender	Poaceae	H	UPL	SH
	* Digitaria ischaemum	Crabgrass, Small	Poaceae	H	FACU	
X	* Digitaria sanguinalis	Crabgrass, Hairy	Poaceae	H	FACU	
(X)	Diphasiastrum complanatum	Running-pine, Northern	Lycopodiaceae	F	FACU	
X	Diphasiastrum digitatum	Running-pine, Southern	Lycopodiaceae	F	UPL	
	Diphasiastrum sitchense	Club-moss, Sitka	Lycopodiaceae	F	UPL	S1
X	Diphasiastrum tristachyum	Ground-cedar, Blue	Lycopodiaceae	F	UPL	
	Diphasiastrum X sabinifolium	Clubmoss, Savin-leaved	Lycopodiaceae	F	UPL	
	Diplazium pycnocarpon	Fern, Narrow-leaf Lady	Woodsiaceae	F	FAC	S1
	* Dipsacus fullonum ssp. sylvestris	Teasel	Caprifoliaceae	H	FACU	
	Dirca palustris	Leatherwood, Eastern	Thymelaeaceae	S	FAC	S3
	Distichlis spicata	Saltgrass, Seashore	Poaceae	H	FACW	
X	Doellingeria umbellatus	Aster, Flat-Topped	Asteraceae	H	FACW	
	Draba cana	Whitlow-grass, Canescent	Brassicaceae	H	UPL	S1
	* Draba verna	Whitlow-grass	Brassicaceae	H	UPL	
E	Dracocephalum parviflorum	Dragonhead	Lamiaceae	H	UPL	
(X)	Drosera intermedia	Sundew, Spoon-leaf	Droseraceae	H	OBL	
X	Drosera rotundifolia	Sundew, Round-leaved	Droseraceae	H	OBL	
	Dryocallis arguta	Wood-Beauty, Tall	Rosaceae	H	FACU	SU
	Dryopteris campyloptera	Woodfern, Mountain	Dryopteridaceae	F	FACU	
X	Dryopteris carthusiana	Woodfern, Spinulose	Dryopteridaceae	F	FACW	
X	Dryopteris clintoniana	Woodfern, Clinton's	Dryopteridaceae	F	FACW	
X	Dryopteris cristata	Shield-fern, Crested	Dryopteridaceae	F	OBL	
	Dryopteris filix-mas ssp. brittonii	Fern, Male	Dryopteridaceae	F	UPL	S1
	Dryopteris fragrans	Fern, Cliff	Dryopteridaceae	F	UPL	S2
	Dryopteris goldiana	Woodfern, Goldie's	Dryopteridaceae	F	FAC	S3
X	Dryopteris intermedia	Woodfern, Evergreen	Dryopteridaceae	F	FAC	
X	Dryopteris marginalis	Shield-fern, Marginal	Dryopteridaceae	F	FACU	
	Dryopteris X boottii	Woodfern, Boott's	Polypodiaceae	F	FACW	
X	Dulichium arundinaceum	Sedge, Three-way	Cyperaceae	H	OBL	
	* Echinochloa crus-galli	Grass, Barnyard	Poaceae	H	FAC	
	Echinochloa muricata var. muricata (= E. pungens)	Grass, Rough Barnyard	Poaceae	H	OBL	
	Echinochloa walteri	Grass, Coast Barnyard	Poaceae	H	OBL	SH
	Echinocystis lobata	Mock-cucumber, Wild	Cucurbitaceae	HV	FACW	
	* Echium vulgare	Viper's Bugloss	Boraginaceae	H	UPL	
	* Elaeagnus angustifolia	Russian Olive	Elaeagnaceae	S	FACU	
	* Elaeagnus multiflora	Oleaster, Many-flowered	Elaeagnaceae	S	UPL	
	* Elaeagnus umbellata var. parvifolia	Autumn Olive, Umbellate	Elaeagnaceae	S	UPL	
	Elatine americana	Waterwort, American	Elatinaceae	H	OBL	SH
	Elatine minima	Waterwort, Small	Elatinaceae	H	OBL	SU
X	Eleocharis acicularis	Spikesedge, Least	Cyperaceae	H	OBL	
	Eleocharis diandra	Spikesedge, Wright's	Cyperaceae	H	OBL	S1
	Eleocharis erythropoda	Spikesedge, Red-stemmed	Cyperaceae	H	OBL	S1
	Eleocharis flavescens var. olivacea	Spikesedge, Bright Green	Cyperaceae	H	OBL	
	Eleocharis intermedia	Spikesedge, Intermediate	Cyperaceae	H	OBL	S1

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	<i>Eleocharis nitida</i>	Spikesedge, Needle	Cyperaceae	H	OBL	SH
(X)	<i>Eleocharis obtusa</i> var. <i>obtusata</i>	Spikesedge, Blunt	Cyperaceae	H	OBL	
	<i>Eleocharis obtusa</i> var. <i>peasei</i>	Spikesedge, Blunt	Cyperaceae	H	OBL	SH
	<i>Eleocharis ovata</i>	Spikesedge, Ovate	Cyperaceae	H	OBL	SH
(X)	<i>Eleocharis palustris</i> ssp. <i>palustris</i>	Spikesedge, Common	Cyperaceae	H	OBL	
	<i>Eleocharis palustris</i> ssp. <i>vogens</i>	Spikesedge, Vigorous Common	Cyperaceae	H	OBL	
	<i>Eleocharis parvula</i>	Spikesedge, Least	Cyperaceae	H	OBL	S3
	<i>Eleocharis quinqueflora</i> ssp. <i>fernaldii</i>	Spikesedge, Few-flowered	Cyperaceae	H	OBL	S1
	<i>Eleocharis robbinsii</i>	Spikesedge, Robbin's	Cyperaceae	H	OBL	
	<i>Eleocharis rostellata</i>	Spikesedge, Beaked	Cyperaceae	H	OBL	
	<i>Eleocharis smallii</i>	Spikesedge, Small's	Cyperaceae	H	OBL	
X	<i>Eleocharis tenuis</i>	Spikesedge, Slender	Cyperaceae	H	FACW	
	<i>Eleocharis tuberculosa</i>	Spikesedge, Tubercled	Cyperaceae	H	OBL	SH
	<i>Eleocharis uniglumis</i>	Spikesedge, Saltmarsh	Cyperaceae	H	OBL	S3
*	<i>Eleusine indica</i>	Grass, Wire	Poaceae	H	FACU	
(X)	<i>Elodea canadensis</i>	Water-weed, Broad	Hydrocharitaceae	H	OBL	
	<i>Elodea nuttallii</i>	Water-weed, Nuttall's	Hydrocharitaceae	H	OBL	
	<i>Elymus canadensis</i> var. <i>canadensis</i>	Wild-rye, Northern	Poaceae	H	FACU	SU
	<i>Elymus hystrix</i> var. <i>bigeloviana</i>	Grass, Bigelow's Eastern Bottlebrush	Poaceae	H	FACU	S3
	<i>Elymus hystrix</i> var. <i>hystrix</i>	Grass, Eastern Bottlebrush	Poaceae	H	FACU	S3
	<i>Elymus macgregorii</i>	Wild Rye, Macgregor's	Poaceae	H	UPL	S1
(X)	* <i>Elymus repens</i> (L.) Gould	Quackgrass	Poaceae	H	FACU	
	<i>Elymus riparius</i>	Wild-rye, Riverbank	Poaceae	H	FACW	
	<i>Elymus trachycaulus</i> var. <i>trachycaulus</i>	Wheatgrass, Slender	Poaceae	H	FACU	SU
	<i>Elymus virginicus</i> var. <i>virginicus</i>	Wild-rye, Common Eastern	Poaceae	H	FACW	
	<i>Elymus wiegandii</i>	Wild-rye, Broad-leaved	Poaceae	H	FAC	
	<i>Empetrum atropurpureum</i>	Crowberry, Purple	Ericaceae	S	FAC	S3
	<i>Empetrum nigrum</i> var. <i>hermaphroditum</i>	Crowberry, Black	Ericaceae	S	FAC	S3
X	<i>Epifagus virginiana</i>	Beechdrops	Orobanchaceae	H	UPL	
X	<i>Epigaea repens</i>	Arbutus, Trailing	Ericaceae	H,DS	UPL	
	<i>Epilobium anagallidifolium</i> (=alpinum)	Willow-herb, alpine	Onagraceae	H	FACW	SH
	<i>Epilobium ciliatum</i> var. <i>ciliatum</i> (= <i>E. glandulosum</i> var. <i>c.</i>)	Willow-herb, Ciliated	Onagraceae	H	FACW	SU
X	<i>Epilobium ciliatum</i> var. <i>glandulosum</i> (= <i>E. g.</i>)	Willow-herb, Northern	Onagraceae	H	FACW	
	<i>Epilobium coloratum</i>	Willow-herb, Purple-leaf	Onagraceae	H	OBL	
	<i>Epilobium hirsutum</i>	Willow-herb, Great Hairy	Onagraceae	H	FACW	
	<i>Epilobium hornemannii</i>	Willow-herb, Hornemann's	Onagraceae	H	FACW	S2
	<i>Epilobium lactiflorum</i> (= <i>E. alpinum</i> var. <i>l.</i>)	Willow-herb, White-flower	Onagraceae	H	FACW	SH
(X)	<i>Epilobium leptophyllum</i>	Willow-herb, Linear-leaf	Onagraceae	H	OBL	
	<i>Epilobium palustre</i>	Willow-herb, Marsh	Onagraceae	H	OBL	
	<i>Epilobium strictum</i>	Willow-herb, Downy	Onagraceae	H	OBL	
(X)	* <i>Epipactis helleborine</i>	Helleborine	Orchidaceae	H	FACU?	
X	<i>Equisetum arvense</i> (incl. var. <i>boreale</i>)	Horsetail, Field	Equisetaceae	F	FAC	
	<i>Equisetum fluviatile</i>	Horsetail, Water	Equisetaceae	F	OBL	
	<i>Equisetum hyemale</i>	Horsetail, Rough	Equisetaceae	F	FAC	
	<i>Equisetum palustre</i>	Horsetail, Marsh	Equisetaceae	H	FACW	SH
	<i>Equisetum pratense</i>	Horsetail, Meadow	Equisetaceae	H	FACW	S3
	<i>Equisetum scirpoides</i>	Scouring-Rush, Dwarf	Equisetaceae	F	FAC	S3
	<i>Equisetum sylvaticum</i>	Horsetail, Woodland	Equisetaceae	F	FACW	
	<i>Equisetum variegatum</i>	Scouring-Rush, Variegated	Equisetaceae	F	FACW	S3
	<i>Equisetum X litorale</i>		Equisetaceae	F	OBL	
	<i>Eragrostis capillaris</i>	Lace-Grass	Poaceae	H	UPL	SU
*	<i>Eragrostis cilianensis</i> (= <i>E. megastachya</i>)	Stinkgrass	Poaceae	H	FACU	
	<i>Eragrostis frankii</i>	Love-grass, Frank's	Poaceae	H	FACW	SH
	<i>Eragrostis hypnoides</i>	Love-grass, Moss-like	Poaceae	H	OBL	SH
*	<i>Eragrostis minor</i> (= <i>E. poaeoides</i>)	Love-grass, Least	Poaceae	H	UPL	
	<i>Eragrostis pectinacea</i>	Love-grass	Poaceae	H	FAC	
*	<i>Eragrostis pilosa</i> (incl. var. <i>pilosa</i>)	Love-grass	Poaceae	H	FACU	
	<i>Eragrostis spectabilis</i>	Grass, Purple Love	Poaceae	H	UPL	
X	<i>Erechtites hieracifolius</i> var. <i>hieracifolius</i>	Burn, America or Pilewort	Asteraceae	H	FACU	
*	<i>Erica tetralix</i>	Heath, Cross-leaved	Ericaceae	H,DS	UPL	
	<i>Erigeron</i> (=Conyza) <i>canadensis</i>	Horsetail	Asteraceae	H	UPL	
	<i>Erigeron annuus</i>	Fleabane, White-top or Daisy	Asteraceae	H	FACU	
	<i>Erigeron philadelphicus</i>	Fleabane, Common	Asteraceae	H	FAC	
	<i>Erigeron pulchellus</i>	Robin's-Plantain	Asteraceae	H	FACU	
(X)	<i>Erigeron strigosus</i> var. <i>strigosus</i>	Fleabane, Lesser Daisy	Asteraceae	H	FACU	
	<i>Eriocaulon aquaticum</i> (= <i>E. septangulare</i>)	Buttons, White or Pipewort	Eriocaulaceae	H	OBL	
	<i>Eriophorum angustifolium</i> ssp. <i>angustifolium</i>	Cotton-grass, Narrow-leaved	Cyperaceae	H	OBL	S1
	<i>Eriophorum gracile</i>	Cotton Grass, Slender	Cyperaceae	H	OBL	
	<i>Eriophorum tenellum</i>	Cotton Grass, Few Nerved	Cyperaceae	H	OBL	
	<i>Eriophorum vaginatum</i> ssp. <i>spissum</i> (= <i>E. s.</i>)	Hare's Tail	Cyperaceae	H	OBL	
	<i>Eriophorum virginicum</i>	Cotton Grass, Tawny	Cyperaceae	H	OBL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Eriophorum viridicaratum	Cotton Grass	Cyperaceae	H	OBL	
*	Erodium cicutarium	Filaree or Storksbill	Geraniaceae	H	UPL	
*	Erucastrum gallicum	Dog-Mustard, Common	Brassicaceae	H	UPL	
*	Erysimum cheiranthoides	Mustard, Wormseed	Brassicaceae	H	FACU	
E	Erysimum inconspicuum	Mustard, Treacle	Brassicaceae	H	UPL	
	Erythranthe moschatus var. moschatus	Muskflower	Phrymaceae	H	OBL	S1
(X)	Erythronium americanum	Fawnlily, Dimpled or Troutlily	Liliaceae	H	UPL	
E	Eschscholzia californica ss. officinalis	California-poppy	Papaveraceae	H	UPL	
*	Euonymus alatus	Spindle-tree, Winged	Celastraceae	S	UPL	
E	Euonymus atropurpureus	Burning-bush, Eastern	Celastraceae	S	FACU	
*	Euonymus europaeus	Spindle-tree, European	Celastraceae	S	UPL	
*	Euonymus fortunei	Euonymus, Climbing	Celastraceae	S,V	NL	
X	Eupatorium perfoliatum	Boneset, Common	Asteraceae	H	FACW	
	Eupatorium pubescens (= E. rotundifolium var. ovatum)	Boneset, Hairy	Asteraceae	H	UPL	S1
	Eupatorium sessilifolium var. brittonianum	Boneset, Upland	Asteraceae	H	UPL	SH
	Euphorbia (=Chamaesyce) glyptosperma	Sandmat, Ridge-seed	Euphorbiaceae	H	UPL	SU
	Euphorbia (=Chamaesyce) maculata	Sandmat, Spotted	Euphorbiaceae	H	UPL	
	Euphorbia (=Chamaesyce) polygonifolia	Sandmat, Seaside	Euphorbiaceae	H	UPL	S1
	Euphorbia (=Chamaesyce) vermiculata	Sandmat, Hairy	Euphorbiaceae	H	UPL	
*	Euphorbia cyparissias	Spurge, Cypress	Euphorbiaceae	H	UPL	
E	Euphorbia dentata	Spurge, Toothed	Euphorbiaceae	H	UPL	
*	Euphorbia esula	Spurge, Leafy	Euphorbiaceae	H	UPL	
*	Euphorbia helioscopia	Spurge, Sun or Wartweed	Euphorbiaceae	H	UPL	
	Euphorbia nutans	Eyebane Sandmat	Euphorbiaceae	H	UPL	SU
*	Euphorbia peplus	Spurge, Petty	Euphorbiaceae	H	UPL	
*	Euphrasia nemorosa	Eyebright, Common	Orobanchaceae	H	UPL	SU
	Euphrasia oakesii	Eyebright, Oakes'	Orobanchaceae	H	UPL	S1
*	Euphrasia stricta	Eyebright	Orobanchaceae	H	UPL	
	Euphrasia williamsii	William's Eyebright	Orobanchaceae	H	UPL	S1
X	Eurybia divaricata	Aster, White Wood	Asteraceae	H	UPL	
X	Eurybia macrophylla	Aster, Large-Leaved	Asteraceae	H	UPL	
	Eurybia radula	Aster, Low Rough (Rough-leaved)	Asteraceae	H	OBL	
	Eurybia schreberi	Aster, Schreber's	Asteraceae	H	UPL	SU
	Euthamia caroliniana	Fragrant-Golden-Rod, Grassleaf	Asteraceae	H	FAC	S2
X	Euthamia graminifolia	Fragrant-Golden-Rod, Flat-Top	Asteraceae	H	FAC	
	Eutrochium dubium	Joe-Pye-Weed, Coastal Plain	Asteraceae	H	FACW	
	Eutrochium fistulosum	Joe-Pye-Weed, Hollow	Asteraceae	H	FACW	S1
X	Eutrochium maculatum	Joe-Pye-Weed, Spotted	Asteraceae	H	OBL	
X	Eutrochium purpureum	Joe-Pye-Weed, Sweet-scented	Asteraceae	H	FAC	
*	Fagopyrum esculentum	Buckwheat	Polygonaceae	H	UPL	
*	Fagopyrum tataricum	India-Wheat	Polygonaceae	H	UPL	
X	Fagus grandifolia	Beech, American	Fagaceae	T	FACU	
X	Fallopia (= Polygonum) cilinodis	Bindweed, Fringed	Polygonaceae	H	UPL	
	Fallopia (= Polygonum) convolvulus	Bindweed, Black	Polygonaceae	H	FACU	
*	Fallopia (= Polygonum) japonica (=cuspidata)	Knotweed, Japanese	Polygonaceae	H	FACU	
(X)	Fallopia (= Polygonum) scandens	False-Buckwheat, Climbing	Polygonaceae	H	FAC	
*	Fallopia sachalinense F. Schmidt ex. Maxim.	Knotweed, Giant	Polygonaceae	H	UPL	
*	Festuca ovina	Fescue, Sheep's	Poaceae	H	UPL	
	Festuca prolifera (= F. rubra var. p.)	Fescue, Proliferous	Poaceae	H	UPL	S1
*	Festuca rubra ssp. commutata	Fescue, Red	Poaceae	H	FACU	
*	Festuca rubra ssp. fallax	Fescue, Red	Poaceae	H	FACU	
	Festuca rubra ssp. pruinosa	Fescue, Red Seaside	Poaceae	H	FACU	
X	* Festuca rubra ssp. rubra	Fescue, Red	Poaceae	H	FACU	
	Festuca spp.	Grass, Fescue spp.	Poaceae	H	-	
	Festuca subverticillata (= F. obtusa)	Fescue, Nodding	Poaceae	H	FACU	
E	Ficaria (=Ranunculus ficaria) verna ssp. bulbifera	Crowfoot, Fig	Ranunculaceae	H	FACW	
E	Filipendula rubra	Queen-of-the-Prairie	Rosaceae	H	FACW	
*	Filipendula ulmaria	Queen-of-the-Meadow	Rosaceae	H	NL	
	Fimbristylis autumnalis		Cyperaceae	H	FACW	
E	Forsythia viridissima	Forsythia	Oleaceae	S	NL	
X	Fragaria vesca	Strawberry, Wood	Rosaceae	H	UPL	
(X)	Fragaria virginiana	Strawberry, Virginia	Rosaceae	H	FACU	
*	Frangula alnus (= Rhamnus f.)	Buckthorn, Glossy or European	Rhamnaceae	S	FAC	
X	Fraxinus americana	Ash, White	Oleaceae	T	FACU	
X	Fraxinus nigra	Ash, Black	Oleaceae	T	FACW	
	Fraxinus pennsylvanica	Ash, Green	Oleaceae	T	FACW	
E	Froelichia gracilis	Cottonweed, Slender	Amaranthaceae	H	UPL	
E	Fumaria officinalis	Fumitory, Common	Papaveraceae	H	UPL	
*	Galax urceolata	Galax or Beetleweed	Diapensiaceae	H	UPL	
	Galearis spectabilis	Orchis, Showy	Orchidaceae	H	UPL	S2
E	Galeopsis bifida	Hemp-Nettle, Split-lipped	Lamiaceae	H	FACU	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* Galeopsis tetrahit	Hemp-Nettle	Lamiaceae	H	FACU	
	* Galinsoga parviflora	Galinsoga, Few-flowered	Asteraceae	H	UPL	
	* Galinsoga quadriradiata (= G. ciliata)	Galinsoga	Asteraceae	H	FACU	
	* Galium album	Bedstraw, White	Rubiaceae	H	UPL	
X	Galium aparine	Bedstraw, Catchweed	Rubiaceae	H	FACU	
	Galium asprellum	Bedstraw, Rough	Rubiaceae	H	OBL	
	Galium boreale ssp. septentrionale	Bedstraw, Northern	Rubiaceae	H	FAC	
	Galium brevipes (= G. trifidum var. b.)	Bedstraw, Limestone Swamp	Rubiaceae	H	OBL	S1
	Galium circaeans var. circaeans	Wild Licorice	Rubiaceae	H	FACU	S3
	Galium circaeans var. hypomalacum	Bedstraw, Forest Licorice	Rubiaceae	H	FACU	S3
	Galium kamtschaticum	Bedstraw, Northern	Rubiaceae	H	FACU?	S3
	Galium lanceolatum	Wild Licorice, Lance-leaved	Rubiaceae	H	UPL	
	* Galium mollugo	Wild Madder	Rubiaceae	H	UPL	
	Galium obtusum ssp. obtusum	Bedstraw, Obtuse	Rubiaceae	H	FACW	SH
	Galium palustre	Bedstraw, Marsh	Rubiaceae	H	OBL	
	Galium pilosum var. pilosum	Bedstraw, Hairy	Rubiaceae	H	UPL	S1
	* Galium sylvaticum	Scotch Mist	Rubiaceae	H	UPL	
X	Galium tinctorium var. tinctorium	Bedstraw, Stiff Marsh	Rubiaceae	H	OBL	
	Galium trifidum ssp. trifidum	Bedstraw, Small	Rubiaceae	H	FACW	
X	Galium triflorum	Bedstraw, Sweet-scented	Rubiaceae	H	FACU	
	* Galium verum ssp. verum	Bedstraw, Yellow	Rubiaceae	H	UPL	
X	Gaultheria hispidula	Snowberry, Creeping	Ericaceae	H,DS	FACW	
X	Gaultheria procumbens	Wintergreen	Ericaceae	H,DS	FACU	
X	Gaylussacia baccata	Huckleberry, Black	Ericaceae	S	FACU	
	Gaylussacia bigeloviana (=G. dumosa var. b.)	Huckleberry, Dwarf	Ericaceae	S	OBL	S2
	Gaylussacia frondosa	Dangleberry	Ericaceae	S	FAC	S3
(X)	Gentiana clausa	Gentian, Closed	Gentianaceae	H	FACW	
	Gentiana linearis	Gentian, Narrow-leaved	Gentianaceae	H	FACW	
	Gentianella quinquefolia (= Gentiana q.)	Gentian, Stiff	Gentianaceae	H	FAC	S1
	Gentianopsis crinita (= Gentiana c.)	Gentian, Fringed	Gentianaceae	H	FACW	S2
	Geocaulon lividum	Comandra, Northern	Comandraceae	H	FAC	S1
	Geranium bicknellii	Cranesbill, Bicknell's	Geraniaceae	H	UPL	
	Geranium carolinianum var. carolinianum	Cranesbill, Carolina	Geraniaceae	H	UPL	S1
	Geranium maculatum	Crane's-bill, Purple	Geraniaceae	H	FACU	
	* Geranium molle	Geranium, Dove's-foot	Geraniaceae	H	UPL	
	* Geranium pusillum	Cranesbill, Small-flowered	Geraniaceae	H	UPL	
E?	Geranium robertianum	Herb Robert	Geraniaceae	H	UPL	
	* Geranium thunbergii	Geranium, Dew-drop	Geraniaceae	H	UPL	
	Geum (=Waldsteinia) fragarioides	Strawberry, Creeping	Rosaceae	H	UPL	S2
	Geum aleppicum ssp. strictum	Avens, Yellow	Rosaceae	H	FAC	
(X)	Geum canadense var. canadense	Avens, White	Rosaceae	H	FAC	
	Geum laciniatum var. laciniatum	Avens, Rough	Rosaceae	H	FACW	
	Geum macrophyllum	Avens, Large-leaved	Rosaceae	H	FACW	
	Geum peckii	Avens, Mountain	Rosaceae	H	OBL	S2
	Geum rivale	Avens, Purple	Rosaceae	H	OBL	
	* Glechoma hederacea	Ivy, Ground	Lamiaceae	H	FACU	
E	Gleditsia triacanthos	Locust, Honey	Fabaceae	H	FAC	
	Glyceria acutiflora	Mannagrass, Sharp-flowered	Poaceae	H	OBL	S1
	Glyceria borealis	Mannagrass, Boreal	Poaceae	H	OBL	
X	Glyceria canadensis	Mannagrass, Canada	Poaceae	H	OBL	
X	Glyceria grandis	Mannagrass, American	Poaceae	H	OBL	
	Glyceria laxa	Mannagrass, Loose	Poaceae	H	OBL	
X	Glyceria melicaria	Mannagrass, Melic	Poaceae	H	OBL	
	Glyceria obtusa	Mannagrass, Coastal	Poaceae	H	OBL	S3
	Glyceria septentrionalis var. septentrionalis	Mannagrass, Floating	Poaceae	H	OBL	S1
X	Glyceria striata	Mannagrass, Fowl	Poaceae	H	OBL	
X	Gnaphalium uliginosum	Cudweed, Low	Asteraceae	H	UPL	
X	Goodyera pubescens	Rattlesnake-Plantain, Downy	Orchidaceae	H	FACU	
(X)	Goodyera repens	Rattlesnake-Plantain, Dwarf	Orchidaceae	H	FACU	SU
(X)	Goodyera tessellata	Rattlesnake-Plantain, Checkered	Orchidaceae	H	FACU	
	Graphephorum (=Trisetum) melicoides	Grass, Purple False Oat	Poaceae	H	FACW	SH
	Gratiola aurea	Hedge-Hyssop, Golden	Plantaginaceae	H	OBL	
	Gratiola neglecta	Hedge-Hyssop, Clammy	Plantaginaceae	H	OBL	
E	Grindelia squarrosa	Gumweed or Tarweed	Asteraceae	H	FACU	
(X)	Gymnocarpium dryopteris	Fern, Oak	Woodsiaceae	F	FACU	
	* Gypsophila elegans	Baby's-Breath, Showy	Caryophyllaceae	H	UPL	
	Hackelia deflexa ssp. americana	Stickseed, Nodding	Boraginaceae	H	UPL	SH
	Hackelia virginiana	Stickseed, Virginia	Boraginaceae	H	FACU	S2
	Halenia deflexa	Spurred Gentian	Gentianaceae	H	FAC	S2
	Halerpestes cymbalaria var. cymbalaria	Crowfoot, Seaside	Ranunculaceae	H	OBL	S3
X	Hamamelis virginiana	Witch-hazel, American	Hamamelidaceae	S	FACU	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Harrimanella (= Cassiope) hypnoides	Moss-plant	Ericaceae	H	UPL	S1
E	Hedeoma hispida	Pennyroyal, Mock	Lamiaceae	H	UPL	SU
	Hedeoma pulegioides	Pennyroyal, American	Lamiaceae	H	UPL	
	Hedysarum alpinum ssp. americanum		Fabaceae	H	FAC	
	Helianthus tenellum	Dwarf Burhead	Alismataceae	H	OB;	SU
	Helenium flexuosum (= H. nudiflorum)	Sneezeweed, Purple	Asteraceae	H	FAC	
E	Helianthus annuus	Sunflower, Common	Asteraceae	H	FACU	
*	Helianthus debilis	Sunflower	Asteraceae	H	UPL	
	Helianthus decapetalus	Sunflower, Thin-leaved	Asteraceae	H	FACU	
	Helianthus divaricatus	Sunflower, Woodland	Asteraceae	H	UPL	
*	Helianthus pauciflorus ssp. pauciflorus	Sunflower, Stiff	Asteraceae	H	UPL	
	Helianthus pauciflorus ssp. subrhomboides	Sunflower, Stiff	Asteraceae	H	UPL	
	Helianthus strumosus	Sunflower, Pale-leaved	Asteraceae	H	UPL	
E	Helianthus tuberosus	Jerusalem-Artichoke	Asteraceae	H	UPL	
E	Helianthus X laetiflorus	Sunflower, Showy	Asteraceae	H	UPL	
E	Heliopsis helianthoides var. scabra	Sunflower, Oxeye	Asteraceae	H	FACU	
E	Heimerocallis fulva	Day-lily	Heimerocallidaceae	H	NL	
	Heracleum maximum	Cow-Parsnip	Apiaceae	H	FACW	
*	Hesperis matronalis	Dame's-Rocket	Brassicaceae	H	FACU	
	Heteranthera (Zosterella) dubia	Water-Stargrass	Pontederiaceae	H	OBL	S2
	Hibiscus moscheutos ssp. moscheutos (= H. palustris)	Rosemallow, Swamp	Malvaceae	H	OBL	S1
(X)	* Hieracium aurantiacum	Hawkweed, Orange	Asteraceae	H	UPL	
	* Hieracium caespitosum (= H. pratense)	Hawkweed, Field	Asteraceae	H	UPL	
	Hieracium kalmii (= canadense)	Hawkweed, Canada	Asteraceae	H	UPL	
	Hieracium lachenalii	Hawkweed, Common	Asteraceae	H	NI	
*	Hieracium murorum	Lungwort, Golden	Asteraceae	H	UPL	
X	Hieracium paniculatum	Hawkweed, Panicked	Asteraceae	H	UPL	
*	Hieracium pilosella	Hawkweed, Hairy or Mouse-Ear	Asteraceae	H	UPL	
X	* Hieracium piloselloides (= H. florentinum)	Hawkweed, Smooth or King Devil	Asteraceae	H	UPL	
*	Hieracium praealtum	King Devil	Asteraceae	H	UPL	
	Hieracium robinsonii	Hawkweed, Robinson's	Asteraceae	H	UPL	S1
X	Hieracium scabrum	Hawkweed, Rough	Asteraceae	H	UPL	
	Hieracium umbellatum	Hawkweed, Umbelled	Asteraceae	H	UPL	S1
	Hieracium venosum	Rattlesnake-Weed	Asteraceae	H	UPL	S3
*	Hieracium vulgatum	Hawkweed, Common	Asteraceae	H	UPL	
(X)	* Hieracium X floribundum	Hawkweed, Pale	Asteraceae	H	UPL	
	Hieracium x marianum	Hawkweed, Maryland	Asteraceae	H	UPL	SU
	Hippuris vulgaris	Mare's-Tail	Plantaginaceae	H	OBL	S2
*	Holcus lanatus	Grass, Common Velvet	Poaceae	H	FACU	
	Honckenya peploides ssp. robusta	Seabeach-Sandwort	Caryophyllaceae	H	FACU	SX
*	Hordeum jubatum	Barley, Fox-tail	Poaceae	H	FAC	
	Hottonia inflata	Featherfoil	Primulaceae	H	OBL	S1
X	Houstonia caerulea	Innocence or Bluets	Rubiaceae	H	FACU	
	Houstonia longifolia	Bluets, Long-leaved	Rubiaceae	H	UPL	S1
	Hudsonia ericoides	Golden-Heather	Cistaceae	S	UPL	S1
	Hudsonia tomentosa	False Heather	Cistaceae	S	UPL	S2
*	Humulus japonicus	Hops, Japanese	Cannabaceae	HV,H	FACU	
	Humulus lupulus ssp. lupulus	Hops, Common	Cannabaceae	HV,H	FACU	SU
	Huperzia appressa (= H. appalachiana, H. selago)	Fir-moss, Mountain	Huperziaceae	F	UPL	S1
X	Huperzia lucidula (= Lycopodium lucidulum)	Fir-moss, Shining	Huperziaceae	F	FAC	
	Huperzia selago	Fir-moss, Northern	Huperziaceae	F	FACU	SH
*	Hydrangea paniculata	Hydrangea, Panicked	Hydrangeaceae	S	FAC	
X	Hydrocotyle americana	Water Pennywort	Apiaceae	H	OBL	
	Hydrophyllum virginianum	Waterleaf, Virginia	Hydrophyllaceae	H	FAC	S2
	Hylodesmum (= Desmodium) glutinosum	Tick Trefoil, Pointed-leaved	Fabaceae	H	UPL	
	Hylodesmum (= Desmodium) nudiflorum	Tick Trefoil, Naked-flowered	Fabaceae	H	UPL	
(X)	* Hylotelephium telephium ssp. fabaria	Live-forever	Crassulaceae	H	UPL	
*	Hyoscyamus niger	Henbane, Black	Solanaceae	H	UPL	
	Hypericum ascyron (= H. pyramidatum)	St. Johnswort, Great	Hypericaceae	H	FAC	S1
	Hypericum boreale	St. Johnswort, Boreal	Hypericaceae	H	OBL	
X	Hypericum canadense	St. Johnswort, Canada	Hypericaceae	H	FACW	
(X)	Hypericum ellipticum	St. Johnswort, Pale	Hypericaceae	H	OBL	
X	Hypericum gentianoides	Orangeweed	Hypericaceae	H	FACU	
	Hypericum majus	St. Johnswort, Larger Canada	Hypericaceae	H	FACW	
X	Hypericum mutilum	St. Johnswort, Slender or Dwarf	Hypericaceae	H	FACW	
X	* Hypericum perforatum ssp. perforatum	St. Johnswort, Common	Hypericaceae	H	UPL	
E	Hypericum prolificum	St. Johnswort, Shrubby	Hypericaceae	S	NL	
(X)	Hypericum punctatum	St. Johnswort, Spotted	Hypericaceae	H	FAC	
*	Hypochoeris radicata	Cat's Ear	Asteraceae	H	FACU	
	Hypopitys lanuginosa	Hairy Pine-sap	Ericaceae	H	UPL	SU
X	Hypopitys monotropa	Pinesap	Ericaceae	H	UPL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	<i>Hypoxis hirsuta</i>	Stargrass	Hypoxidaceae	H	FAC	S2
X	<i>Ilex</i> (= <i>Nemopanthus</i>) <i>mucronata</i>	Holly, Mountain	Aquifoliaceae	S	OBL	
	<i>Ilex glabra</i> (= <i>I. ambigua</i>)	Holly, Inkberry	Aquifoliaceae	H	FACW	SH
	<i>Ilex laevigata</i>	Holly, Smooth	Aquifoliaceae	H	OBL	
	<i>Ilex opaca</i>	Holly, American	Aquifoliaceae	H	FACU	
X	<i>Ilex verticillata</i>	Winterberry, Common	Aquifoliaceae	S	FACW	
X	<i>Impatiens capensis</i>	Touch-me-not, Spotted	Balsaminaceae	H	FACW	
	<i>Impatiens pallida</i>	Touch-me-not, Pale	Balsaminaceae	H	FACW	S3
	* <i>Inula helenium</i>	Elecampane	Asteraceae	H	FACU	
	<i>Ionactis</i> (= <i>Aster</i>) <i>linariifolia</i>	Aster, Stiff	Asteraceae	H	UPL	
	* <i>Ipomaea hederacea</i>	Morning Glory, Ivy-leaved	Convolvulaceae	HV,H	FAC	
	* <i>Ipomaea purpurea</i>	Morning Glory, Purple	Convolvulaceae	HV,H	FACU	
	<i>Iris prismatica</i>	Blue Flag, Slender	Iridaceae	H	OBL	S1
	* <i>Iris pseudacorus</i>	Iris, Yellow	Iridaceae	H	OBL	
X	<i>Iris versicolor</i>	Blue flag	Iridaceae	H	OBL	
	<i>Isoetes acadensis</i>	Quillwort, Acadian	Isoetaceae	F	OBL	S1
	<i>Isoetes echinospora</i> ssp. <i>muricata</i> (= <i>I. m.</i>)	Quillwort, Spiny-spored	Isoetaceae	F	OBL	
	<i>Isoetes engelmannii</i>	Quillwort, Engelmann's	Isoetaceae	H	OBL	S1
	<i>Isoetes lacustris</i> (= <i>I. macrospora</i>)	Quillwort, Lake	Isoetaceae	F	OBL	SH
	<i>Isoetes riparia</i> var. <i>canadensis</i>	Quillwort, Shore	Isoetaceae	F	OBL	S1
	<i>Isoetes tuckermanii</i>	Quillwort, Tuckerman's	Isoetaceae	H	OBL	
	* <i>Isotrema</i> (= <i>Aristolochia</i>) <i>macrophyllum</i>	Dutchman's Pipe, Large-leaved	Aristolochiaceae	V	UPL	
	<i>Isotria medeoloides</i>	Pogonia, Small Whorled	Orchidaceae	H	FACU	S2
	<i>Isotria verticillata</i>	Pogonia, Large Whorled	Orchidaceae	H	FACU	S1
	<i>Iva frutescens</i> ssp. <i>oraria</i>	Salt Marsh Elder	Asteraceae	H	FACW	S2
	<i>Juglans cinerea</i>	Butternut	Juglandaceae	T	FACU	S3
E	<i>Juglans nigra</i>	Walnut, Black	Juglandaceae	T	FACU	
(X)	<i>Juncus acuminatus</i>	Rush, Taper-tip	Juncaceae	H	OBL	
	<i>Juncus alpinoarticulatus</i> ssp. <i>americanus</i>	Rush, Alpine	Juncaceae	H	OBL	S1
	<i>Juncus antheratus</i> (= <i>J. tenuis</i> var. <i>a.</i>)	Rush, Greater Poverty	Juncaceae	H	UPL	SU
	<i>Juncus articulatus</i>	Rush, Jointed	Juncaceae	H	OBL	
	<i>Juncus balticus</i> ssp. <i>littoralis</i>	Rush, Baltic	Juncaceae	H	OBL	
	<i>Juncus brachycephalus</i>	Rush, Small-head	Juncaceae	H	OBL	SH
X	<i>Juncus brevicaudatus</i>	Rush, Narrow Panicle	Juncaceae	H	OBL	
X	<i>Juncus bufonius</i>	Rush, Toad	Juncaceae	H	FACW	
X	<i>Juncus canadensis</i>	Rush, Canada	Juncaceae	H	OBL	
	<i>Juncus dichotomus</i>	Rush, Flat-leaved	Juncaceae	H	FACW	SH
	<i>Juncus dudleyi</i>	Rush, Dudley's	Juncaceae	H	FACW	
	<i>Juncus effusus</i> ssp. <i>solutus</i>	Rush, Soft	Juncaceae	H	OBL	
	<i>Juncus filiformis</i>	Rush, Thread	Juncaceae	H	FACW	
	<i>Juncus gerardii</i>	Rush, Salt Meadow	Juncaceae	H	OBL	
(X)	<i>Juncus greenei</i>	Rush, Greene's	Juncaceae	H	FAC	
(X)	<i>Juncus marginatus</i>	Rush, Grass-leaf	Juncaceae	H	FACW	
	<i>Juncus militaris</i>	Rush, Military	Juncaceae	H	OBL	
	<i>Juncus nodosus</i>	Rush, Knotted	Juncaceae	H	OBL	
(X)	<i>Juncus pelocarpus</i>	Rush, Brown-fruited	Juncaceae	H	OBL	
X	<i>Juncus pylaei</i>	Rush, Pylae's Soft	Juncaceae	H	OBL	
	<i>Juncus secundus</i>	Rush, One-sided	Juncaceae	H	FACU	SH
	<i>Juncus stygius</i> ssp. <i>americanus</i>	Rush, Moor	Juncaceae	H	OBL	S1
X	<i>Juncus tenuis</i>	Rush, Slender	Juncaceae	H	FAC	
X	<i>Juniperus communis</i>	Juniper, Common	Cupressaceae	S	FACU	
	<i>Juniperus horizontalis</i>	Juniper, Creeping	Juniperaceae	S	FACU	S1
	<i>Juniperus virginiana</i>	Redcedar, Eastern	Cupressaceae	S,T	FACU	
	<i>Justicia americana</i>	Water-willow, Common	Acanthaceae	H	OBL	
X	<i>Kalmia angustifolia</i>	Laurel, Sheep	Ericaceae	S	FAC	
	<i>Kalmia latifolia</i>	Laurel, Mountain	Ericaceae	S	FACU	
	<i>Kalmia polifolia</i>	Laurel, Pale	Ericaceae	S	OBL	
	<i>Kalmia procumbens</i>	Alpine Azalea	Ericaceae	DS	UPL	S1
E	<i>Kerria japonica</i>	Japanese-Rose	Rosaceae	S	NL	
	* <i>Knautia arvensis</i>	Scabious, Field	Caprifoliaceae	H	UPL	
	* <i>Kochia scoparia</i>	Summer-Cypress	Amaranthaceae	H	UPL	
	<i>Krigia virginica</i>	Dandelion, Dwarf	Asteraceae	H	UPL	
X	<i>Lactuca biennis</i>	Lettuce, Biennial (Tall Blue)	Asteraceae	H	FAC	
(X)	<i>Lactuca canadensis</i>	Lettuce, Tall Yellow	Asteraceae	H	FACU	
	<i>Lactuca hirsuta</i>	Lettuce, Purplish	Asteraceae	H	UPL	SU
	* <i>Lactuca serriola</i> (= <i>L. scariola</i>)	Lettuce, Prickly	Asteraceae	H	FACU	
	* <i>Lamium amplexicaule</i>	Henbit	Lamiaceae	H	UPL	
	* <i>Lamium maculatum</i>	Henbit, Spotted	Lamiaceae	H	UPL	
	* <i>Lamium purpureum</i>	Henbit, Red	Lamiaceae	H	UPL	
	<i>Laportea canadensis</i>	Wood-nettle, Canada	Urticaceae	H	FACW	
	* <i>Lappula squarrosa</i> (= <i>L. echinata</i>)	Stickseed, European	Boraginaceae	H	UPL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* Larix decidua	Larch, European	Pinaceae	T	NL	
X	Larix laricina	Tamarack or Eastern Larch	Pinaceae	T	FACW	
	* Lathyrus japonicus	Pea, Beach	Fabaceae	HV,H	FACU	
	* Lathyrus latifolius	Pea, Everlasting or Sweet	Fabaceae	HV,H	UPL	
	Lathyrus palustris	Pea, Marsh or Vetchling	Fabaceae	HV,H	FACW	S3
	* Lathyrus pratensis	Vetchling, Yellow	Fabaceae	HV,H	FACU	
	* Lathyrus sylvestris	Pea, Everlasting	Fabaceae	HV,H	UPL	
X	Lechea intermedia	Pinweed	Cistaceae	H	UPL	
	Lechea maritima var. maritima	Pinweed	Cistaceae	H	UPL	
	Lechea mucronata (= L. minor var. villosa, L.v.)	Pinweed, Hairy	Cistaceae	H	UPL	
	Lechea tenuifolia	Pinweed, Slender	Cistaceae	H	UPL	S1
(X)	Leersia oryzoides	Cut-grass, Rice	Poaceae	H	OBL	
	Leersia virginica	Whitegrass	Poaceae	H	FACW	
X	Lemna minor	Duckweed, Lesser	Araceae	H	OBL	
	Lemna trisulca	Duckweed, Star	Araceae	H	OBL	S1
	Lemna valdiviana	Duckweed	Araceae	H	OBL	SH
	* Leonurus cardiaca	Motherwort	Lamiaceae	H	UPL	
	* Lepidium campestre	Pennycress, Field	Brassicaceae	H	UPL	
	* Lepidium densiflorum	Peppergrass, Dense-flowered	Brassicaceae	H	FACU	
	* Lepidium ruderalis	Peppergrass, Fetid	Brassicaceae	H	UPL	
	* Lepidium sativum	Peppergrass, Garden	Brassicaceae	H	UPL	
	Lepidium virginicum	Peppergrass, Poor-man's	Brassicaceae	H	FACU	
	E Leptochloa fusca ssp. fascicularis (= Diplachne maritima)	Feathergrass	Poaceae	H	UPL	SH
(X)	Lespedeza capitata	Bushclover, Round-head	Fabaceae	H	FACU	
	Lespedeza hirta	Bushclover, Hairy	Fabaceae	H	UPL	
	Lespedeza intermedia	Bushclover, Wandlike	Fabaceae	H	UPL	
	Lespedeza procumbens	Bushclover, Trailing	Fabaceae	H	UPL	S1
	Lespedeza violacea	Bushclover, Violet	Fabaceae	H	UPL	
	Lespedeza virginica	Bushclover, Slender	Fabaceae	H	UPL	S1
(X)	* Leucanthemum vulgare Lam. (= Chrysanthemum l.)	Daisy, Oxeye	Asteraceae	H	UPL	
	Leymus mollis ssp. mollis (= Elymus arenarius)	Grass, Sea Lyme	Poaceae	H	FACU	S1
	Liatris novae-angliae (= L. borealis)	Blazing-Star, Northern	Asteraceae	H	UPL	S1
	Ligusticum scoticum ssp. scoticum	Lovage, Scotch	Apiaceae	H	FAC	S3
	* Ligustrum obtusifolium	Privet, Obtuse-leaved	Oleaceae	S	UPL	
	* Ligustrum vulgare	Privet, European	Oleaceae	S	FACU	
	Lilaeopsis chinensis	Lilaeopsis	Apiaceae	H	OBL	S1
	Lilium canadense	Lily, Canada	Liliaceae	H	FAC	
	* Lilium lancifolium (= L. tigrinum)	Lily, Tiger	Liliaceae	H	UPL	
	Lilium philadelphicum	Lily, Wood	Liliaceae	H	FAC	
	Lilium superbum	Lily, Turk's Cap	Liliaceae	H	FACW	S1
	Limonium carolinianum (= L. nashii)	Lavender, Sea	Plumbaginaceae	H	OBL	S3
	Limosella australis (= L. subulata)	Mudwort	Scrophulariaceae	H	OBL	S1
	* Linaria dalmatica ssp. dalmatica	Toadflax, Dalmatian	Plantaginaceae	H	UPL	
	* Linaria genistifolia	Toadflax, Broom-leaved	Plantaginaceae	H	UPL	
	* Linaria maroccana	Toadflax, Moroccan	Plantaginaceae	H	UPL	
	* Linaria vulgaris	Butter-and-eggs	Plantaginaceae	H	UPL	
	Lindera benzoin	Spicebush, Northern	Lauraceae	S	FACW	
	Lindernia dubia var. anagallidea	False Pimpernell	Linderniaceae	H	OBL	SH
(X)	Linnaea borealis ssp. americana	Twinflower	Caprifoliaceae	H,DS	FAC	
E	Linum catharticum	Flax, Fairy	Linaceae	H	UPL	
	Linum medium ssp.. texanum	Flax, Common Yellow	Linaceae	H	UPL	SU
	Linum sulcatum var. sulcatum	Flax, Grooved Yellow	Linaceae	H	UPL	SH
	* Linum usitatissimum	Flax, Common	Linaceae	H	UPL	
	Liparis liliifolia	Twayblade, Large	Orchidaceae	H	FACU	SX
	Liparis loeselii	Twayblade, Yellow or Loesel's	Orchidaceae	H	FACW	S2
	Lipocarpa (= Hemicarpha) micrantha	Dwarf-bulrush	Cyperaceae	H	OBL	SH
E	Liquidambar styraciflua	Sweet Gum	Styracaceae	T	FAC	
E	Liriodendron tulipifera	Tulip Tree	Magnoliaceae	T	FACU	
	* Lithospermum officinale	Gromwell, European	Boraginaceae	H	UPL	
(X)	Lobelia cardinalis	Flower, Cardinal	Campanulaceae	H	OBL	
	Lobelia dortmanna	Lobelia, Water	Campanulaceae	H	OBL	S3
X	Lobelia inflata	Indian Tobacco	Campanulaceae	H	FACU	
	Lobelia kalmii	Lobelia, Brook or Kalm's	Campanulaceae	H	OBL	S2
	Lobelia siphilitica var. siphilitica	Lobelia, Great	Campanulaceae	H	FACW	SU
	Lobelia spicata var. hirtella	Lobelia, Spiked	Campanulaceae	H	FAC	SU
	Lobelia spicata var. spicata	Lobelia, Spiked	Campanulaceae	H	FAC	
	* Lolium perenne	Ryegrass, Perennial	Poaceae	H	FACU	
	* Lonicera X bella	Honeysuckle, Hybrid	Caprifoliaceae	S	FACU	
X	Lonicera canadensis	Honeysuckle, American Fly	Caprifoliaceae	S	FACU	
	Lonicera dioica	Honeysuckle, Glaucous	Caprifoliaceae	S,V	FACU	S3
	* Lonicera japonica	Honeysuckle, Japanese	Caprifoliaceae	S	FACU	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
X	* <i>Lonicera morrowi</i>	Honeysuckle, Morrow	Caprifoliaceae	S	FACU	
	<i>Lonicera oblongifolia</i>	Honeysuckle, Oblong-leaf	Caprifoliaceae	S	FACW	SU
	N,E <i>Lonicera sempervirens</i>	Honeysuckle, Trumpet	Caprifoliaceae	S,V	FACU	SU
	* <i>Lonicera tatarica</i>	Honeysuckle, Tartarian	Caprifoliaceae	S	FACU	
	<i>Lonicera villosa</i> (= <i>L. caerulea</i> var. <i>v.</i>)	Fly-honeysuckle, Mtn.	Caprifoliaceae	S	FACW	
	* <i>Lonicera xylosteum</i>	Honeysuckle, European Fly	Caprifoliaceae	S	UPL	
X	* <i>Lotus corniculatus</i>	Trefoil, Birdsfoot	Fabaceae	H	FACU	
X	<i>Ludwigia palustris</i>	Seedbox, Marsh	Onagraceae	H	OBL	
	<i>Ludwigia polycarpa</i>	Water-Primrose, Many-fruited	Onagraceae	H	OBL	SU
	<i>Lupinus perennis</i> ssp. <i>perennis</i>	Lupine, Wild	Fabaceae	H	UPL	S2
	* <i>Lupinus polyphyllus</i>	Lupine, Garden	Fabaceae	H	FACU	
	<i>Luzula acuminata</i>	Woodrush, Taper-tip	Juncaceae	H	FACU	
	<i>Luzula confusa</i>	Woodrush, Northern	Juncaceae	H	FAC	SH
(X)	<i>Luzula multiflora</i>	Woodrush, Many-flowered	Juncaceae	H	FACU	
	<i>Luzula multiflora</i> ssp. <i>frigida</i>	Woodrush, Tawny Black	Juncaceae	H	FACU	SU
	* <i>Luzula pallidula</i> (= <i>campestris</i>) Kirsch.	Woodrush, Eurasian	Juncaceae	H	FAC	
	<i>Luzula parviflora</i> ssp. <i>melanocarpa</i>	Woodrush, Small-flowered	Juncaceae	H	FAC	S3
	<i>Luzula spicata</i>	Woodrush, Spiked	Juncaceae	H	UPL	S1
	* <i>Lychnis coronaria</i>	Catchfly, Rose	Caryophyllaceae	H	UPL	
	* <i>Lychnis flos-cuculi</i>	Ragged-Robin	Caryophyllaceae	H	FACU	
	* <i>Lycium barbatum</i> (= <i>L. halimifolium</i>)	Matrimony-Vine	Solanaceae	WV	UPL	
	* <i>Lycium chinense</i>	Matrimony-Vine, Chinese	Solanaceae	WV	UPL	
	<i>Lycopodiella alopecuroides</i>	Bog-Clubmoss, Foxtail	Lycopodiaceae	H	FACW	S1
	<i>Lycopodiella appressa</i>	Clubmoss, Slender Bog	Lycopodiaceae	F	FACW	S1
	<i>Lycopodiella inundata</i> (= <i>Lycopodium</i> i.)	Clubmoss, Northern Bog	Lycopodiaceae	F	OBL	
X	<i>Lycopodium clavatum</i>	Clubmoss, Common or Running Pine	Lycopodiaceae	F	FAC	
	<i>Lycopodium lagopus</i>	Club-moss, One-cone	Lycopodiaceae	F	FACU	
(X)	<i>Lycopus americanus</i>	Horehound, Water	Lamiaceae	H	OBL	
X	<i>Lycopus uniflorus</i>	Bugleweed, Northern	Lamiaceae	H	OBL	
	<i>Lycopus virginicus</i>	Bugleweed, Virginia	Lamiaceae	H	OBL	
	<i>Lygodium palmatum</i>	Fern, American Climbing	Schizaeaceae	F	FACW	S1
X	<i>Lyonia ligustrina</i>	Maleberry	Ericaceae	S	FACW	
	* <i>Lysimachia</i> (= <i>Anagallis</i>) <i>arvensis</i>	Pimpernel, Common or Scarlet	Myrsinaceae	H	UPL	
X	<i>Lysimachia</i> (= <i>Trientalis</i>) <i>borealis</i>	Starflower	Myrsinaceae	H	FAC	
	<i>Lysimachia</i> (= <i>Glaux</i>) <i>maritima</i>	Milkwort, Seaside	Myrsinaceae	H	OBL	S3
	<i>Lysimachia ciliata</i>	Loosestrife, Fringed	Myrsinaceae	H	FACW	
	<i>Lysimachia hybrida</i> (= <i>L. lanceolata</i> ssp. <i>h.</i>)	Loosestrife, Lance-leaved	Myrsinaceae	H	OBL	
	* <i>Lysimachia nummularia</i>	Jennie, Creeping	Myrsinaceae	H	FACW	
	* <i>Lysimachia punctata</i>	Loosestrife, Whorled Garden	Myrsinaceae	H	OBL	
	<i>Lysimachia quadrifolia</i>	Loosestrife, Whorled	Myrsinaceae	H	FACU	
X	<i>Lysimachia terrestris</i>	Loosestrife, Swamp (Candles)	Myrsinaceae	H	OBL	
	<i>Lysimachia thyrsiflora</i>	Loosestrife, Tufted	Myrsinaceae	H	OBL	S2
	* <i>Lysimachia vulgaris</i>	Loosestrife, Garden	Myrsinaceae	H	FACW	
	<i>Lysimachia</i> X <i>producta</i>	Loosestrife	Myrsinaceae	H	FAC	
	E <i>Lythrum alatum</i> ssp. <i>alatum</i>	Loosestrife, Winged	Lythraceae	H	OBL	SU
	* <i>Lythrum hyssopifolia</i>	Loosestrife, Hyssop-leaved	Lythraceae	H	OBL	S3
	* <i>Lythrum salicaria</i>	Loosestrife, Purple	Lythraceae	H	OBL	
X	<i>Maianthemum canadense</i>	Mayflower, Canada	Ruscaceae	H	FACU	
X	<i>Maianthemum racemosum</i> ssp. <i>racemosum</i> (= <i>Smilacina</i> r.)	False-Solomon's-Seal, Feather	Ruscaceae	H	FACU	
	<i>Maianthemum stellatum</i> (= <i>Smilacina</i> s.)	False-Solomon's-Seal, Starry	Ruscaceae	H	FAC	
	<i>Maianthemum trifolium</i> (= <i>Smilacina</i> t.)	False-Solomon's-Seal, 3-leaf	Ruscaceae	H	OBL	
	<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	Adder's-mouth, White	Orchidaceae	H	FACW	SH
	<i>Malaxis unifolia</i>	Adder's-mouth, Green	Orchidaceae	H	FAC	S3
	* <i>Malus baccata</i> (= <i>Pyrus</i> b.)	Crab-apple, Flowering	Rosaceae	S,T	UPL	
	* <i>Malus prunifolia</i>	Crab-apple, Pear-leaved	Rosaceae	S,T	UPL	
(X)	* <i>Malus pumila</i> (= <i>Pyrus sylvestris</i>)	Apple	Rosaceae	T	UPL	
	E <i>Malva alcea</i>	Mallow, Vervain	Malvaceae	H	UPL	
	* <i>Malva moschata</i>	Mallow, Musk	Malvaceae	H	UPL	
	E <i>Malva neglecta</i>	Mallow, Common	Malvaceae	H	UPL	
	E <i>Malva sylvestris</i>	Mallow, High	Malvaceae	H	UPL	
	E <i>Malva verticillata</i>	Mallow, Whorled	Malvaceae	H	UPL	
	E <i>Macleaya cordata</i>	Plume-poppy	Papaveraceae	H	UPL	
	* <i>Matricaria discoidea</i> (= <i>matricarioides</i>) DC.	Pineapple Weed	Asteraceae	H	FACU	
	<i>Matteuccia struthiopteris</i> ssp. <i>pennsylvanica</i>	Fern, Ostrich	Onocleaceae	F	FAC	
X	<i>Medeola virginiana</i>	Indian Cucumber Root	Liliaceae	H	UPL	
	* <i>Medicago lupulina</i>	Medick, Black	Fabaceae	H	FACU	
	* <i>Medicago sativa</i>	Alfalfa	Fabaceae	H	UPL	
(X)	<i>Melampyrum lineare</i>	Cowwheat, American	Orobanchaceae	H	FACU	
	* <i>Melilotis albus</i>	Sweetclover, White	Fabaceae	H	UPL	
	* <i>Melilotis officinalis</i>	Sweetclover, Yellow	Fabaceae	H	FACU	
	<i>Menispermum canadense</i>	Parilla, Yellow	Menispermaceae	V	FAC	SH

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	E <i>Mentha arvensis</i> ssp. <i>parietariaefolia</i>	Mint, Ginger	Lamiaceae	H	FACW	
	<i>Mentha canadensis</i>	Mint, American Wild	Lamiaceae	H	FACW	
	* <i>Mentha spicata</i>	Spearmint	Lamiaceae	H	FACW	
	<i>Mentha X piperita</i> (incl. <i>M. citrata</i>)	Peppermint	Lamiaceae	H	OBL	
	<i>Menyanthes trifoliata</i>	Buckbean	Menyanthaceae	H	OBL	
	<i>Micranthes</i> (= <i>Saxifraga</i>) <i>pensylvanica</i>	Saxifrage, Swamp	Saxifragaceae	H	OBL	
	<i>Micranthes</i> (= <i>Saxifraga</i>) <i>virginensis</i>	Saxifrage, Virginia or Early	Saxifragaceae	H	FACU	
	<i>Mikania scandens</i>	Hempvine, Climbing	Asteraceae	V	OBL	S1
	<i>Milium effusum</i> ssp. <i>cisatlanticum</i>	Grass, Spreading Millet	Poaceae	H	UPL	S3
(X)	<i>Mimulus ringens</i>	Monkey-Flower, Allegany	Phrymaceae	H	OBL	
	E <i>Mirabilis nyctaginea</i>	Four-o'clock, Wild	Nyctaginaceae	H	UPL	
X	<i>Mitchella repens</i>	Partridgeberry	Rubiaceae	H,DS	FACU	
	<i>Mitella diphylla</i>	Miterwort	Saxifragaceae	H	FACU	
	<i>Mitella nuda</i>	Miterwort, Naked	Saxifragaceae	H	FACW	
	<i>Moehringia</i> (= <i>Arenaria</i>) <i>lateriflora</i>	Sandwort, Grove	Caryophyllaceae	H	FACU	
	* <i>Mollugo verticillata</i>	Carpetweed	Molluginaceae	H	FAC	
	* <i>Monarda didyma</i>	Bishop's-cap, Two-leaf	Lamiaceae	H	FACU	
	<i>Monarda fistulosa</i> ssp. <i>fistulosa</i> var. <i>fistulosa</i>	Bee-balm, Wild	Lamiaceae	H	FACU	
	<i>Monarda fistulosa</i> ssp. <i>fistulosa</i> var. <i>mollis</i>	Bee-balm, Soft Wild	Lamiaceae	H	FACU	
	* <i>Monarda fistulosa</i> ssp. <i>fistulosa</i> var. <i>rubra</i>	Bee-balm, Red Wild	Lamiaceae	H	FACU	
	E <i>Monarda media</i>	Bee-balm, Purple	Lamiaceae	H	UPL	
	<i>Moneses uniflora</i>	Pyrola, Single-flowered	Ericaceae	H	FAC	
	<i>Mononeuria glabra</i>	Sandwort, Smooth	Caryophyllaceae	H	UPL	S1
	<i>Mononeuria groenlandica</i>	Sandwort, Mountain	Caryophyllaceae	H	UPL	S3
X	<i>Monotropa uniflora</i>	Indian Pipe	Ericaceae	H	FACU	
	E <i>Montia linearis</i> (Dougl. ex. Hook.) Greene	Montia, Narrow Leaved	Portulacaceae	H	FAC	
	<i>Morella carolinensis</i> (= <i>Myrica pensylvanica</i>)	Bayberry, Northern	Myricaceae	S	FAC	
	* <i>Morus alba</i>	Mulberry, White	Moraceae	S,T	FACU	
	<i>Morus rubra</i>	Mulberry, Red	Moraceae	S,T	FACU	
	<i>Muhlenbergia frondosa</i>	Muhly, Wirestem	Poaceae	H	FACW	
	<i>Muhlenbergia glomerata</i>	Muhly, Marsh	Poaceae	H	OBL	
	<i>Muhlenbergia mexicana</i>	Muhly, Mexican	Poaceae	H	FACW	
	<i>Muhlenbergia racemosa</i>	Muhly, Bog	Poaceae	H	FACU	
	<i>Muhlenbergia sobolifera</i>	Muhlenbergia, Sprout	Poaceae	H	UPL	SH
X	<i>Muhlenbergia sylvatica</i>	Muhly, Forest	Poaceae	H	FACW	
	<i>Muhlenbergia tenuiflora</i>	Grass, Slender Satin	Poaceae	H	UPL	SH
	<i>Muhlenbergia uniflora</i>	Muhly, Bog	Poaceae	H	OBL	
	E <i>Muscari botryoides</i>	Grape-Hyacinth, Common	Hyacinthaceae	H	UPL	
(X)	* <i>Mycelis</i> (= <i>Lactuca</i>) <i>muralis</i>	Wall-lettuce	Asteraceae	H	NL	
	* <i>Myosotis arvensis</i> (= <i>scorpioides</i>)	Forget-me-not	Boraginaceae	H	OBL	
	<i>Myosotis verna</i>	Touch-me-not, Spring	Boraginaceae	H	FACU	SU
	* <i>Myosoton aquaticum</i>	Chickweed, Giant	Caryophyllaceae	H	FAC	
X	<i>Myrica gale</i>	Sweet Gale	Myricaceae	S	OBL	
	<i>Myriophyllum alterniflorum</i>	Water Milfoil, Alternate-flowered	Haloragaceae	H	OBL	SU
	<i>Myriophyllum farwellii</i>	Water Milfoil, Farwell's	Haloragaceae	H	OBL	SU
	<i>Myriophyllum heterophyllum</i>	Water Milfoil, Variable	Haloragaceae	H	OBL	
	<i>Myriophyllum humile</i>	Water Milfoil, Low	Haloragaceae	H	OBL	S3
	<i>Myriophyllum sibiricum</i> (= <i>exallescens</i>)	Water Milfoil, Northern	Haloragaceae	H	OBL	SU
	<i>Myriophyllum verticillatum</i>	Water Milfoil, Whorled	Haloragaceae	H	OBL	SU
	<i>Nabalus</i> (= <i>Prenanthes</i>) <i>albus</i>	Rattlesnake-root, White	Asteraceae	H	FACU	SU
(X)	<i>Nabalus</i> (= <i>Prenanthes</i>) <i>altissimus</i>	Rattlesnake-root, Tall	Asteraceae	H	FACU	
	<i>Nabalus</i> (= <i>Prenanthes</i>) <i>bootii</i>	Rattlesnake-Plaintain, Boott's	Asteraceae	H	UPL	S1
(X)	<i>Nabalus</i> (= <i>Prenanthes</i>) <i>trifoliolatus</i>	Gall-of-the-Earth	Asteraceae	H	UPL	
	<i>Nabalus</i> (= <i>Prenanthes</i>) <i>serpentarius</i>	Gall-of-the-Earth	Asteraceae	H	UPL	SH
(X)	<i>Najas flexilis</i>	Najas, Slender	Hydrocharitaceae	H	OBL	
	<i>Najas gracillima</i>	Naiad, Thread-like	Hydrocharitaceae	H	OBL	SU
	<i>Najas guadalupensis</i> ssp. <i>guadalupensis</i>	Naiad, Guadalupe	Hydrocharitaceae	H	OBL	SU
	* <i>Nasturtium</i> (= <i>Rorippa</i>) <i>microphyllum</i>	Water-cress, One Rowed	Brassicaceae	H	OBL	
	* <i>Nasturtium officinale</i>	Water-cress, Common	Brassicaceae	H	OBL	
	<i>Neottia</i> (= <i>Listera</i>) <i>auriculata</i>	Twayblade, Auricled	Orchidaceae	H	FACW	S1
	<i>Neottia</i> (= <i>Listera</i>) <i>convallarioides</i>	Twayblade, Broad-lipped	Orchidaceae	H	FACW	S2
	<i>Neottia</i> (= <i>Listera</i>) <i>cordata</i>	Twayblade, Heart-leaved	Orchidaceae	H	FACW	S2
	* <i>Nepeta cataria</i>	Catnip	Lamiaceae	H	FACU	
	E <i>Nicandra physalodes</i>	Apple-of-Peru	Solanaceae	H	NL	
	* <i>Nicotiana longiflora</i>	Tobacco, Long-Flowered	Solanaceae	H	FACU	
	<i>Nuphar microphylla</i>	Cow-lily, Tiny	Nymphaeaceae	H	OBL	SH
X	<i>Nuphar variegata</i>	Cow-lily, Yellow or Spadderdock	Nymphaeaceae	H	OBL	
X	<i>Nuttallanthus</i> (= <i>Linaria</i>) <i>canadensis</i>	Toadflax, Blue	Plantaginaceae	H	UPL	
X	<i>Nymphaea odorata</i>	Waterlily, White	Nymphaeaceae	H	OBL	
	<i>Nymphaea tuberosa</i>	Water Lily, Tuberous	Nymphaeaceae	H	OBL	SU
(X)	<i>Nymphoides cordata</i>	Floating-heart, Little	Menyanthaceae	H	OBL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Nyssa sylvatica	Gum, Black	Cornaceae	T	FAC	
X	Oclemena (= Aster) acuminatus	Aster, Whorled	Asteraceae	H	FACU	
	Oclemena (= Aster) nemoralis	Aster, Bog	Asteraceae	H	OBL	
	Oclemena X blakei	Aster, Blake's	Asteraceae	H	FACW	
X	Oenothera biennis	Evening Primrose, Common	Onagraceae	H	FACU	
	Oenothera fruticosa ssp. tetragona	Evening Primrose, Narrow-leaf	Onagraceae	H	FACU	SU
	Oenothera nutans	Evening Primrose, Nodding	Onagraceae	H	UPL	SU
(X)	Oenothera perennis	Evening Primrose, Small	Onagraceae	H	FAC	
	Oligoneuron album (= Aster ptarmicoides)	Aster, Snowy	Asteraceae	H	UPL	S1
	Omalotheca supina (= Gnaphalium s.)	Cudweed, Mountain	Asteraceae	H	UPL	S1
	Omalotheca sylvatica (= Gnaphalium s.)	Cudweed, Woodland	Asteraceae	H	UPL	SU
*	Ondites verna	Bartsia, Red	Scrophulariaceae	H	NL	
X	Onoclea sensibilis	Fern, Sensitive	Onocleaceae	F	FACW	
	Ophioglossum pusillum (= O. vulgatum)	Adder's-Tongue	Ophioglossaceae	F	FACW	S1
	Oreojuncus trifidus	Rush, Three-forked	Juncaceae	H	FACU	S3
	Orobanchae uniflora	Cancer-root, One-flowered	Orobanchaceae	H	UPL	
	Orthilia secunda (= Pyrola s.)	Wintergreen, One-sided	Ericaceae	H	FAC	
X	Oryzopsis asperifolia	Mountain Rice, White-fruited	Poaceae	H	UPL	
	Osmorhiza berteroi (= O. chilensis)	Sweet Cicely, Mountain	Apiaceae	H	FACU	S1
	Osmorhiza claytonii	Cicely, Sweet	Apiaceae	H	FACU	
	Osmorhiza longistylis	Sweet Cicely, Long-styled	Apiaceae	H	FACU	S3
X	Osmunda cinnamomea	Cinnamon Fern	Osmundaceae	F	FACW	
X	Osmunda claytoniana	Interrupted Fern	Osmundaceae	F	FAC	
X	Osmunda regalis var. spectabilis	Royal Fern	Osmundaceae	F	OBL	
X	Ostrya virginiana	Hop-Hornbeam	Betulaceae	T	FACU	
X	Oxalis montana	Woodsorrel, White	Oxalidaceae	H	FACU	
X	Oxalis stricta (incl. O. europaea)	Woodsorrel, Yellow	Oxalidaceae	H	FACU	
	Oxyria digyna	Mountain Sorrel	Polygonaceae	H	FACW	S1
*	Pachysandra terminalis	Mountain-Spurge, Japanese	Buxaceae	H	UPL	
	Packera aurea (= Senecio aureus)	Ragwort, Golden	Asteraceae	H	FACW	
	Packera obovata (= Senecio obovata)	Ragwort, Round-leaved or Groundsel	Asteraceae	H	FACU	S1
	Packera paupercula (= Senecio pauperculus)	Groundsel, Balsam or Ragwort	Asteraceae	H	FAC	S2
X	Packera schweinitziana (= Senecio robbinsii)	Ragwort, Robbins	Asteraceae	H	FACW	
	Panax quinquefolius	Ginseng, American	Apiaceae	H	UPL	S2
(X)	Panax trifolius	Ginseng, Dwarf	Apiaceae	H	UPL	
	Panicum capillare	Witchgrass	Poaceae	H	FAC	
(X)	Panicum dichotomiflorum var. dichotomiflorum	Grass, Fall Panic	Poaceae	H	FACW	
	Panicum dichotomiflorum var. puritanorum	Grass, Fall Panic	Poaceae	H	FACW	SU
*	Panicum miliaceum	Millet	Poaceae	H	UPL	
	Panicum philadelphicum ssp. philadelphicum	Grass, Philadelphia Panic	Poaceae	H	FAC	SH
	Panicum rigidulum var. pubescens	Grass, Panic	Poaceae	H	OBL	SH
	Panicum sp.	Grass, Panic	Poaceae	H	-	
	Panicum tuckermanni	Grass, Tuckerman Panic	Poaceae	H	FAC	SU
	Panicum virgatum	Switchgrass	Poaceae	H	FAC	
E	Papaver rhoeas	Poppy, Corn	Papaveraceae	H	UPL	
E	Papaver somniferum	Poppy, Opium	Papaveraceae	H	UPL	
X	Parathelypteris (= Thelypteris) noveboracensis	Fern, New York	Thelypteridaceae	F	FAC	
	Parathelypteris simulata	Fern, Massachusetts	Thelypteridaceae	F	FACW	
	Parietaria pensylvanica	Pellitory, Pennsylvania	Urticaceae	H	FACU	SU
	Parnassia glauca	Grass-of-Parnassus	Parnassiaceae	H	OBL	S2
	Paronychia agropyroma	Silverling	Caryophyllaceae	H	UPL	S2
	Paronychia canadensis	Chickweed, Smooth Forked	Caryophyllaceae	H	UPL	S1
	Parthenocissus inserta (= vitacea)	Creeper, Thicket	Vitaceae	WV	FACU	
X	Parthenocissus quinquefolia	Virginia Creeper	Vitaceae	WV	FACU	
	Paspalum setaceum var. muhlenbergii	Beardgrass, Slender	Poaceae	H	UPL	S3
*	Pastinaca sativa	Parsnip, Wild	Apiaceae	H	UPL	
	Pedicularis canadensis ssp. canadensis	Lousewort, Canada	Orobanchaceae	H	FACU	S3
	Pellaea atropurpurea	Cliffbrake, Purple	Pteridaceae	F	UPL	S1
	Peltandra virginica	Arum, Arrow	Araceae	H	OBL	
E	Penstemon calycosus	Beardtongue, Long-sepaled	Plantaginaceae	H	FACU	
	Penstemon digitalis	Beardtongue, Foxglove	Plantaginaceae	H	UPL	SU
	Penstemon hirsutus	Beardtongue, Northeastern	Plantaginaceae	H	UPL	SU
	Penstemon pallidus	Beardtongue, Eastern White	Plantaginaceae	H	UPL	SU
E	Penstemon tubiflorus	Beardtongue, Tube	Plantaginaceae	H	UPL	
	Penthorum sedoides	Ditch-Stonewort	Penthoraceae	H	OBL	
	Persicaria (= Polygonum) amphibium ssp. laevimarginata	Smartweed, Water	Polygonaceae	H	OBL	
(X)	Persicaria (= Polygonum) arifolia	Tearthumb, Halberd-Leaved	Polygonaceae	H	OBL	
	Persicaria (= Polygonum) careyi	Smartweed, Carey's	Polygonaceae	H	FACW	
	Persicaria (= Polygonum) coccinea	Smartweed, Swamp	Polygonaceae	H	OBL	
	Persicaria (= Polygonum) hydropiper	Smartweed, Marshpepper	Polygonaceae	H	OBL	
(X)	Persicaria (= Polygonum) hydropiperoides	Smartweed, Swamp	Polygonaceae	H	OBL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Persicaria (= Polygonum) lapathifolia	Smartweed, Dock-leaved	Polygonaceae	H	FACW	
*	Persicaria (= Polygonum) longiseta	Smartweed, Oriental	Polygonaceae	H	NL	
X	* Persicaria (= Polygonum) maculosa (=persicaria)	Lady's Thumb	Polygonaceae	H	FAC	
*	Persicaria (= Polygonum) orientalis	Smartweed, Prince's-Feather	Polygonaceae	H	UPL	
	Persicaria (= Polygonum) pensylvanica	Smartweed, Pennsylvanica	Polygonaceae	H	FACW	
*	Persicaria (= Polygonum) perfoliata	Smartweed, Perfoliate	Polygonaceae	H	UPL	
	Persicaria (= Polygonum) punctata	Smartweed, Dotted	Polygonaceae	H	OBL	
	Persicaria (= Polygonum) robustior	Smartweed, Stout Dotted	Polygonaceae	H	OBL	S1
X	Persicaria (= Polygonum) sagittata	Tearthumb, Arrow-leaved	Polygonaceae	H	OBL	
	Persicaria (= Tovar) virginiana	Jumpseed	Polygonaceae	H	FAC	SU
	Petasites frigidus var. palmatus	Sweet Coltsfoot	Asteraceae	H	FACW	S1
*	Petrorhagia (= Dianthus) saxifraga var. saxifraga	Childing-Pink, Saxifrage	Caryophyllaceae	H	NL	
E	Petunia integrifolia	Petunia, Violet-flowered	Solanaceae	H	NL	
X	Phalaris arundinacea	Grass, Reed Canary	Poaceae	H	FACW	
X	Phegopteris connectilis (= Thelypteris p.)	Fern, Long Beech	Thelypteridaceae	F	FACU	
	Phegopteris excelsior	Fern, Tall Beech	Thelypteridaceae	F	FACU	
	Phegopteris hexagonoptera (= Thelypteris h.)	Fern, Broad Beech	Thelypteridaceae	H	FACU	S3
E	Philadelphus coronarius	Mock-Orange, Sweet	Hydrangeaceae	S	NL	
	Phleum alpinum	Timoth, Alpine	Poaceae	H	FACW	S1
*	Phleum pratense	Timothy	Poaceae	H	FACU	
E	Phlox paniculata	Phlox, Fall	Polemoniaceae	H	FACU	
E	Phlox subulata ssp. subulata	Phlox, Moss or Carpet Pink	Polemoniaceae	H	UPL	
	Phragmites americanus	Reed, American	Poaceae	H	OBL	SU
*	Phragmites australis	Reed, Common	Poaceae	H	FACW	
	Phryma leptostachya	Loopseed	Phrymaceae	H	FACU	SU
	Phyllocladus caerulea	Mountain Heath	Ericaceae	H	UPL	S2
	Physalis heterophylla var. heterophylla	Ground-Cherry, Clammy	Solanaceae	H	UPL	
	Physalis longifolia var. subglabrata	Ground-Cherry, Smooth	Solanaceae	H	UPL	
*	Physalis virginiana var. virginiana	Ground-Cherry, Virginia	Solanaceae	H	UPL	
	Physocarpus opulifolius	Ninebark, Eastern	Rosaceae	S	FACW	SU
	Physostegia virginiana ssp. virginiana	Dragonhead, False	Lamiaceae	H	FACW	SU
	Phytolacca americana	Pokeweed, Common	Phytolaccaceae	H	FACU	
*	Picea abies	Spruce, Norway	Pinaceae	T	NL	
	Picea glauca	Spruce, White	Pinaceae	T	FACU	
X	Picea mariana	Spruce, Black	Pinaceae	T	FACW	
X	Picea rubens	Spruce, Red	Pinaceae	T	FACU	
	Pilea fontana	Clearweed, Lesser	Urticaceae	H	FACW	
	Pilea pumila	Clearweed, Canada	Urticaceae	H	FACW	
	Pinguicula vulgaris	Butterwort, Common	Lentibulariaceae	H	OBL	S1
	Pinus banksiana	Pine, Jack	Pinaceae	T	FACU	S2
X	Pinus resinosa	Pine, Red or Norway	Pinaceae	T	FACU	
	Pinus rigida	Pine, Pitch	Pinaceae	T	FACU	
X	Pinus strobus	Pine, Eastern White	Pinaceae	T	FACU	
*	Pinus sylvestris	Pine, Scotch	Pinaceae	T	UPL	
	Piptatherum (= Oryzopsis) racemosum	Mountain Rice, Black-fruited	Poaceae	H	UPL	
	Piptatherum canadense	Mountain-Rice, Canada	Poaceae	H	UPL	S1
	Piptatherum pungens	Ricegrass, Common Mountain	Poaceae	H	UPL	
*	Plantago arenaria	Plantain, Sand	Plantaginaceae	H	UPL	
*	Plantago aristata	Plantain, Bracted	Plantaginaceae	H	UPL	
	Plantago intermedia	Plantain, Many-Seeded	Plantaginaceae	H	UPL	SU
*	Plantago lanceolata	Plantain, English	Plantaginaceae	H	FACU	
*	Plantago major	Plantain, Common	Plantaginaceae	H	FACU	
	Plantago maritima ssp. juncooides	Plantain, Seaside	Plantaginaceae	H	FACW	
*	Plantago media	Plantain, Hoary	Plantaginaceae	H	FACU	
	Plantago rugelii	Plantain, Red-stemmed	Plantaginaceae	H	FAC	
(X)	Platanthera aquilonis (= p. hyperborea)	Orchid, Northern Green	Orchidaceae	H	FACW	
	Platanthera blephariglottis	Orchid, White Fringe	Orchidaceae	H	OBL	S3
X	Platanthera clavellata	Orchid, Green Wood	Orchidaceae	H	FACW	
	Platanthera dilatata	Orchid, White Northern Bog	Orchidaceae	H	FACW	
	Platanthera flava var. herbiola	Orchid, Pale Green	Orchidaceae	H	FACW	S1
	Platanthera grandiflora	Orchid, Large Purple Fringed	Orchidaceae	H	FACW	
	Platanthera hookeri	Orchid, Hooker's	Orchidaceae	H	FAC	
	Platanthera huronensis (= P. hyperborea var. h.)	Orchid, Huron Green Bog	Orchidaceae	H	FACW	
	Platanthera lacera	Orchid, Ragged Fringed	Orchidaceae	H	FACW	
	Platanthera macrophylla	Orchid, Large-leaved	Orchidaceae	H	FAC	
	Platanthera obtusata ssp. obtusata	Orchid, Blunt-leaved	Orchidaceae	H	FACW	S3
	Platanthera orbiculata	Orchid, Round-leaved	Orchidaceae	H	FAC	
(X)	Platanthera psycodes	Orchid, Small Purple-Fringe	Orchidaceae	H	FACW	
	Platanus occidentalis	Sycamore	Platanaceae	T	FACW	S3
	Pluchea odorata ssp. succulenta	Fleabane, Saltmarsh	Asteraceae	H	OBL	S1
	Poa alsodes	Bluegrass, Grove	Poaceae	H	FAC	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* Poa annua L.	Bluegrass, Annual	Poaceae	H	FACU	
X	* Poa compressa L.	Bluegrass, Canada	Poaceae	H	FACU	
	Poa glauca	Bluegrass, White	Poaceae	H	UPL	SH
	Poa laxa ssp. fernaldiana	Bluegrass, Wavy	Poaceae	H	UPL	S1
	Poa nemoralis	Bluegrass, Wood	Poaceae	H	FACU	
X	Poa palustris	Bluegrass, Swamp	Poaceae	H	FACW	
	Poa pratensis ssp. alpigena	Bluegrass, Alpine	Poaceae	H	FACU	S1
(X)	* Poa pratensis ssp. pratensis	Bluegrass, Kentucky	Poaceae	H	FACU	
	* Poa pratensis, ssp. angustifolia	Bluegrass, Narrow-leaved Kentucky	Poaceae	H	FACU	
	Poa saltuensis		Poaceae	H	UPL	
	Poa trivialis	Bluegrass, Rough	Poaceae	H	FACW	
	Podophyllum peltatum	May-apple	Berberidaceae	H	FACU	SU
	Podostemum ceratophyllum	Riverweed	Podostemaceae	H	OBL	S3
	Pogonia ophioglossoides	Pogonia, Rose	Orchidaceae	H	OBL	
E	Polanisia dodecandra	Clammyweed	Cleomaceae	H	UPL	
E	Polemonium caeruleum	Jacob's-Ladder, Blue	Polemoniaceae	H	FACW	
E	Polemonium reptans var. reptans	Jacob's-Ladder, Spreading	Polemoniaceae	H	FAC	
	Polygala ambigua (= verticillata var. a.)	Milkwort, Alternate	Polygalaceae	H	FACU	SU
	Polygala cruciata ssp. aquilonia	Polygala, Cross	Polygalaceae	H	FACW	SH
(X)	Polygala paucifolia	Gay-Wings	Polygalaceae	H	FACU	
	Polygala polygama	Milkwort, Racemed	Polygalaceae	H	FACU	
	Polygala sanguinea	Milkwort, Red or Blood	Polygalaceae	H	FACU	
	Polygala verticillata	Milkwort, Whorled	Polygalaceae	H	UPL	SU
	Polygonatum biflorum	Solomon's Seal, Smooth	Ruscaceae	H	FACU	SU
X	Polygonatum pubescens	Solomon's Seal, Hairy	Ruscaceae	H	UPL	
	Polygonum achoreum	Knotweed, Blue	Polygonaceae	H	FACU	SU
	Polygonum articulata	Jointweed, Sand	Polygonaceae	H	UPL	
	* Polygonum aviculare ssp. aviculare	Knotweed, Prostrate	Polygonaceae	H	FACU	
	* Polygonum aviculare ssp. depressum	Knotweed, Prostrate	Polygonaceae	H	FACU	
	* Polygonum aviculare ssp. neglectum	Knotweed, Prostrate	Polygonaceae	H	FACU	
	Polygonum buxiforme	Knotweed, Prairie	Polygonaceae	H	UPL	SU
	Polygonum douglasii	Knotweed, Douglas'	Polygonaceae	H	FACU	S2
	Polygonum erectum	Knotweed, Erect	Polygonaceae	H	FACU	SH
	Polygonum ramosissimum ssp. prolificum	Knotweed, Coastal Yellow	Polygonaceae	H	FAC	S1
	Polygonum ramosissimum var. ramosissimum	Knotweed, Exerted	Polygonaceae	H	FAC	S3
	Polygonum tenue	Knotweed, Slender	Polygonaceae	H	UPL	S1
	Polypodium appalachianum	Polypody, Appalachian	Polypodiaceae	F	UPL	
(X)	Polypodium virginianum	Polypody, Common	Polypodiaceae	F	UPL	
(X)	Polystichum acrostichoides	Fern, Christmas	Dryopteridaceae	F	FACU-	
	Polystichum braunii	Fern, Braun's Holy	Dryopteridaceae	F	FACU?	
	Pontederia cordata	Pickereel-weed	Pontederiaceae	H	OBL	
*	Populus alba	Poplar, White	Salicaceae	T	UPL	
(X)	Populus balsamifera ssp. balsamifera	Poplar, Balsam	Salicaceae	T	FACW	
	Populus deltoides	Cottonwood, Eastern	Salicaceae	T	FAC	
X	Populus grandidentata	Aspen, Bigtooth	Salicaceae	T	FACU-	
*	Populus nigra	Poplar, Lombardy or Black	Salicaceae	T	NL	
X	Populus tremuloides	Aspen, Quaking	Salicaceae	T	FACU	
E	Portulaca oleracea	Purslane, Garden	Portulacaceae	H	FACU	
	Potamogeton alpinus	Pondweed, Northern	Potamogetonaceae	H	OBL	S1
	Potamogeton amplifolius	Pondweed, Large-leaved	Potamogetonaceae	H	OBL	
	Potamogeton berchtoldii	Pondweed, Berchtold's	Potamogetonaceae	H	OBL	
(X)	Potamogeton bicupulatus	Pondweed	Potamogetonaceae	H	OBL	
	Potamogeton confervoides	Pondweed, Alga-like	Potamogetonaceae	H	OBL	S3
*	Potamogeton crispus	Pondweed, Curly-muck	Potamogetonaceae	H	OBL	
	Potamogeton diversifolius (= P. capillaceus)	Pondweed, Thread-leaf	Potamogetonaceae	H	OBL	
X	Potamogeton ephedrus	Pondweed, Ribbonleaf	Potamogetonaceae	H	OBL	
	Potamogeton foliosus	Pondweed, Leafy	Potamogetonaceae	H	OBL	SH
	Potamogeton gemmiparus (= P. pusillus ssp. g.)	Pondweed, Budding	Potamogetonaceae	H	OBL	SH
	Potamogeton gramineus	Pondweed, Variable	Potamogetonaceae	H	OBL	
(X)	Potamogeton natans	Pondweed, Common Floating	Potamogetonaceae	H	OBL	
	Potamogeton nodosus	Pondweed, Long-leaf	Potamogetonaceae	H	OBL	S2
	Potamogeton oakesianus	Pondweed, Oakes'	Potamogetonaceae	H	OBL	
	Potamogeton obtusifolius	Pondweed, Blunt-leaved	Potamogetonaceae	H	OBL	SH
	Potamogeton perfoliatus	Pondweed, Clasp-leaf	Potamogetonaceae	H	OBL	
	Potamogeton praelongus	Pondweed, White-stem	Potamogetonaceae	H	OBL	SH
	Potamogeton pulcher	Pondweed, Spotted	Potamogetonaceae	H	OBL	
	Potamogeton pusillus (= P. p. var. minor)	Pondweed, Small	Potamogetonaceae	H	OBL	
	Potamogeton richardsonii	Pondweed, Richardson's	Potamogetonaceae	H	OBL	SH
	Potamogeton spirillus	Pondweed, Coiled	Potamogetonaceae	H	OBL	
(X)	Potamogeton vaseyi	Pondweed, Vasey's	Potamogetonaceae	H	OBL	S1
	Potamogeton zosteriformis	Pondweed, Flatleaf	Potamogetonaceae	H	OBL	S1

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Potentilla argentea	Cinquefoil, Silvery	Rosaceae	H	FACU	
X	Potentilla canadensis	Cinquefoil, Dwarf	Rosaceae	H	UPL	
	* Potentilla gracilis var. gracilis	Cinquefoil, Graceful	Rosaceae	H	FAC	
	* Potentilla intermedia	Cinquefoil, Intermediate	Rosaceae	H	NL	
	Potentilla litoralis (=pennsylvanica var. l.)	Cinquefoil, Pennsylvania	Rosaceae	H	UPL	SH
(X)	Potentilla norvegica	Cinquefoil, Norwegian	Rosaceae	H	FAC	
	* Potentilla pulcherrima	Cinquefoil, Soft	Rosaceae	H	NL	
(X)	* Potentilla recta	Cinquefoil, Rough-Fruited	Rosaceae	H	UPL	
	Potentilla robbinsiana	Conquefoil, Robbin's	Rosaceae	H	UPL	S1
(X)	Potentilla simplex	Cinquefoil, Old Field or Common	Rosaceae	H	FACU	
	Proserpinaca palustris	Mermaid-weed, Marsh	Haloragaceae	H	OBL	
	Proserpinaca pectinata	Mermaid-weed, Pectinate	Haloragaceae	H	OBL	SH
	Prunella vulgaris ssp. lanceolata	Self-heal, Lance-Leaved	Lamiaceae	H	FAC	
X	* Prunella vulgaris ssp. vulgaris	Heal-all	Lamiaceae	H	FAC	
	* Prunus americana	Plum, American	Rosaceae	S,T	UPL	SU
	Prunus avium	Cherry, Sweet	Rosaceae	S,T	UPL	
	* Prunus cerasifera	Plum, Cherry	Rosaceae	S	UPL	
	* Prunus cerasus	Cherry, Sour	Rosaceae	S	UPL	
	* Prunus insititia	Plum, Damson	Rosaceae	S	UPL	
	Prunus maritima var. maritima	Plum, Beach	Rosaceae	S	UPL	S3
X	Prunus pensylvanica var. pensylvanica	Cherry, Fire	Rosaceae	T	FACU	
	Prunus pumila var. depressa	Cherry, Sand	Rosaceae	S	UPL	S3
X	Prunus serotina var. serotina	Cherry, Black	Rosaceae	T	FACU	
	Prunus susquehanae	Cherry, Eastern Dwarf	Rosaceae	S	UPL	S3
(X)	Prunus virginiana var. virginiana	Cherry, Choke	Rosaceae	S,T	FACU	
	Pseudognaphalium macounii (= viscosum)	Everlasting, Clammy	Asteraceae	H	UPL	
	Pseudognaphalium micradenium	Sweet-Everlasting, Heller's	Asteraceae	H	UPL	SH
X	Pseudognaphalium obtusifolium	Everlasting, Sweet	Asteraceae	H	UPL	
	Ptelea trifoliata	Ash, Stinking	Oleaceae	S	FACU	
X	Pteridium aquilinum ssp. latiusculum	Fern, Bracken	Dennstaedtiaceae	F	FACU	
	Pterospora andromeda	Pinedrops, Giant	Ericaceae	H	UPL	S1
	* Puccinellia maritima	Grass, Seaside Alkali	Poaceae	H	OBL	
	Puccinellia pumila (= tenella ssp. langeana)	Grass, Tundra Alkali	Poaceae	H	FACW	S1
	Pycnanthemum muticum	Mountain Mint, Clustered	Lamiaceae	H	UPL	
	Pycnanthemum incanum var. incanum	Mountain Mint, Hoary	Lamiaceae	H	UPL	S1
	Pycnanthemum torrei	Mountain Mint, Torrey's	Lamiaceae	H	UPL	SH
	Pycnanthemum virginianum	Mountain Mint, Virginia	Lamiaceae	H	FACW	S1
(X)	Pyrola americana (= P. rotundifolia)	Pyrola, Roundleaf	Ericaceae	H	FAC	
	Pyrola asarifolia	Wintergreen, Pink	Ericaceae	H	FACW	S1
	Pyrola chlorantha (= P. virens)	Pyrola, Green-flowered	Ericaceae	H	UPL	
(X)	Pyrola elliptica	Pyrola, Shinleaf	Ericaceae	H	FACU	
	Pyrola minor	Shinleaf, Lesser	Ericaceae	H	FAC	S3
	* Pyrus calleryana	Pear, Bradford	Rosaceae	S,T	UPL	
	* Pyrus communis	Pear	Rosaceae	S,T	UPL	
	Quercus alba	Oak, White	Fagaceae	T	FACU	
	Quercus bicolor	Oak, Swamp White	Fagaceae	T	FACW	
	Quercus coccinea	Oak, Scarlet	Fagaceae	T	UPL	S3
	Quercus ilicifolia	Oak, Scrub	Fagaceae	S	UPL	
	Quercus macrocarpa	Oak, Bur or Mossy-cup	Fagaceae	T	FACU	S1
	Quercus prinoides	Oak, Chinquapin	Fagaceae	S	FACU	S3
	Quercus prinus	Oak, Chestnut	Fagaceae	T	UPL	
	* Quercus rober	Oak, English	Fagaceae	T	UPL	
X	Quercus rubra	Oak, Northern Red	Fagaceae	T	FACU	
	Quercus velutina	Oak, Black	Fagaceae	T	UPL	
(X)	Ranunculus abortivus	Buttercup, Subalpine (Kidneyleaf)	Ranunculaceae	H	FAC	
X	* Ranunculus acris	Buttercup, Tall	Ranunculaceae	H	FAC	
	Ranunculus ambigens	Spearwort, Water-plantain	Ranunculaceae	H	OBL	S1
	* Ranunculus bulbosus	Buttercup, Bulbous	Ranunculaceae	H	FACW	
	Ranunculus caricetorum (= R. hispidus var. c.)	Crowfoot, Swamp	Ranunculaceae	H	FAC	IND
	Ranunculus fascicularis	Buttercup, Early	Ranunculaceae	H	FACU	S1
	Ranunculus flabellaris	Water Crowfoot, Yellow	Ranunculaceae	H	OBL	
	Ranunculus flammula var. ovalis	Crowfoot, Creeping	Ranunculaceae	H	OBL	
	Ranunculus flammula var. reptans	Crowfoot, Creeping	Ranunculaceae	H	OBL	
	Ranunculus hispidus	Crowfoot, Hispid	Ranunculaceae	H	FAC	
X	Ranunculus pensylvanicus	Buttercup, Bristly	Ranunculaceae	H	OBL	
	Ranunculus recurvatus	Buttercup, Hooked	Ranunculaceae	H	FACW	
	* Ranunculus repens	Buttercup, Creeping	Ranunculaceae	H	FAC	
	Ranunculus scleratus	Buttercup, Cursed	Ranunculaceae	H	OBL	
	* Raphanus raphanistrum	Radish, Wild	Brassicaceae	H	UPL	
E	Reseda alba	Mignonette, White Upright	Resedaceae	H	NL	
E	Reseda lutea	Mignonette, Yellow Upright	Resedaceae	H	NL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	E Reseda luteola	Mignonette, Dyer's	Resedaceae	H	NL	
	Rhamnus alnifolia	Buckthorn, Alder-leaved	Rhamnaceae	S	OBL	
	* Rhamnus cathartica	Buckthorn, Common	Rhamnaceae	S,T	FAC	
	E Rheum rhabarbarum	Rhubarb	Polygonaceae	H	UPL	
	Rhexia virginica	Meadow Beauty	Melastomataceae	H	OBL	S3
	Rhinanthus minor ssp. groenlandicus	Yellow Rattle	Orobanchaceae	H	FAC	SH
	Rhinanthus minor ssp. minor	Yellow Rattle	Orobanchaceae	H	FAC	
	Rhododendron (=Ledum) groenlandicum	Labrador Tea, Greenland	Ericaceae	S	OBL	
	Rhododendron canadense	Rhodora	Ericaceae	S	FACW	
	Rhododendron lapponicum	Lapland Rosebay	Ericaceae	DS	FACW	S1
	Rhododendron maximum	Laurel, Great	Ericaceae	S	FAC	S2
	Rhododendron periclymenoides (= R. nudiflorum)	Pinxter-flower, or Election Pink	Ericaceae	S	FAC	SH
	Rhododendron prinophyllum (= R. roseum)	Azalea, Early	Ericaceae	S	FAC	S3
	Rhododendron viscosum	Azalea, Swamp	Ericaceae	S	FACW	S3
	Rhus aromatica Aiton	Sumac, Fragrant	Anacardiaceae	H,S	UPL	
	Rhus copallinum var. latifolia	Sumac, Winged	Anacardiaceae	S	UPL	
	Rhus glabra	Sumac, Smooth	Anacardiaceae	S	UPL	
X	Rhus hirta (= R. typhina)	Sumac, Staghorn	Anacardiaceae	S	UPL	
	Rhynchospora alba	Beakrush, White	Cyperaceae	H	OBL	
	Rhynchospora capillacea	Beakrush, Hair-like	Cyperaceae	H	OBL	S1
	Rhynchospora capitellata	Beakrush, Brownish	Cyperaceae	H	OBL	
	Rhynchospora fusca	Beakrush, Brown	Cyperaceae	H	OBL	SU
	Ribes americanum	Currant, Wild Black	Grossulariaceae	S	FACW	
(X)	Ribes cynosbati	Gooseberry, Prickly	Grossulariaceae	S	FACU	
X	Ribes glandulosum	Currant, Skunk	Grossulariaceae	S	FACW	
	Ribes hirtellum	Currant, Smooth	Grossulariaceae	S	FACW	
(X)	Ribes lacustre	Currant, Prickly	Grossulariaceae	S	FACW	
	* Ribes nigrum	Currant, Black	Grossulariaceae	S	UPL	
	* Ribes rubrum (= R. sativum)	Currant, Garden or Red	Grossulariaceae	S	UPL	
	Ribes triste	Currant, Red Swamp	Grossulariaceae	S	OBL	
	* Ribes uva-crispa var. sativum (= R. grossularia)	Gooseberry, European	Grossulariaceae	S	UPL	
	E Robinia hispida	Locust, Bristly	Fabaceae	S	UPL	
	Robinia pseudoacacia	Locust, Black	Fabaceae	T	FACU	
	E Robinia viscosa	Locust, Clammy	Fabaceae	S	UPL	
	Rorippa palustris var. hispida (= R. islandica ssp. h.)	Yellow-Cress, Hairy Marsh	Brassicaceae	H	OBL	
	Rorippa palustris var. palustris	Yellow-Cress, Common Marsh	Brassicaceae	H	OBL	
	* Rorippa sylvestris	Yellow-Cress, Creeping	Brassicaceae	H	OBL	
	Rosa acicularis ssp. sayi	Rose, Prickly	Rosaceae	S	UPL	S1
	* Rosa arkansana	Rose, Prairie	Rosaceae	S	UPL	
	Rosa blanda var. blanda	Rose, Smooth	Rosaceae	S	FACU	
	Rosa carolina ssp. carolina	Rose, Pasture	Rosaceae	S	FACU	
	* Rosa cinnamomea	Rose, Cinnamon	Rosaceae	S	UPL	
	* Rosa gallica	Rose, French	Rosaceae	S	UPL	
X	* Rosa multiflora	Rose, Multiflora	Rosaceae	S	FACU	
	Rosa nitida	Rose, Shining	Rosaceae	S	FACW	
X	Rosa palustris	Rose, Swamp	Rosaceae	S	OBL	
(X)	* Rosa rubiginosa (= eglanteria)	Sweetbrier	Rosaceae	S	FACU	
	Rosa rugosa	Rose, Rugosa	Rosaceae	S	FACU	
	* Rosa setigera	Rose, Climbing	Rosaceae	S,V	FACU	
	* Rosa spinosissima	Rose, Scotch	Rosaceae	S	UPL	
	Rosa virginiana	Rose, Virginia	Rosaceae	S	FAC	
	Rotala ramosior	Lowland Toothcup	Lythraceae	H	OBL	S1
X	Rubus allegheniensis	Blackberry, Allegheny	Rosaceae	S	FACU	
	Rubus arenicola	Dewberry, Sand-dwelling	Rosaceae	S	UPL	
(X)	Rubus canadensis	Blackberry, Smooth	Rosaceae	S	UPL	
	Rubus chamaemorus	Cloudberry	Rosaceae	S	FACW	S2
	Rubus cuneifolius	Blackberry, Sand	Rosaceae	S	UPL	S1
X	Rubus dalibarda (= Dalibarda repens)	Robin-run-away	Rosaceae	H	FAC	
	Rubus elegantulus	Blackberry, Showy	Rosaceae	S	UPL	
	Rubus enslenii	Blackberry, Enslen's	Rosaceae	S	UPL	
X	Rubus flagellaris	Dewberry	Rosaceae	S	FACU	
	Rubus frondosus	Blackberry, Leafy-flowered	Rosaceae	S	UPL	
X	Rubus hispidus	Blackberry, Bristly (Dewberry)	Rosaceae	S	FACW	
X	Rubus idaeus	Raspberry, Common Red	Rosaceae	S	FACU	
	Rubus idaeus ssp. strigosus	Raspberry, Red	Rosaceae	S	FACU	
	Rubus jaysmithii	Blackberry, Smith's	Rosaceae	S	NL	
	Rubus occidentalis	Raspberry, Black	Rosaceae	S	UPL	
(X)	Rubus odoratus	Raspberry, Purple-Flowering	Rosaceae	S	UPL	
	Rubus pensilvanicus	Blackberry, Pennsylvania	Rosaceae	S	UPL	
X	Rubus pubescens	Blackberry, Dwarf	Rosaceae	H	FACW	
	Rubus recurvicaulis	Blackberry, Arching	Rosaceae	S	UPL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Rubus semisetosus	Blackberry, Northeastern	Rosaceae	S	FAC	
(X)	Rubus setosus	Blackberry, Setose	Rosaceae	S	FACW	
	Rubus vermontanus	Blackberry, Vermont	Rosaceae	S	UPL	
X	E Rudbeckia hirta (incl. R. serotina)	Black-eyed Susan	Asteraceae	H	FACU	
	Rudbeckia laciniata var. bipinnata	Coneflower, Cut-leaf (Tall)	Asteraceae	H	FACW	
	Rudbeckia laciniata var. laciniata	Coneflower, Green-headed	Asteraceae	H	FACW	
	E Rumex acetosa	Sorrel, Garden	Polygonaceae	H	UPL	
X	* Rumex acetosella ss. pyrenaicus	Sorrel, Field or Sheep	Polygonaceae	H	FACU	
	* Rumex altissimus	Dock, Pale	Polygonaceae	H	FACW	
	Rumex brittanica	Dock, Greater Water	Polygonaceae	H	OBL	
(X)	* Rumex crispus ssp. crispus	Dock, Curly or Yellow	Polygonaceae	H	FAC	
	* Rumex longifolius	Dock, Door Yard	Polygonaceae	H	FAC	
(X)	* Rumex obtusifolius ssp. obtusifolius	Dock, Bitter	Polygonaceae	H	FAC	
	Rumex pallidus	Dock, White	Polygonaceae	H	FACW	S1
	* Rumex patientia	Dock, Patience	Polygonaceae	H	FAC?	
	Rumex persicarioides var. fueginus	Dock, American Golden	Polygonaceae	H	FACW	SU
	Rumex triangulivalvis (= R. salicifolius ssp. t.)	Dock, Willow or White	Polygonaceae	H	FAC	
	Rumex verticillatus	Dock, Swamp or Water	Polygonaceae	H	OBL	
	Ruppia maritima	Widgeon-grass	Ruppiaceae	H	OBL	
	Sabulina (Minuartia) michauxii (stricta)	Sandwort, Rock	Caryophyllaceae	H	UPL	S1
	Sagina nodosa ssp. borealis	Pearlwort, Greater	Caryophyllaceae	H	FACU	SH
	*? Sagina procumbens	Pearlwort	Caryophyllaceae	H	FAC	
	Sagittaria cuneata	Wapato	Alismataceae	H	OBL	S1
	Sagittaria filiformis	Arrowhead, Threadleaf	Alismataceae	H	OBL	
	Sagittaria graminea ssp. graminea	Sagittaria, Grass-leaved	Alismataceae	H	OBL	
(X)	Sagittaria latifolia	Arrowhead, Broad-leaf	Alismataceae	H	OBL	
	Sagittaria montevidensis ssp. spongiosa	Arrowhead, Spongy Hooded	Alismataceae	H	OBL	S1
	Sagittaria rigida	Arrowhead, Sessile-fruited	Alismataceae	H	OBL	SH
	Sagittaria teres	Arrowhead, Quill-leaved	Alismataceae	H	OBL	S1
	Salicornia ambigua (= S. virginica, S. perennis)	Glasswort, Virginia	Amaranthaceae	H	OBL	S1
	Salicornia bigelovii	Glasswort, Dwarf	Amaranthaceae	H	OBL	S1
	Salicornia maritima	Glasswort, Common	Amaranthaceae	H	OBL	
	* Salix alba	Willow, White	Salicaceae	T,S	FACW	
	Salix amygdaloides	Willow, Peach-leaf	Salicaceae	S,T	FACW	
	Salix argyrocarpa	Willow, Silvery	Salicaceae	DS	FACU	S1
X	Salix bebbiana	Willow, Bebb's	Salicaceae	S,T	FACW	
	Salix candida	Willow, Hoary	Salicaceae	S	OBL	S1 (ME)
	* Salix cinerea ssp. cinerea	Willow, Gray	Salicaceae	S	FACW	
	Salix cordata	Willow, Dune	Salicaceae	S	FAC	
X	Salix discolor	Willow, Pussy	Salicaceae	S	FACW	
	Salix eriocephala ssp. eriocephala var. e.	Willow, Heart-leaf	Salicaceae	S	FACW	
	Salix exigua (= interior) ssp. interior	Willow, Sandbar	Salicaceae	S	FACW	S1
	* Salix fragilis	Willow, Fragile or Brittle	Salicaceae	T	FAC	
	Salix herbacea	Willow, Herbaceous	Salicaceae	DS	NL	S1
	Salix humilis	Willow, Tall Prairie	Salicaceae	S	FACU	
	Salix humilis var. tristis (= S. occidentalis)	Willow, Prairie	Salicaceae	S	FACU	
(X)	Salix lucida ssp. lucida	Willow, Shining	Salicaceae	S	FACW	
	Salix myricoides var. myricoides (= S. glaucophylla)	Willow, Stiff Silky	Salicaceae	H	FACW	
	Salix nigra	Willow, Black	Salicaceae	T,S	OBL	
	Salix occidentalis (= humilis var. tristis)	Willow, Dwarf Prairie	Salicaceae	S	FACU?	SU
	Salix pedicellaris	Willow, Bog	Salicaceae	S	OBL	S3
	Salix pellita	Willow, Satin	Salicaceae	S	FACW	S1
	* Salix pentandra	Willow, Bay-leaved	Salicaceae	S	FACU?	
	Salix petiolaris (= S. gracilis)	Willow, Meadow	Salicaceae	S	FACW	
	Salix planifolia ssp. planifolia	Willow, Tea-leaved	Salicaceae	S	OBL	S2
	* Salix purpurea	Willow, Basket or Purple	Salicaceae	S	FACW	
	Salix pyrifolia (= balsamifera)	Willow, Balsam	Salicaceae	S	FACW	
(X)	Salix sericea	Willow, Silky	Salicaceae	S	OBL	
	Salix serissima	Willow, Autumn	Salicaceae	S	OBL	
	Salix uva-ursi	Willow, Bearberry	Salicaceae	DS	UPL	S2
	Salix viminalis	Willow, Basket	Salicaceae	S	FACW	
	Salix X bebbii (eriocephala x petiolaris)	Willow, Hybrid	Salicaceae	S	FACW	
	Salix X peasei (herbacea x uva-ursi)	Willow, Pease's	Salicaceae	DS	UPL	S1
	* Salix X sepulchralis (= cf. babylonica)	Willow, Weeping	Salicaceae	T	FACW	
	* Salix X smithiana (cinerea x viminalis)	Willow, Smith's	Salicaceae	S	FACW	
	* Salsola kali ssp. kali	Saltwort or Russian-Thistle	Amaranthaceae	H	FACU	
	* Salsola kali ssp. pontica	Saltwort or Russian-Thistle	Amaranthaceae	H	FACU	
X	Sambucus nigra ssp. canadensis (= V. c.)	Elder, American	Adoxaceae	S	FACW	
	Sambucus racemosa ssp. pubens	Elder, European Red	Adoxaceae	S	FACU	
	Samolus valerandi ssp. parviflorus	Pimpernel, False Water	Theophrastaceae	H	OBL	S1
	Sanguinaria canadensis	Bloodroot	Papaveraceae	H	FACU	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	<i>Sanguisorba canadensis</i>	Burnet, Canadian	Rosaceae	H	FACW	S3
	<i>Sanicula canadensis</i> var. <i>canadensis</i>	Sanicle, Short-styled	Apiaceae	H	FACU	SH
	<i>Sanicula marilandica</i>	Snakeroot, Black	Apiaceae	H	FACU	
	<i>Sanicula odorata</i> (= <i>S. gregaria</i>)	Snakeroot, Clustered	Apiaceae	H	FAC	S1
	<i>Sanicula trifoliata</i>	Snakeroot, Long-fruited	Apiaceae	H	UPL	S2
*	<i>Saponaria officinalis</i>	Bouncing Bet	Caryophyllaceae	H	FACU	
*	<i>Saponaria pumilio</i>	Soapwort, Pygmy	Caryophyllaceae	H	UPL	
	<i>Sarracenia purpurea</i>	Pitcher-plant, Northern	Sarraceniaceae	H	OBL	
	<i>Sassafras albidum</i>	Sassafras	Lauraceae	S,T	FACU	
	<i>Saxifraga cernua</i>	Saxifrage, Nodding	Saxifragaceae	H	FACW	S1
	<i>Saxifraga paniculata</i> ssp. <i>neogaea</i> (= <i>S. aizoon</i> var. <i>n.</i>)	Saxifrage, White Mountain	Saxifragaceae	H	FAC	S1
	<i>Saxifraga rivularis</i> ssp. <i>rivularis</i>	Saxifrage, Alpine Brook	Saxifragaceae	H	FACW	S1
*	<i>Schedonorus pratensis</i> (= <i>Festuca</i> p., <i>Lolium</i> p.)	Ryegrass, Meadow	Poaceae	H	UPL	
	<i>Scheuchzeria palustris</i>	Pod-grass	Scheuchzeriaceae	H	OBL	S3
	<i>Schizachne purpurascens</i>	Melic, False	Poaceae	H	FACU	
(X)	<i>Schizachyrium</i> (= <i>Andropogon</i>) <i>scoparium</i> var. <i>scoparium</i>	Bluestem, Little	Poaceae	H	FACU	
	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>acutus</i>	Bulrush, Acute	Cyperaceae	H	OBL	SU
	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>americanus</i>	Rush, Chairmaker's	Cyperaceae	H	OBL	
	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>pungens</i> var. <i>pungens</i>	Threesquare, Common	Cyperaceae	H	OBL	
	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>purshianus</i>	Bulrush, Pursh's	Cyperaceae	H	OBL	
(X)	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>smithii</i> var. <i>setosus</i>	Bulrush, Smith's	Cyperaceae	H	OBL	S3
	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>subterminalis</i>	Bulrush, Subterminal	Cyperaceae	H	OBL	
	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>tabernaemontani</i> (= <i>validus</i>)	Bulrush, Soft-stem	Cyperaceae	H	OBL	
	<i>Schoenoplectus</i> (= <i>Scirpus</i>) <i>torreyi</i>	Bulrush, Torrey's	Cyperaceae	H	OBL	S3
	<i>Scirpus ancistrochaetus</i>	Bulrush, Northeastern	Cyperaceae	H	OBL	S1
(X)	<i>Scirpus atrocinctus</i>	Bulrush, Blackgirdle	Cyperaceae	H	OBL	
	<i>Scirpus atrovirens</i>	Bulrush, Green	Cyperaceae	H	OBL	
X	<i>Scirpus cyperinus</i>	Wool-grass	Cyperaceae	H	OBL	
(X)	<i>Scirpus expansus</i>	Bulrush, Woodland	Cyperaceae	H	OBL	
	<i>Scirpus georgianus</i>	Bulrush, Georgia	Cyperaceae	H	OBL	SH
	<i>Scirpus hattorianus</i>	Bulrush, Mosquito	Cyperaceae	H	FACW?	
	<i>Scirpus lineatus</i>	Bulrush	Cyperaceae	H	OBL	
	<i>Scirpus longii</i>	Bulrush, Long's	Cyperaceae	H	OBL	S1
(X)	<i>Scirpus microcarpus</i> (= <i>S. rubroinctus</i>)	Bulrush, Small Fruited	Cyperaceae	H	OBL	
	<i>Scirpus pedicellatus</i>	Bulrush, Stalked	Cyperaceae	H	OBL	
	<i>Scirpus pendulus</i>	Bulrush, Lined	Cyperaceae	H	OBL	S1
	<i>Scirpus polyphyllus</i>	Bulrush, Leafy	Cyperaceae	H	OBL	SH
	<i>Scirpus X peckii</i>	Bulrush, Peck's	Cyperaceae	H	OBL	
*	<i>Scleranthus annuus</i>	Knawel, Annual	Caryophyllaceae	H	FACU	
	<i>Scleria pauciflora</i> var. <i>caroliniana</i>	Nutrush, Few-flower	Cyperaceae	H	FACU	S1
	<i>Scleria reticularis</i>	Nutrush, Reticulated	Cyperaceae	H	OBL	S1
	<i>Sclerolepis uniflora</i>	Sclerolepis	Asteraceae	H	OBL	S1
*	<i>Scorzoneroideis</i> (= <i>Leontodon</i>) <i>autumnalis</i> ssp. <i>autumnalis</i>	Fall-Dandelion	Asteraceae	H	FACU	
*	<i>Scorzoneroideis</i> (= <i>Leontodon</i>) <i>autumnalis</i> ssp. <i>pratensis</i>	Dandelion, Fall	Asteraceae	H	FACU	
	<i>Scrophularia lanceolata</i>	Figwort, Lance-leaved	Scrophulariaceae	H	FACU	
	<i>Scrophularia marilandica</i>	Figwort, Eastern	Scrophulariaceae	H	FACU	SU
(X)	<i>Scutellaria galericulata</i> (= <i>S. epilobiifolia</i>)	Skullcap, Marsh	Lamiaceae	H	OBL	
	<i>Scutellaria lateriflora</i>	Skullcap, Blue	Lamiaceae	H	OBL	
X	* <i>Securigera</i> (= <i>Coronilla</i>) <i>varia</i>	Vetch, Crown	Fabaceae	H	UPL	
	<i>Selaginella apoda</i>	Spikemoss, Meadow	Selaginellaceae	F	FACW	S3
	<i>Selaginella rupestris</i>	Spikemoss, Rock	Selaginellaceae	F	UPL	
*	<i>Senecio vulgaris</i>	Groundsel, Common	Asteraceae	H	FACU	
	<i>Senna</i> (= <i>Cassia</i>) <i>hebecarpa</i>	Wild Senna	Fabaceae	H	FACW	S1
	<i>Sericocarpus asteroides</i>	Aster, Toothed White-top	Asteraceae	H	UPL	S3
	<i>Sericocarpus linifolius</i>	Aster, White-topped	Asteraceae	H	UPL	S1
*	<i>Setaria pumila</i> ssp. <i>pumila</i> (= <i>S. glauca</i>)	Grass, Yellow Bristle	Poaceae	H	FAC	
*	<i>Setaria verticillata</i>	Grass, Hooked Bristle	Poaceae	H	FACU	
*	<i>Setaria viridis</i> var. <i>viridis</i>	Foxtail, Green	Poaceae	H	UPL	
*	<i>Shortia galacifolia</i>	Oconee-bells	Diapensiaceae	H	UPL	
	<i>Sibbaldia procumbens</i>	Sibbaldia	Rosaceae	H	FACU	S1
	<i>Sibbaldiopsis tridentata</i> (= <i>Potentilla</i> t.)	Cinquefoil, Three-toothed	Rosaceae	H	FACU	
	<i>Sicyos angulatus</i>	Bur-cucumber	Cucurbitaceae	HV	FACW	S3
	<i>Silene acaulis</i>	Moss Campion	Caryophyllaceae	H	UPL	S1
	<i>Silene antirrhina</i>	Catchfly, Sleepy	Caryophyllaceae	H	UPL	
	<i>Silene caroliniana</i> var. <i>pennsylvanica</i>	Campion, Wild	Caryophyllaceae	H	UPL	SH
*	<i>Silene csereii</i>	Campion, Balkan	Caryophyllaceae	H	UPL	
*	<i>Silene dioica</i>	Campion, Red	Caryophyllaceae	H	UPL	
*	<i>Silene gallica</i>	Campion, Windmill	Caryophyllaceae	H	UPL	
*	<i>Silene latifolia</i> ssp. <i>alba</i> (= <i>Lychnis alba</i>)	Campion, White	Caryophyllaceae	H	UPL	
*	<i>Silene noctiflora</i>	Campion, Night-blooming	Caryophyllaceae	H	UPL	
*	<i>Silene nutans</i>	Catchfly, Nodding	Caryophyllaceae	H	UPL	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	* <i>Silene vulgaris</i> ssp. <i>vulgaris</i> (= <i>S. cucubalis</i>)	Campion, Bladder	Caryophyllaceae	H	UPL	
	* <i>Sinapis</i> (= <i>Brassica</i>) <i>alba</i>	Charlock, White	Brassicaceae	H	UPL	
	* <i>Sinapis</i> (= <i>Brassica</i>) <i>arvensis</i>	Charlock, Corn	Brassicaceae	H	UPL	
	* <i>Sisymbrium altissimum</i>	Mustard, Tall Tumble	Brassicaceae	H	FACU	
	* <i>Sisymbrium officinale</i>	Mustard, Hedge	Brassicaceae	H	UPL	
	<i>Sisyrinchium angustifolium</i>	Blue-eyed Grass, Pointed	Iridaceae	H	FAC	
(X)	<i>Sisyrinchium atlanticum</i>	Blue-eyed Grass, Eastern	Iridaceae	H	FACW	
X	<i>Sisyrinchium montanum</i>	Blue-eyed Grass, Strict	Iridaceae	H	FAC	
	<i>Sisyrinchium mucronatum</i>	Blue-eyed Grass, Slender	Iridaceae	H	FAC	SH
(X)	<i>Smilax herbacea</i>	Carrian Flower, Smooth	Smilacaceae	HV,H	FAC	
	<i>Smilax rotundifolia</i>	Greenbriar, Common	Smilacaceae	WV	FAC	
	<i>Solanum carolinense</i> var. <i>carolinense</i>	Horse-Nettle	Solanaceae	H	FACU	
	* <i>Solanum dulcamara</i> var. <i>dulcamara</i>	Nightshade, Climbing	Solanaceae	WV,S	FAC	
	* <i>Solanum lycopersicon</i>	Tomato, Garden	Solanaceae	H	UPL	
	* <i>Solanum nigrum</i> ssp. <i>nigrum</i>	Nightshade, Black	Solanaceae	H	UPL	
	* <i>Solanum physalifolium</i> var. <i>nitidibaccatum</i> (= <i>S. sarrachoides</i>)	Nightshade	Solanaceae	H	UPL	
	<i>Solanum ptycanthum</i>	Nightshade, Eastern Black	Solanaceae	H	FACU	
	E <i>Solanum rostratum</i>	Buffalo-Bur	Solanaceae	H	UPL	
	E <i>Solanum tuberosum</i>	Irish Potato	Solanaceae	H	UPL	
	<i>Solidago aestivalis</i>	Goldenrod, Swamp Wrinkle-leaved	Asteraceae	F	FAC	
	<i>Solidago altissima</i> ssp. <i>altissima</i> (= <i>S. canadensis</i> var. <i>scabra</i>)	Goldenrod, Tall	Asteraceae	H	FACU	
(X)	<i>Solidago arguta</i>	Goldenrod, Sharp-leaved	Asteraceae	H	FACU	
X	<i>Solidago bicolor</i>	Silverrod	Asteraceae	H	UPL	
X	<i>Solidago caesia</i> var. <i>caesia</i>	Goldenrod, Wreath (Blue-stemmed)	Asteraceae	H	FACU	
X	<i>Solidago canadensis</i> var. <i>canadensis</i>	Goldenrod, Canada	Asteraceae	H	FACU	
X	<i>Solidago flexicaulis</i>	Goldenrod, Zig-Zag	Asteraceae	H	FACU	
(X)	<i>Solidago gigantea</i>	Goldenrod, Late	Asteraceae	H	FACW	
	<i>Solidago hispida</i>	Goldenrod, Hairy	Asteraceae	H	FAC	SU
(X)	<i>Solidago juncea</i>	Goldenrod, Early	Asteraceae	H	UPL	
	<i>Solidago leiocarpa</i> (= <i>S. cutleri</i>)	Goldenrod, Cutler's	Asteraceae	H	UPL	S2
(X)	<i>Solidago macrophylla</i>	Goldenrod, Large-leaved	Asteraceae	H	UPL	
X	<i>Solidago nemoralis</i> ssp. <i>nemoralis</i>	Goldenrod, Gray	Asteraceae	H	UPL	
	<i>Solidago odora</i> ssp. <i>odora</i>	Goldenrod, Sweet-scented	Asteraceae	H	UPL	S1
	<i>Solidago patula</i> var. <i>patula</i>	Goldenrod, Rough-leaved	Asteraceae	H	OBL	SH
	<i>Solidago puberula</i> var. <i>puberula</i>	Goldenrod, Downy	Asteraceae	H	FACU	
	<i>Solidago racemosa</i> (= <i>randii</i> var. <i>racemosa</i>)	Goldenrod, Riverbank	Asteraceae	H	FACU	SU
	<i>Solidago randii</i> (= <i>S. simplex</i> var. <i>randii</i>)	Goldenrod, Rand's	Asteraceae	H	FACU	
	<i>Solidago rugosa</i> ssp. <i>aspera</i> var. <i>aspera</i>	Goldenrod, Wrinkle-leaved	Asteraceae	H	FACU?	
X	<i>Solidago rugosa</i> ssp. <i>rugosa</i>	Goldenrod, Wrinkled	Asteraceae	H	FAC	
	<i>Solidago sempervirens</i> var. <i>sempervirens</i>	Goldenrod, Seaside	Asteraceae	H	FACW	
	<i>Solidago speciosa</i> var. <i>speciosa</i>	Goldenrod, Showy	Asteraceae	H	UPL	S1
	<i>Solidago squarrosa</i>	Goldenrod, Squarrose	Asteraceae	H	UPL	
X	<i>Solidago uliginosa</i>	Goldenrod, Bog or Swamp	Asteraceae	H	OBL	SU
	<i>Solidago ulmifolia</i>	Goldenrod, Elm-leaved	Asteraceae	H	UPL	SU
	<i>Solidago X calicicola</i>	Goldenrod	Asteraceae	H	UPL	SU
	* <i>Sonchus arvensis</i> var. <i>arvensis</i>	Sow-Thistle, Field	Asteraceae	H	FACU	
	* <i>Sonchus arvensis</i> var. <i>glabrescens</i>	Sow-thistle, Field	Asteraceae	H	FACU	
	* <i>Sonchus asper</i>	Sow-Thistle, Spiny-leaved	Asteraceae	H	FACU	
	* <i>Sonchus oleraceus</i>	Sow-Thistle, Common	Asteraceae	H	FACU	
	* <i>Sorbaria sorbifolia</i>	Spiraea, Ural False	Rosaceae	S	UPL	
(X)	<i>Sorbus americana</i>	Mountain-Ash, American	Rosaceae	S,T	FAC	
	* <i>Sorbus aucuparia</i>	Mountain-Ash, European	Rosaceae	T	UPL	
	<i>Sorbus decora</i> (= <i>S. groenlandica</i>)	Mountain-Ash, Northern	Rosaceae	S,T	FACU	
	* <i>Sorbus hybrida</i>	Mountain-ash, Oak-leaved	Rosaceae	T	FACU?	
	<i>Sorghastrum nutans</i>	Grass, Indian	Poaceae	H	FACU	SU
X	<i>Sparganium americanum</i>	Bur-reed, American	Typhaceae	H	OBL	
	<i>Sparganium androcladum</i>	Bur-reed, Branching	Typhaceae	H	OBL	SH
	<i>Sparganium angustifolium</i>	Bur-reed, Narrow-leaved	Typhaceae	H	OBL	
	<i>Sparganium emersum</i> var. <i>acaule</i>	Bur-reed, Simple-stemmed	Typhaceae	H	OBL	
	<i>Sparganium emersum</i> var. <i>emersum</i> (= <i>S. chlorocarpum</i>)	Bur-reed, Green-fruited	Typhaceae	H	OBL	
	<i>Sparganium eurycarpum</i>	Bur-reed, Giant	Typhaceae	H	OBL	S2
	<i>Sparganium fluctuans</i>	Bur-reed, Floating	Typhaceae	H	OBL	
	<i>Sparganium natans</i> (= <i>S. minimum</i>)	Bur-reed, Nodding	Typhaceae	H	OBL	S2
	<i>Sparganium</i> sp.	Bur-reed	Typhaceae	H	OBL	
	<i>Spartina alterniflora</i>	Cordgrass, Smooth	Poaceae	H	OBL	
	<i>Spartina cynosuroides</i>	Cordgrass, Big	Poaceae	H	OBL	
	<i>Spartina patens</i>	Cordgrass, Salt Meadow	Poaceae	H	FACW	
	<i>Spartina pectinata</i>	Cordgrass, Prairie	Poaceae	H	FACW	
	* <i>Spergula arvensis</i>	Corn-spurrey	Caryophyllaceae	H	UPL	
	<i>Spergularia canadensis</i> var. <i>canadensis</i>	Sand-spurrey, Northern	Caryophyllaceae	H	OBL	SU
	* <i>Spergularia marina</i> (= <i>S. salina</i>)	Sand-spurrey, Saltmarsh	Caryophyllaceae	H	FACW	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
(X)	* <i>Spergularia rubra</i>	Sand-spurry, Purple	Caryophyllaceae	H	FACU	
	<i>Sphenopholis intermedia</i>	Wedgegrass, Slender	Poaceae	H	NL	SU
	<i>Sphenopholis obtusata</i>	Sphenopholis, Blunt	Poaceae	H	FAC	SH
	E <i>Spinacea oleracea</i>	Spinach	Amaranthaceae	H	UPL	
X	<i>Spinum annotinum</i> (= <i>Lycopodium a.</i>)	Clubmoss, Stiff or Bristly	Lycopodiaceae	F	FAC	
	<i>Spiraea alba</i> var. <i>alba</i>	Meadowsweet, Narrow-leaved	Rosaceae	S	FACW	
X	<i>Spiraea alba</i> var. <i>latifolia</i> (= <i>S. latifolia</i>)	Meadowsweet, Broad-leaf	Rosaceae	S	FACW	
	* <i>Spiraea japonica</i> var. <i>fortunei</i>	<i>Spiraea</i> , Bridleveil	Rosaceae	S	UPL	
X	<i>Spiraea tomentosa</i>	Steeplebush	Rosaceae	S	FACW	
	<i>Spiranthes casei</i> var. <i>casei</i>	Ladies Tresses', Case's	Orchidaceae	H	NL	S1
(X)	<i>Spiranthes cernua</i>	Ladies' Tresses, Nodding	Orchidaceae	H	FACW	
	<i>Spiranthes lacera</i> var. <i>gracilis</i>	Ladies Tresses', Southern Slender	Orchidaceae	H	FAC	S3
	<i>Spiranthes lacera</i> var. <i>lacera</i>	Ladie's Tresses, Slender	Orchidaceae	H	FAC	
	<i>Spiranthes lucida</i>	Ladies' Tresses, Shining	Orchidaceae	H	FACW	S1
	<i>Spiranthes ochroleuca</i>	Ladies Tresses', Yellow Nodding	Orchidaceae	H	FACW	SU
	<i>Spiranthes romanzoffiana</i>	Ladies' Tresses, Hooded	Orchidaceae	H	OBL	
	<i>Spirodela polyrrhiza</i>	Duckweed, Greater	Araceae	H	OBL	
	<i>Sporobolus cryptandrus</i>	Dropseed, Sand	Poaceae	H	FACU	S1
	<i>Sporobolus neglectus</i>	Dropseed, Small	Poaceae	H	FACU	SH
	<i>Stachys hispida</i>	Hedge-nettle, Hispid	Lamiaceae	H	FACW	SU
	<i>Stachys hyssopifolia</i>	Hedge-nettle, Hyssop-leaved	Lamiaceae	H	FACW	
	* <i>Stachys palustris</i>	Hedge-nettle, Marsh	Lamiaceae	H	OBL	
	<i>Stachys pilosa</i>	Hedge, nettle, Hairy	Lamiaceae	H	FACW	SU
	<i>Staphylea trifolia</i>	Bladdernut	Staphyleaceae	S	FAC	S2
	<i>Stellaria alsine</i>	Chickweed, Bog	Caryophyllaceae	H	OBL	
	<i>Stellaria borealis</i> ssp. <i>borealis</i>	Chickweed, Boreal	Caryophyllaceae	H	FACW	
	* <i>Stellaria graminea</i>	Starwort, Lesser	Caryophyllaceae	H	UPL	
	* <i>Stellaria holostea</i>	Starwort, Greater	Caryophyllaceae	H	UPL	
	<i>Stellaria longifolia</i> var. <i>longifolia</i>	Starwort, Long-leaf	Caryophyllaceae	H	FACW	
	* <i>Stellaria media</i> ssp. <i>media</i>	Chickweed, Common	Caryophyllaceae	H	FACU	
	<i>Streptopus amplexifolius</i>	Twisted Stalk, Clasp-leaf	Liliaceae	H	FAC	
(X)	<i>Streptopus lanceolatus</i> (= <i>S. roseus</i>)	Twisted Stalk, Rose	Liliaceae	H	FACU	
	<i>Stuckenia</i> (= <i>Potamogeton</i>) <i>filiformis</i> ssp. <i>alpina</i>	Pondweed, Northern Threadleaf	Potamogetonaceae	H	OBL	SH
	<i>Stuckenia</i> (= <i>Potamogeton</i>) <i>pectinata</i>	Pondweed, Sago	Potamogetonaceae	H	OBL	S1
	<i>Suaeda calceoliformis</i>	Seablite, Horned	Amaranthaceae	H	FACW	S2
	<i>Suaeda linearis</i>	Sea-Blite	Amaranthaceae	H	OBL	
	<i>Suaeda maritima</i> ssp. <i>maritima</i>	Sea Blite, Low	Amaranthaceae	H	OBL	
	<i>Suaeda maritima</i> ssp. <i>richii</i>	Seablite, Rich's	Amaranthaceae	H	OBL	S1
	<i>Subularia aquatica</i> var. <i>americana</i>	Awlwort	Brassicaceae	H	OBL	SH
	<i>Swida</i> (= <i>Cornus</i>) <i>alternifolia</i>	Dogwood, Alternate-leaved	Cornaceae	S	FACU	
X	<i>Swida</i> (= <i>Cornus</i>) <i>amomum</i>	Dogwood, Silky	Cornaceae	S	FACW	
	<i>Swida</i> (= <i>Cornus</i>) <i>racemosa</i> (foemina)	Dogwood, Stiff or Gray	Cornaceae	S	FAC	
	<i>Swida</i> (= <i>Cornus</i>) <i>rugosa</i>	Dogwood, Round-leaved	Cornaceae	S	UPL	
X	<i>Swida</i> (= <i>Cornus</i>) <i>sericea</i> (= <i>C. stolonifera</i>)	Dogwood, Red-osier	Cornaceae	S	FACW	
	* <i>Symphoricarpos albus</i> ssp. <i>laevigatus</i>	Snowberry	Caprifoliaceae	S	FACU	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>boreale</i> (<i>junciformis</i>)	Aster, Rush	Asteraceae	H	OBL	SU
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>ciliolatum</i>	Aster, Ciliate-leaved	Asteraceae	H	UPL	S2
X	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>cordifolium</i>	Aster, Heart-leaved	Asteraceae	H	UPL	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>dumosum</i>	Aster, Bushy	Asteraceae	H	FAC	SU
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>ericoides</i> var. <i>ericoides</i>	Aster, Many-flowered	Asteraceae	H	FACU	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>laeve</i>	Smooth Aster	Asteraceae	H	FACU	
X	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>lanceolatum</i> ssp. <i>lanceolatum</i>	Aster, Panicked	Asteraceae	H	FACW	
X	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>lateriflorum</i>	Aster, Calico	Asteraceae	H	FAC	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>novae-angliae</i>	Aster, New England	Asteraceae	H	FACW	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>novi-belgii</i> var. <i>novi-belgii</i>	Aster, New York	Asteraceae	H	FACW	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>patens</i> var. <i>patens</i>	Aster, Skydrop	Asteraceae	H	UPL	S2
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>pilosum</i> var. <i>pilosum</i>	Aster, Heath or Hairy	Asteraceae	H	FACU	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>praealtum</i> var. <i>angustior</i>	Aster, Willow-leaved	Asteraceae	H	FACW	
X	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>puniceum</i> var. <i>puniceum</i>	Aster, Swamp (Purple-stemmed)	Asteraceae	H	OBL	
(X)	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>racemosum</i> (= <i>A. vimineus</i>)	Aster, Small White	Asteraceae	H	FACW	
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>subulatum</i> var. <i>subulatum</i>	Aster, Annual Salt Marsh	Asteraceae	H	FACW	S3
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>tenuifolium</i> var. <i>tenuifolium</i>	Aster, Large Salt Marsh	Asteraceae	H	OBL	S1
	<i>Symphyotrichum</i> (= <i>Aster</i>) <i>undulatum</i>	Aster, Wavy-leaved	Asteraceae	H	UPL	
	* <i>Symphytum officinale</i>	Comfrey	Boraginaceae	H	UPL	
	<i>Symplocarpus foetidus</i>	Skunk Cabbage	Araceae	H	OBL	
E	<i>Syringa reticulata</i> ssp. <i>reticulata</i>	Lilac, Japanese Tree	Oleaceae	S,T	UPL	
	* <i>Syringa vulgaris</i> L.	Lilac, Common	Oleaceae	S	UPL	
X	* <i>Tanacetum vulgare</i>	Tansy	Asteraceae	H	FACU	
	* <i>Taraxacum laevigatum</i>	Dandelion, Red-seeded	Asteraceae	H	FACU	
(X)	* <i>Taraxacum officinale</i>	Dandelion	Asteraceae	H	FACU	
X	<i>Taxus canadensis</i>	Yew, Canadian	Taxaceae	S	FACU	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	<i>Tephrosia virginiana</i>	Goat's-Rue	Fabaceae	H	UPL	S1
	<i>Teucrium canadense</i> var. <i>canadense</i>	Germander, American	Lamiaceae	H	FACW	SU
	<i>Thalictrum</i> (= <i>Anemone</i>) <i>thalictroides</i>	Rue Anemone	Ranunculaceae	H	FACU	S1S2
	<i>Thalictrum dioicum</i>	Meadow-rue, Early	Ranunculaceae	H	FACU	
X	<i>Thalictrum pubescens</i> (= <i>T. polygamum</i>)	Meadow-rue, Tall	Ranunculaceae	H	FACW	
	<i>Thalictrum revolutum</i>	Meadow-rue, Wavy-leaved	Ranunculaceae	H	FAC	SU
	<i>Thalictrum thalictroides</i>	Rue Anemone	Ranunculaceae	H	FACU	S1
X	<i>Thelypteris palustris</i> var. <i>pubescens</i>	Fern, Marsh	Thelypteridaceae	F	FACW	
	* <i>Thermopsis villosa</i>	False Lupine	Fabaceae	H	UPL	
	<i>Thinopyrum pycnanthum</i> (= <i>Agropyron pungens</i>)	Quackgrass, Stiff-leaf	Poaceae	H	FACW	
	* <i>Thlaspi arvense</i>	Penny-cress, Field	Brassicaceae	H	UPL	
X	<i>Thuja occidentalis</i>	White-cedar, Northern	Cupressaceae	S,T	FACW	
E	<i>Thymus pulegioides</i>	Thyme, Lemon	Lamiaceae	DS	UPL	
X	<i>Tiarella cordifolia</i> var. <i>cordifolia</i>	Foamflower	Saxifragaceae	H	FACU	
	<i>Tilia americana</i>	Basswood, American	Malvaceae	T	FACU	
	<i>Toxicodendron radicans</i> ssp. <i>radicans</i>	Poison-Ivy	Anacardiaceae	S,V	FAC	
	<i>Toxicodendron rydbergii</i>	Poison-Ivy, Western	Anacardiaceae	S	FAC	
	<i>Toxicodendron vernix</i>	Sumac, Poison	Anacardiaceae	S	OBL	
E	<i>Tradescantia ohimensis</i>	Spiderwort, Smooth	Commelinaceae	H	FACU	SU
E	<i>Tradescantia virginiana</i>	Spiderwort, Virginia	Commelinaceae	H	UPL	
	* <i>Tragopogon porrifolius</i> L.	Salsify (Oyster Plant)	Asteraceae	H	UPL	
	* <i>Tragopogon pratensis</i>	Goat's-Beard, Yellow	Asteraceae	H	UPL	
	* <i>Trapa natans</i>	Water-Chestnut	Lythraceae	H	OBL	
	<i>Triadenum fraseri</i>	St. John's-wort, Fraser's	Hypericaceae	H	OBL	
X	<i>Triadenum virginicum</i> (= <i>Hypericum</i> v.)	St. Johnswort, Marsh	Hypericaceae	H	OBL	
	<i>Triantha</i> (= <i>Tofieldia</i>) <i>glutinosa</i>	False Ashodel, Sticky	Tofieldiaceae	H	OBL	S1
	<i>Trichomanes intricatum</i>	Filmy Fern, Appalachian	Hymenophyllaceae	H	NL	SH
	<i>Trichophorum</i> (= <i>Eriophorum</i>) <i>alpinum</i> (= <i>Scirpus hudsonianus</i>)	Bulrush, Alpine	Cyperaceae	H	OBL	
	<i>Trichophorum</i> (= <i>Scirpus</i>) <i>cespitosum</i> ssp. <i>cespitosum</i>	Deer-hair	Cyperaceae	H	OBL	
	<i>Trichophorum planifolium</i>		Cyperaceae	H	UPL	S1
	<i>Trichostema dichotomum</i>	Bluecurls	Lamiaceae	H	UPL	
	<i>Tridens flavus</i> var. <i>flavus</i> (= <i>Triodea flava</i>)	Red-Top, Tall	Poaceae	H	UPL	
X	* <i>Trifolium arvense</i>	Clover, Rabbit-Foot	Fabaceae	H	UPL	
	* <i>Trifolium aureum</i> (= <i>T. agrarum</i>)	Clover, Hop	Fabaceae	H	UPL	
	* <i>Trifolium campestre</i> (= <i>T. procumbens</i>)	Clover, Low Hop	Fabaceae	H	UPL	
(X)	* <i>Trifolium dubium</i>	Clover, Least Hop	Fabaceae	H	FACU	
X	* <i>Trifolium hybridum</i>	Clover, Alsike	Fabaceae	H	FACU	
	* <i>Trifolium incarnatum</i>	Clover, Scarlet	Fabaceae	H	UPL	
X	* <i>Trifolium pratense</i>	Clover, Red	Fabaceae	H	FACU	
(X)	* <i>Trifolium repens</i>	Clover, White	Fabaceae	H	FACU	
	<i>Triglochin maritima</i>	Arrow-Grass	Juncaginaceae	H	OBL	
	<i>Trillium cernuum</i>	Trillium, Nodding	Melanthiaceae	H	FAC	
(X)	<i>Trillium erectum</i>	Trillium, Purple	Melanthiaceae	H	FACU	
	<i>Trillium grandiflorum</i>	Trillium, Large-flowered	Melanthiaceae	H	UPL	SU
(X)	<i>Trillium undulatum</i>	Trillium, Painted	Melanthiaceae	H	FACU	
	<i>Triodanis perfoliata</i> (= <i>Specularia</i> p.)	Venus' Looking-Glass	Campanulaceae	H	FACU	SU
	<i>Triosteum aurantiacum</i> var. <i>aurantiacum</i>	Horse-gentian, Orange	Caprifoliaceae	H	UPL	S1
(X)	<i>Triphora trianthophora</i>	Orchid, Three Birds	Orchidaceae	H	FACU	S2
	<i>Triplasis purpurea</i>	Grass, Purple Sand	Poaceae	H	UPL	SH
	<i>Trisetum spicatum</i>	Grass, Trisetum	Poaceae	H	FAC	SU
	* <i>Triticum aestivum</i>	Grass, Wheat	Poaceae	H	UPL	
E	<i>Tropaeolum majus</i>	Nasturtium, Garden	Tropaeolaceae	H	UPL	
X	<i>Tsuga canadensis</i>	Hemlock, Eastern	Pinaceae	T	FACU	
	<i>Turritis</i> (= <i>Arabis</i>) <i>glabra</i>	Mustard, Tower	Brassicaceae	H	UPL	
X	* <i>Tussilago farfara</i>	Coltsfoot	Asteraceae	H	FACU	
	<i>Typha angustifolia</i>	Cattail, Narrow-leaf	Typhaceae	H	OBL	
X	<i>Typha latifolia</i>	Cattail, Broad-leaf	Typhaceae	H	OBL	
X	<i>Ulmus americana</i>	Elm, American	Ulmaceae	T	FACW	
E	<i>Ulmus pumila</i>	Elm, Siberian	Ulmaceae	S,T	UPL	
	<i>Ulmus rubra</i>	Elm, Slippery or Red	Ulmaceae	S,T	FAC	
	<i>Ulmus thomasi</i>	Elm, Winged	Ulmaceae	S,T	FAC	SU
	<i>Urtica dioica</i>	Nettle, Stinging	Urticaceae	H	FAC	
	* <i>Urtica urens</i>	Nettle, Burning	Urticaceae	H	UPL	
	<i>Utricularia cornuta</i>	Bladderwort, Horned	Lentibulariaceae	H	OBL	
	<i>Utricularia geminiscapa</i>	Bladderwort	Lentibulariaceae	H	OBL	
	<i>Utricularia gibba</i>	Bladderwort, Humped	Lentibulariaceae	H	OBL	
(X)	<i>Utricularia intermedia</i>	Bladderwort, Flat-leaf	Lentibulariaceae	H	OBL	
(X)	<i>Utricularia minor</i>	Bladderwort, Lesser	Lentibulariaceae	H	OBL	S3
	<i>Utricularia purpurea</i>	Bladderwort, Purple	Lentibulariaceae	H	OBL	
	<i>Utricularia radiata</i> (= <i>U. inflata</i> var. <i>minor</i>)	Bladderwort, inflated	Lentibulariaceae	H	OBL	S3
	<i>Utricularia resupinata</i>	Bladderwort, Small Purple	Lentibulariaceae	H	OBL	SH

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	Utricularia vulgaris ssp. macrorhiza	Bladderwort, Common	Lentibulariaceae	H	OBL	
	Uvularia grandiflora	Bellwort, Large-flowered	Colchicaceae	H	UPL	S1
	Uvularia perfoliata	Bellwort, Perfoliate-leaved	Colchicaceae	H	FACU	S1
X	Uvularia sessilifolia	Bellwort, Sessile-leaf	Colchicaceae	H	FACU	
	* Vaccaria hispanica	Cowcockle	Caryophyllaceae	H	UPL	
X	Vaccinium angustifolium	Blueberry, Lowbush	Ericaceae	S	FACU	
	Vaccinium boreale	Blueberry, Alpine	Ericaceae	DS	UPL	S2
	Vaccinium caesariense	Blueberry, New Jersey Highbush	Ericaceae	S	OBL	
	Vaccinium cespitosum	Bilberry, Dwarf	Ericaceae	S	FACU	S2
X	Vaccinium corymbosum	Blueberry, Highbush	Ericaceae	S	FACW	
	Vaccinium fuscum (= V. atrococcum)	Blueberry, Black Highbush	Ericaceae	S	FACW	SU
(X)	Vaccinium macrocarpon	Cranberry, Large	Ericaceae	S	OBL	
(X)	Vaccinium myrtilloides	Blueberry, Velvet leaf	Ericaceae	S	FACW	
(X)	Vaccinium oxycoccos	Cranberry, Small	Ericaceae	S	OBL	
	Vaccinium pallidum (= V. vacillans)	Blueberry, Late Low	Ericaceae	S	UPL	
	Vaccinium uliginosum	Bilberry, Bog	Ericaceae	S	FAC	S3
	Vaccinium vitis-idaea ssp. minus	Cranberry, Mountain	Ericaceae	S	FAC	
	Vahlodea atropurpurea (= Deschampsia a.)	Hairgrass, Mtn.	Poaceae	H	FACW	S1
	* Valeriana officinalis	Valerian	Caprifoliaceae	H	UPL	
	Valeriana uliginosa	Valerian, Marsh	Caprifoliaceae	H	OBL	SH
	Vallisneria spiralis	Wild Celery	Hydrocharitaceae	H	OBL	
X	Veratrum viride	False-hellebore, American	Melanthiaceae	H	FACW	
	* Verbascum blattaria	Mullein, Moth	Scrophulariaceae	H	FACU	
	* Verbascum lychnitis	Mullein, White	Scrophulariaceae	H	UPL	
	* Verbascum nigrum	Mullein, Black	Scrophulariaceae	H	UPL	
X	* Verbascum thapsus	Mullein, Common	Scrophulariaceae	H	UPL	
	Verbena hastata var. hastata	Vervain, Blue	Verbenaceae	H	FACW	
	Verbena simplex	Vervain, Narrow-leaved	Verbenaceae	H	UPL	
	Verbena urticifolia var. urticifolia	Vervain, White	Verbenaceae	H	FAC	
	* Vernonia noveboracensis	Ironweed, New York	Asteraceae	H	FACW	
	* Veronica agrestis	Speedwell, Green Field	Plantaginaceae	H	UPL	
	Veronica americana	Speedwell, American	Plantaginaceae	H	OBL	
	* Veronica arvensis	Speedwell, Corn	Plantaginaceae	H	FACU	
	* Veronica austriaca ssp. teucrium	Speedwell, Broadleaf	Plantaginaceae	H	UPL	
	* Veronica chamaedrys	Speedwell, Germander	Plantaginaceae	H	NL	
	* Veronica longifolia	Speedwell, Long-leaved	Plantaginaceae	H	NL	
X	* Veronica officinalis var. officinalis	Speedwell, Common	Plantaginaceae	H	FACU	
	Veronica peregrina ssp. peregrina	Speedwell, Purslane	Plantaginaceae	H	FAC	
	* Veronica peregrina ssp. xalapensis	Speedwell, Purslane	Plantaginaceae	H	FAC	
E	Veronica persica	Speedwell, Bird's-eye	Plantaginaceae	H	NL	
	Veronica scutellata	Speedwell, Marsh	Plantaginaceae	H	OBL	
	Veronica serpyllifolia ssp. humifusa	Speedwell, Brightblue	Plantaginaceae	H	FAC	S3
	* Veronica serpyllifolia ssp. serpyllifolia	Speedwell, Thyme-leaved	Plantaginaceae	H	FAC	
	* Veronica spuria	Speedwell, Bastard	Plantaginaceae	H	NL	
	Veronica wormskeeldii var. wormskeeldii	Speedwell, Alpine	Plantaginaceae	H	FAC	S1
X	Viburnum acerifolium	Viburnum, Maple-Leaved	Adoxaceae	S	UPL	
X	Viburnum dentatum var. lucidum (= V. recognitum)	Arrowwood	Adoxaceae	S	FAC	
	Viburnum edule	Squashberry or Mooseberry	Adoxaceae	S	FACW	SU
X	Viburnum lantanaoides (= V. alnifolium)	Hobblebush	Adoxaceae	S	FACU	
(X)	Viburnum lentago	Nannyberry	Adoxaceae	S	FAC	
X	Viburnum nudum (= cassinoides)	Withered	Adoxaceae	S	FACW	
	* Viburnum opulus ssp. opulus	Gelder-Rose	Adoxaceae	S	FACW	
(X)	Viburnum opulus ssp. trilobum (= V. t.)	Cranberry, American	Adoxaceae	S	FACW	
	Viburnum rafinesquianum var. rafinesquianum	Arrowwood, Downy	Adoxaceae	S	UPL	S1
	Vicia americana	Vetch, American Purple	Fabaceae	H	FACU	
X	* Vicia cracca ssp. cracca	Vetch, Cow or Tufted	Fabaceae	H	UPL	
	* Vicia hirsuta	Vetch, Tiny	Fabaceae	H	UPL	
	* Vicia sativa ssp. nigra	Vetch, Spring	Fabaceae	H	FACU	
	* Vicia sativa ssp. sativa	Vetch, Garden	Fabaceae	H	FACU	
	* Vicia sepium	Vetch, Hedge or Bush	Fabaceae	H	UPL	
	* Vicia tetrasperma	Vetch, Slender	Fabaceae	H	UPL	
(X)	* Vicia villosa ssp. villosa	Vetch, Hairy or Winter	Fabaceae	H	UPL	
	* Vinca minor	Periwinkle	Apocynaceae	H	UPL	
	Viola adunca var. adunca	Violet, Hookedspur	Violaceae	H	FACU	
	Viola affinis	Violet, LeConte's	Violaceae	H	FACW	SH?
	* Viola arvensis	Pansy, Wild	Violaceae	H	UPL	
X	Viola blanda var. blanda	Violet, Sweet White	Violaceae	H	FACW	
	Viola blanda var. palustriformis	Violet, Marsh Sweet White	Violaceae	H	FACW	
	Viola canadensis var. canadensis	Violet, Canada	Violaceae	H	FACU	S3
X	Viola cucullata	Violet, Marsh Blue	Violaceae	H	OBL	
	Viola labradorica (= V. conspersa)	Violet, American Dog	Violaceae	H	FAC	

RUMFORD COMMUNITY FOREST VASCULAR PLANT LIST

(X) = probable

X	Alien Scientific Name	Common Name	Family Name	Habit	Wetland Status	Rarity Status
	<i>Viola lanceolata</i> ssp. <i>lanceolata</i>	Violet, Lance-leaved	Violaceae	H	OBL	
	<i>Viola nephrophylla</i>	Violet, Northern Bog	Violaceae	H	FACW	SH
	<i>Viola novae-angliae</i>	Violet, New England	Violaceae	H	OBL	
(X)	<i>Viola pallens</i> (= <i>V. macloskeyi</i> ssp. <i>pallens</i>)	Violet, Northern White	Violaceae	H	OBL	
	<i>Viola palmata</i>	Violet, Palmate	Violaceae	H	FACU	S1
	<i>Viola palustris</i> var. <i>palustris</i>	Violet, Marsh	Violaceae	H	FACW	S2
	<i>Viola pedata</i>	Violet, Bird's-foot	Violaceae	H	UPL	S2
	<i>Viola primulifolia</i>	Violet, Primrose-leaved	Violaceae	H	FACW	
	<i>Viola pubescens</i> var. <i>pubescens</i>	Violet, Downy Yellow	Violaceae	H	FACU	
	<i>Viola pubescens</i> var. <i>scabriuscula</i> (= <i>V. pensylvanica</i> var. <i>leiocarpa</i>)	Violet, Smooth Yellow	Violaceae	H	FACU	
	<i>Viola renifolia</i>	Violet, Kidney-leaved	Violaceae	H	FACW	
	<i>Viola rostrata</i>	Violet, Long-spurred	Violaceae	H	FACU	
(X)	<i>Viola rotundifolia</i>	Violet, Round-leaf Yellow	Violaceae	H	FAC	
X	<i>Viola sagittata</i> var. <i>ovata</i> (= <i>V. fimbriatula</i>)	Violet, Ovate-leaved	Violaceae	H	FAC	
	<i>Viola selkirkii</i>	Violet, Selkirk's	Violaceae	H	UPL	
(X)	<i>Viola septentrionalis</i>	Violet, Northern Blue	Violaceae	H	FACU	
	<i>Viola sororia</i> (= <i>V. septentrionalis</i>)	Violet, Common Blue	Violaceae	H	FAC	
	* <i>Viola striata</i>	Violet, Striped Cream	Violaceae	H	FACW	
	* <i>Viola tricolor</i>	Johnny-Jump-Up	Violaceae	H	UPL	
	* <i>Viscaria vulgaris</i>	Campion, Clammy	Caryophyllaceae	H	NL	
	<i>Vitis aestivalis</i> var. <i>bicolor</i>	Grape, Summer	Vitaceae	WV	FACU	
	<i>Vitis labrusca</i>	Fox Grape	Vitaceae	WV	FACU	
(X)	<i>Vitis riparia</i>	Grape, River Bank	Vitaceae	WV	FAC	
	* <i>Vitis vinifera</i>	Grape, European	Vitaceae	WV	NL	
	<i>Vitis X novae-angliae</i>	Grape, New England	Vitaceae	WV	FAC	
	<i>Vulpia octoflora</i> ssp. <i>tenella</i>	Fescue, Six Weeks	Poaceae	H	FACU	SH
	* <i>Wisteria floribunda</i>	Wisteria, Japanese	Fabaceae	V	UPL	
	<i>Wolffia borealis</i>	Water-meal, Northern	Araceae	H	OBL	
	<i>Wolffia columbiana</i>	Water-meal, Columbian	Araceae	H	OBL	
	<i>Woodsia glabella</i>	Woodsia, Smooth	Woodsiaceae	F	UPL	S1
	<i>Woodsia ilvensis</i>	Woodsia, Rusty	Woodsiaceae	F	UPL	
	<i>Woodsia obtusa</i>	Woodsia, Blunt-lobed	Woodsiaceae	F	UPL	S1
	<i>Woodwardia areolata</i>	Fern, Netted Chain-	Blechnaceae	F	OBL	S1
	<i>Woodwardia virginica</i>	Fern, Virginia Chain-	Blechnaceae	F	OBL	
	* <i>Xanthium spinosum</i>	Cocklebur, Spiny	Asteraceae	H	FACU	
	<i>Xanthium strumarium</i> var. <i>canadense</i>	Cocklebur, Rough	Asteraceae	H	FAC	
	<i>Xyris difformis</i> var. <i>difformis</i>	Yellow-eyed-grass, Carolina	Xyridaceae	H	OBL	
	<i>Xyris montana</i>	Yellow-eyed-grass	Xyridaceae	H	OBL	S3
	<i>Xyris smalliana</i> (= <i>X. caroliniana</i>)	Yellow-eyed-grass, Small's	Xyridaceae	H	OBL	
	<i>Xyris torta</i>	Yellow-eyed-grass, Twisted	Xyridaceae	H	OBL	
	<i>Yucca filamentosa</i>	Spanish Bayonet	Agavaceae	S	UPL	
	<i>Zannichellia palustris</i>	Pondweed, Horned	Zannichelliaceae	H	OBL	S1
	<i>Zanthoxylum americanum</i>	Prickley-ash, Northern	Rutaceae	S	FACU	SH
	<i>Zizania palustris</i> var. <i>palustris</i>	Grass, Northern Wild Rice	Poaceae	H	OBL	SU
(X)	<i>Zizia aurea</i>	Alexanders, Golden	Apiaceae	H	FAC	
	<i>Zostera marina</i>	Eelgrass	Zosteraceae	H	OBL	

220

TOTAL NUMBER OBSERVED

174

TOTAL ADDITIONAL SPP POSSIBLE

394

Approximate Total Number of Vascular Plant Species on Property

Appendix C

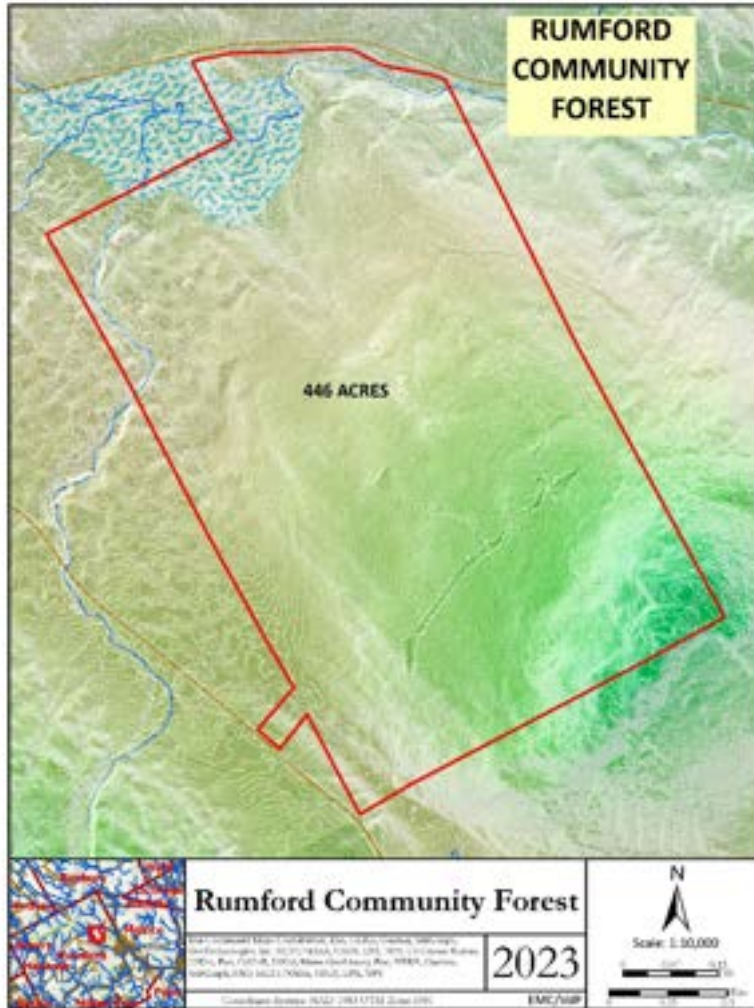
Slide Show of Preliminary Findings Given on November 15, 2023

RUMFORD COMMUNITY FOREST PRELIMINARY RESULTS OF THE 2023 ECOLOGICAL ASSESSMENT



Dr. Rick Van de Poll
Ecosystem Management Consultants
Sandwich NH

RUMFORD COMMUNITY FOREST



- +/- 446 acres
- 2430 feet of road frontage on Isthmus Road (both segments)
- 2735 feet on Scotty Brook
- 5043 feet on (2) perennial streams
- 8743+ feet on intermittent streams
- Includes +/- 15 acres of floodplain on the 3rd order Scotty Brook

A COMMUNITY FOREST WITH SOME REMARKABLE FEATURES



- Riparian wildlife – moose (left), otter, mink, beaver, raccoon



A COMMUNITY FOREST WITH OUTSTANDING FEATURES



- Some remarkable forest resources



Blue stain-infected
American chestnut
stump



100-ft tall red oaks

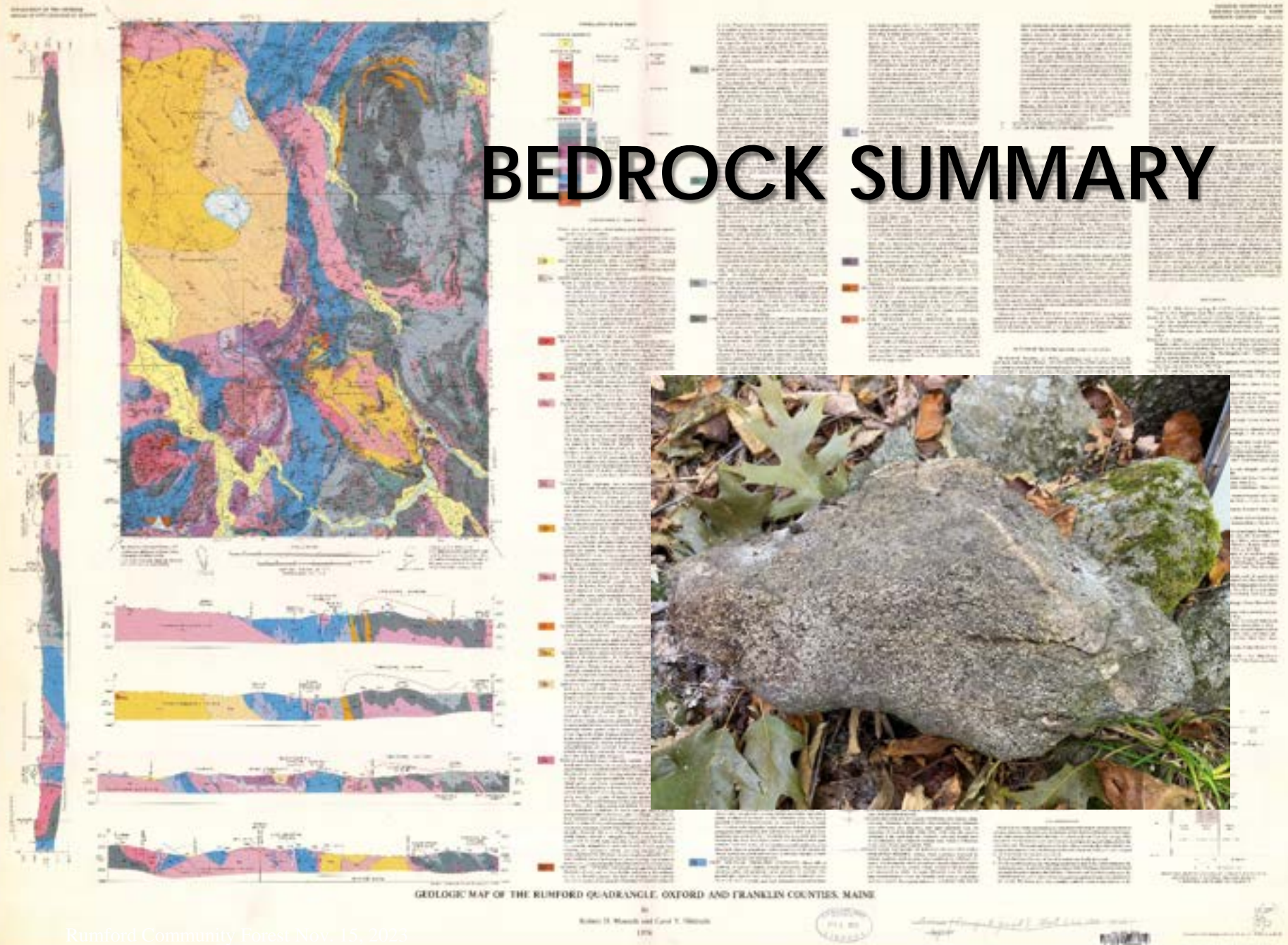


Third Order Scotty Bk





BEDROCK SUMMARY



SOILS SUMMARY

Oxford County Area, Maine (ME613)

Oxford County Area, Maine (ME613)



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BRB	Brayton-Peacham complex, gently sloping, very stony	117.0	26.2%
CfB	Colonel fine sandy loam, 0 to 8 percent slopes, very stony	22.3	5.0%
DfB	Peru fine sandy loam, 3 to 8 percent slopes	1.3	0.3%
DfC	Peru fine sandy loam, 8 to 15 percent slopes	1.8	0.4%
DXC	Peru-Marlow association, 3 to 15 percent slopes, very stony	219.8	49.3%

DXD	Peru-Marlow association, 15 to 35 percent slopes, very stony	4.4	1.0%
HmC	Hermon sandy loam, 8 to 15 percent slopes, very stony	8.3	1.9%
HTD	Monadnock-Hermon association, 15 to 35 percent slopes, very stony	12.7	2.9%
HVC	Hermon-Skerry association, 0 to 15 percent slopes, very stony	9.0	2.0%

LWD	Lyman-Tunbridge-Monadnock complex, 15 to 35 percent slopes, very stony	40.9	9.2%
LWE	Lyman-Tunbridge-Monadnock complex, 35 to 60 percent slopes, very stony	1.4	0.3%
VW	Vassalboro-Wonsqueak association	7.1	1.6%
Totals for Area of Interest		446.1	100.0%

- 33 Natural Community Units identified so far
 - Natural Communities (N = 11)
 - Riparian Zone (N = 3)
 - Wildlife (N = 1)



HIGHLIGHTS – SIGNIFICANT ECOLOGICAL AREAS



HIGHLIGHTS – SIGNIFICANT ECOLOGICAL AREAS



HIGHLIGHTS – SIGNIFICANT ECOLOGICAL AREAS



HIGHLIGHTS – SIGNIFICANT ECOLOGICAL AREAS



HIGHLIGHTS – SIGNIFICANT ECOLOGICAL AREAS



HIGHLIGHTS – SIGNIFICANT ECOLOGICAL AREAS



Rumford Community Forest Nov. 15, 2023

HIGHLIGHTS – SIGNIFICANT SPECIES



ACKNOWLEDGMENTS

- ❧ Town of Rumford
- ❧ Lynnette Batt, Trust for Public Land
- ❧ Julie Renaud Evans, Community Forestry
- ❧ Bill Haslam, Forester
- ❧ Gabe Perkins, Inland Woodlands & Trails
- ❧ Northern Forest Center

RUMFORD COMMUNITY FOREST TRAILS RECOMMENDATIONS

RUMFORD, MAINE

February 2024

Prepared for Inland Woods + Trails by Outdoor Sport Institute

CONTENTS

ABOUT OSI	4
BACKGROUND	5
METHODOLOGY	6
EXISTING CONDITIONS ASSESSMENT	8
TRAIL DEVELOPMENT RECOMMENDATIONS	11
Zone 1 – Scotty Brook Cascades	13
Zone 2 – Beginner Low Slopes	14
Zone 3 – Hiking and Nature	14
Zone 4 – Rocky Steep Slopes	15
Zone 5 – The Summit	16
Zone 6 – Southwestern Access	16
Zone 7 – General Slopes and Forest	17
EXISTING ROAD USE	19
WINTER USE	19
NORTHERN TRAILHEAD	20
Option 1	20
Option 2	20
SOUTHWESTERN TRAILHEAD	20
FUTURE CONNECTIVITY	21

NEXT STEPS AND IMPLEMENTATION CONSIDERATIONS	22
Plan Approval	22
Permitting and Compliance	22
Trail Design	23
Trail Construction.....	24
Maintenance and Stewardship	26
Trail Signage	27
CONCEPT TRAILS TABLE	29
GUIDELINE TABLES	30



ABOUT OSI

Outdoor Sport Institute (OSI) is a 501(c)3 non-profit organization with a mission to make human powered outdoor sport accessible, sustainable, and meaningful for everyone. OSI works directly with communities to:

1. Create & enhance access to infrastructure including trails, gear, and experiences.
2. Develop local leadership & mentorship.
3. Strengthen sustainability in the community.

OSI helps local organizations and communities find success in their outdoor recreation efforts, from improving health and wellness, to developing greater connectivity, to enhancing relationships between people and their environment. OSI provides -

- Education and training for emerging and existing leaders including youth, educators, volunteers, land managers, civic decision makers, and outdoor professionals.
- Technical assistance including planning, design, consultation, and facilitation to help people realize their visions for healthy, active, engaged communities.

BACKGROUND

The Rumford Community Forest (RCF) is a joint project between The Trust for Public Land (TPL), Northern Forest Center (NFC), and Inland Woods + Trails (IWT). These organizations have secured funding to acquire and develop a management plan for the RCF.

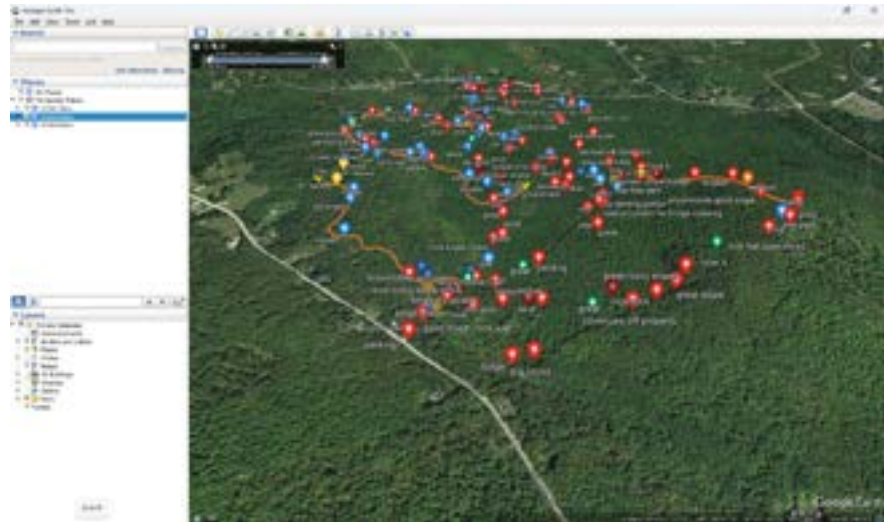
The RCF planning process is facilitated through the Town of Rumford's Planning Board. This committee meets monthly to address parts of the management plan. Their goal is to develop a community-led outline, vision, and list of action items for implementing and maintaining the RCF.

The Outdoor Sport Institute (OSI) has partnered with TPL, NFC, and IWT to provide professional recreational trail recommendations for the RCF. Outdoor Sport Institute (OSI) is a 501(c)3 non-profit organization with a mission to make human powered outdoor sport accessible, sustainable, and meaningful for everyone. OSI provided technical assistance for recreational development at the RCF in the form of meetings and fieldwork, the findings from those are summarized within this document as recommendations for trail development on the RCF.

METHODOLOGY

The following recommendations are based upon desktop analysis, stakeholder input, fieldwork, and industry knowledge of sustainable natural surface trail planning. The following guidance is a conceptual plan to help guide final design, layout, and construction of sustainable singletrack trails at the RCF.

Overall, the recommendations are for a variety of new trail construction. The recommendations seek to provide a diverse and varied trail system that meets the goals of the Town of Rumford and the partners.



The project included four distinct tasks: background and desktop work, stakeholder engagement, fieldwork, and reporting. To begin, the IWET provided OSI with prior planning work by the committee, as well as geospatial data from various community visits. IWT helped relay the broad goals the committee and partners identified for the property.

Stakeholder engagement occurred during two public Planning Board community forest committee meetings in October 2023 and January 2024. The first meeting coincided with the fieldwork and site visit. The October 2023 meeting focused on informing the partners and committee about the existing conditions assessment for recreation, and the preliminary findings for trail development.

OSI listened to committee members and partners describe the goals for recreation at the RCF. OSI led a discussion about trail experiences related to individual and community benefits, to help those in attendance better formulate their vision for trails on the RCF.

Discussions during the first visit focused on recreational trail theory and management, with topics such as single-use versus shared-use, directional versus bidirectional, types of users, levels of trail development, trail system densities, and trail types.

Partners and the public identified a few major objectives for recreation on the RCF:

1. Provide diverse recreation opportunities for all people
2. Ensure recreation meets ecological goals
3. Allow for easy and simple phasing of development

Both the partners and committee wanted to see as much use as possible while retaining important natural resources and mitigating human impacts to the site. The committee agreed that both pedestrian and bicycle use were agreeable with the property and community goals. Stakeholders were interested in both single-use and shared-use trails. People also advocated for primitive trail types where feasible, especially in light of financial phasing for implementation.

The January 2024 visit focused on further clarifying the planning and management ideas from the first visit, as well as the presentation of five conceptual trail layout options. Dialogue around the trail options was facilitated by OSI. Option 3 was selected for its balance of hiking-only, biking-only, and shared-use trails, as well as its layout which allowed for larger undeveloped sections of RCF to remain.

OSI utilized geospatial information systems (GIS) to analyze the RCF prior to the fieldwork, as well as conceptualize trail layout options for the committee. OSI researched environmental and hydrologic resources, permitting and compliance constraints, topography and slopes, soils, and existing trails. Utilizing GIS, OSI was able to analyze the data for contemporary trail development feasibility that met the community's needs and goals, leading to more efficient fieldwork and a better-defined plan.

Fieldwork during October 2023 included three days of hiking and reviewing the site. Experienced trail planners scouted the area of interest to determine landscape feasibility for trail development. Terrain was analyzed for its patterns to reveal experiences that would both fit on the land sustainably and meet the community's goals. Additionally, OSI walked the property with IWT trail stewards, and the RCF forestry consultant. These visits were invaluable for understanding the diverse management goals at the RCF. The findings from engagement, desktop analysis, and fieldwork are summarized within this document.



EXISTING CONDITIONS ASSESSMENT

The RCF is nearly 450 acres of sloping forest terrain outside downtown Rumford, Maine. The property has about 1,600 linear feet of frontage along Isthmus Road in the north and a small 150 linear feet of frontage on Isthmus Road in the southwest. On the northern frontage a small area large enough to pull a few passenger vehicles off Isthmus Road exists near the old snowmobile trail. The southwestern frontage includes a large gravel pad sufficient for parking a few cars off Isthmus Road.

Along the norther property line runs Scotty Brook, a stream which feeds into the Swift River and provides the drinking water supply to Rumford. Near the smaller frontage to the south is a slight height-of-land that separates drainage to Scotty Brook in the north and Bean Brook in the south. The area adjacent to Isthmus Road is largely wetland with signs of active beaver use. Heading north along the westerly property line is mostly wet areas. The riparian and wetland complexes surrounding Scotty Brook in the northwest are prevalent.

One small unnamed stream was found on site, a tributary of Scotty Brook, which flows south-north down the predominant slope of the site. Additional groundwater seeps were found sporadically throughout the site, with a large seep and wet area about a third of the way up the slope from Scotty Brook surrounding the aforementioned unnamed stream.

Scotty Brook after the old snowmobile bridge drops significantly through exposed bedrock. This geologic shift creates unique and interesting cascades and a steep-walled gorge. This area is significantly rockier than other sections of the property, with lots of exposed ledge. Slopes are also quite steep due to underlying bedrock.

The property is generally a rectangle aligned slightly northwest-southeast. The southeastern corner is the summit of a small unnamed hill, and highpoint of the RCF at just over 1,350 feet above sea level. Along Scotty Brook near Isthmus Road and the easterly property line the low point of the property can be found around 600 feet above sea level. Actual continuously usable elevation relief for trail development is about 700 feet.

In general, most of the property slopes are around 20% with isolated pockets of 40%+ slopes. The property slopes from the south to north. To the west the property slopes slightly down to the height-of-land and divide between Scotty Brook and Bean Brook described above.





This western face provides steeper slopes and more visible surface rocks. A small segment of terrain between the existing snowmobile trail and the summit provides additional steep slopes. This section also contained the only instances of exposed ledge and had more rock content than most of the property. Minimal views south and west can be had from the summit during leaf-off seasons. Exposed ledge and vernal pools were observed on the summit itself.

Trailbuilding is feasible on a wide range of slopes, but ideally occurs on 20-60% gradients. The RCF has excellent slopes for diverse trail development. Slopes lean toward the gentle end, which facilitates better visitor accessibility. Advanced techniques such as borrow pitting, lift-and-tilt, and more may be required to create durable and enjoyable trail treads on low angle slopes.

Existing logging road and skidder trails exist on the property from previous timber harvest operations. Some of these have been maintained as ATV and snowmobile trails in the past. Currently, an old, improved logging road departs Isthmus Road in the north, quickly coming to Scotty Brook in less than 150 feet.

The old snowmobile bridge was dismantled but the abutments are still visible. The road then travels about 500 feet until it enters a small old gravel pit, likely used for road construction on site. In the pit another forest road enters from the east. This road traverses the top of the southerly gorge wall above Scotty Brook for about 0.3 miles before going off site onto private property. This road is also the existing snowmobile trail.

From the gravel pit the combined forest road heads uphill, south, for about 0.3 miles until it reaches a major junction with a forest road heading east. This forest road traverses steeper slopes for about 900 feet before exiting onto private property. Heading uphill on the original forest road another 0.5 miles one comes to another junction, with a logging road continuing uphill towards the south and another heading west along the contour. This westerly road is the continuation of the snowmobile trail. The steeper logging road heading south was previously used as an ATV and snowmobile trail and is no longer managed for these uses. There are no existing ATV trails on the property now.

The westerly contour logging road comes upon an old homesteading site within about 0.1 miles of the junction, and in another 0.1 miles comes to a junction with an old overgrown skidder path which heads downhill (north). This skidder path dead ends in an old landing after 0.2 miles.



From the skidder road junction traveling west another 0.15 miles brings one to another large landing site and open views looking west. These are some of the only open views on the site. This landing site is a major four-way intersection of old roads. To the east a split occurs, with two logging roads heading downhill towards the west. The snowmobile trail follows a logging road which heads south (uphill), eventually leaving the property after about 0.25 miles.

Additional skidder roads dot the property in various states of naturalization. Minor older extraction routes and roads are found on the site, two visible and easily identifiable ones were in the northeast section of the parcel. One road was followed along the Scotty Brook riparian areas for almost 0.6 miles. Another intersected the former near the western property line and headed south (uphill) towards the log landing described at the end of the overgrown skid trail.

Many of the logging roads, including the snowmobile trail, have fall-line alignments. This means the roads intersect contours at a 90-degree angle, meaning capturing runoff and ensuring it drains off the road is nearly impossible. Fall-line alignments are unsustainable and maintainable for a wide range of reasons. Additionally, logging roads and skid trails are designed and created for timber harvesting. They often do not meet recreational user's goals. Also, coopting these old routes for recreation could create a conflict when and if active forestry operations begin again.

The forest was observed as mostly hardwood with mixed species in many locations. There were no large areas of conifers beyond hemlock stands in the Scotty Brook gorge area. In general, hardwood forests provide better conditions for trail development.

Soils on site are predominately from the Peru, Marlow, Brayton, and Peacham series. Peru-Marlow associations make up most of the RCF soils. These soils are described as well-draining and mostly fine sandy loam. Conversely, the Brayton-Peacham complex is described as poorly draining with an organic layer of muck on top of fine sandy loam. Typically, the Brayton-Peacham complex is found on the low slope riparian areas around Scotty Brook to the north and the wetlands near the westerly access point.

A zone of the Brayton-Peacham complex is identified in soil mapping above (south) of the major contour logging road, below the summit. The summit area contains Lyman-Tunbridge-Monadnock complex, which is described with more loam than the Peru-Marlow fine sandy loams, and it is noted bedrock is often found within 1-2 feet of the surface in Lyman-Tunbridge-Monadnock soils.

Generally, loams derived from glacial till are excellent for trail construction, often having an adequate mixture of fine and large particles that allows for cohesion (important for tread shaping and durability) while allowing for drainage (reducing puddling and saturated soil conditions). The soil contains numerous rocks, ranging from small to large boulders, and exposed ledge was found near the summit. These features are important for creating long lasting and enjoyable trail experiences.

TRAIL DEVELOPMENT RECOMMENDATIONS

To simplify analysis and recommendations, the area of interest has been broken into zones based upon site findings and terrain similarities. The area around Scotty Brook near Isthmus Road (1), the lower third of the slope from the middle of the property to the eastern boundary (2), the low slopes along Scotty Brook from the gorge upstream wrapping along the western property line to the heigh-of-land and access (3), the area between the snowmobile trail and the summit (4), the summit itself (5), the heigh-of-land near the southwestern access (6), and the remaining forested slopes (7).



Zone 1 – Scotty Brook Cascades

This zone is about 10 acres of mostly hemlock forest and rocky steep slopes surrounding Scotty Brook as it drops in a series of cascades heading off property to the east. With direct access from small pull off, this zone is incredibly close to parking.

The cascades along Scotty Brook are the most remarkable and interesting terrain features for recreational trail users. The steep rocky slopes prevent easy trail building. It is recommended a small accessible trail be developed close to the future trailhead which loops visitors to the top of the cascades on the north side of Scotty Brook. This trail would likely be around 500 linear feet and allow for all-persons access.

Continuing from this short accessible trail should be a rugged and primitive hiking-only trail. Dropping down along Scotty Brook is challenging terrain, a primitive hiking trail reduces resource impacts and increases ease of construction. This type of trail fits the terrain well and will provide pedestrians a quick and easy enjoyable experience close to the trailhead.

A bridge will have to be constructed to facilitate crossing of Scotty Brook. It is recommended the bridge be in the location of the former bridge to reduce impacts. If active management and vehicular access are desired, the bridge will require more thorough engineering, design, and construction. In the short-term, developing a foot traffic bridge that can accommodate bicycles would allow public access.

Utilizing the old logging road to the gravel pit as a shared-use trail is recommended. Besides the road a short beginner (easiest) shared-use singletrack is advised. This singletrack would create a small loop around the knoll near the old snowmobile bridge, offering a very simple introduction to singletrack at RCF. The gravel pit should also be considered for parking, in which case the logging road would be improved for vehicular traffic.

Departing the introductory beginner loop eastward should be an intermediate shared-use singletrack which traverse high above Scotty Brook between it and the snowmobile trail (old logging road). This would offer mountain bikers views down into the gorge and cascades. This trail should loop over the snowmobile trail then parallel it on the south side, heading back west to the gravel pit. This would form a half mile intermediate loop, allowing progression from the short beginner loop and reducing visitor risk by providing short samples of trails further up the slope.



Zone 2 – Beginner Low Slopes

This 45-acre zone rises up from the gravel pit in Zone 1 about 150 vertical feet in elevation to the logging road which heads east off property. Zone 2 provides gentle low-elevation opportunities for beginners or people new to trail recreation. This zone is mostly hardwoods and gentle slopes, ideal for creating easy trails.

A beginner (easiest) trail is recommended to climb from the gravel pit to the logging road and back down. This entire loop would be about 1.5 miles. It is recommended at a minimum this loop be developed as a shared-use bike-optimized trail. Another idea for consideration is designating half of the loop bike-only descending. This would allow for further optimization of the trail creating a unique and fun opportunity for youth and new mountain bikers while retaining shared-use access up the hill. If a bike-only easiest trail is desired, it is recommended it be on the east side of the main logging road/snowmobile trail with the shared-use trail on the west side.

Zone 3 – Hiking and Nature

About 55 acres of terrain along Scotty Brook heading upstream (west), then wrapping along the western property line to the southwest access point is ideal for a hiking-only nature-immersive experience. The slopes and soil content in this area is not ideal for intense trail development and use. Additionally, this area is near riparian and wetland zones, making it more conducive with quiet solitary experiences sought by hikers and nature-viewers.



The singletrack in this zone should utilize old roads and skidder trails where appropriate. This will help reduce cost and limit effects to previously impacted areas. Drainage will be important in this zone and may require abundant bog bridging and boardwalking to cross the many seeps and wet areas.

This trail should wrap 1.5 miles up to the southwestern access point along Isthmus Road. Here it intersects other shared-use trails.

Zone 4 – Rocky Steep Slopes

This zone represents about 70 acres of the steepest and rockiest terrain on the property. This area is ideal for providing more advanced trail opportunities that will challenge visitors and allow for skills progression. This zone appeals to directional bike-only descents with its rock content and gradient.

It is recommended that at least one short bike-only descent be developed in this zone that makes use of the unique landscape features. Ideally, two or three short descents would allow diversity in difficulty level (intermediate and advanced), diversity in style, and diversity in development level (primitive to more developed). The far eastern side of the old steep road is ideal for an intermediate bike-only descent that could continue into Zone 7, heading downhill to Zone 2 and the logging road heading off property.

A shared-use climb will be needed to access the bike-only descents. Additionally, a shared-use trail creates more loop opportunities for hikers and runners. This trail should hug the old steep logging road to the west. Turns on the shared-use trails should reflect its management versus turns on bike-only descents.



The far southern property line and edge of this zone should include an extension to the Zone 3 hiking-only trail. Traveling over a half mile to the summit, this hiking-only trail should be primitive and use best practices to climb steep slopes, such as stone stairs.

Zone 5 – The Summit

At less than 10 acres, the summit zone is quite small. It is recommended that a small shared-use loop be created on top to provide a relaxing way for visitors to experience the bedrock slabs and view the vernal pool. The trail should maintain an adequate buffer (75-feet) from the vernal pool edges. This loop would be access via the climbing intermediate shared-use trail climbing from Zone 2, through Zones 7 and 4, to the summit, as well as the hiking-only trail from the southwest. Additionally, this loop will provide the access to the bike-only descents in Zone 4.



Zone 6 – Southwestern Access

This small zone is identified to focus on the necessary access from the proposed trailhead in the southwest. Traversing the slope down to the height-of-land is simple, crossing the wetlands will require between 100 and 500 feet of boardwalk.

Only one shared-use intermediate access trail is recommended in this zone to reduce impacts to the wetlands and reduce financial burden from boardwalk creation. This short trail will provide access to a major intersection of the hiking-only trail and another shared-use trail which climbs uphill (east) to the major landing and Zone 7.



Zone 7 – General Slopes and Forest

The remaining roughly 200-acres is similarly basic terrain without any real distinguishing features. Zone 7 provides ideal soil and forest conditions for trail development. The partners and committee would like to see minimal trail development across Zone 7 to preserve larger blocks of undeveloped forest.

Zone 7 primarily provides access between the other zones, which offer unique trail experiences of terrain constraints. It is recommended that Zone 7 include shared-use intermediate singletracks from Zones 2 and 6, connecting the access points and trailheads to Zones 4 and 5.

One of the singletracks should continue climbing from the easiest shared-use trail in Zone 2. Maintaining a corridor on the west side of the snowmobile trail as it climbs to the contour logging road/snowmobile trail. From here singletrack in Zone 4 continues the climb to Zone 5 and the summit, while a connector would parallel the snowmobile trail west towards the log landing. This connector would collect any bike-only descents in Zone 4. From the log landing, the shared-use singletrack should descend to the intersection with the hiking-only trail near Zone 6.

A bike-only descent east of the old steep logging road should continue from Zone 4 to Zone 2. This trail provides an opportunity to include bike-optimized directional experiences and builds on the easiest bike-only offering in Zone 2, allowing visitors to progress their skills and abilities.



A large, over 100-acre, section of Zone 7 is recommended to remain as undeveloped forest. This block of terrain without trails stretches approximately 1,500-feet by 3,000-feet, creating a large piece of forest for wildlife and tree growth.

- [illegible]

Statement Number

P-2

Date: February 2023

Prepared for:



EXISTING ROAD USE

While this memo recommends a series of new singletrack trails that will create a cohesive and complete shared-use trail system, it is important to prepare to manage visitor use on the existing roads. While many of these roads are unsustainable, they will not be decommissioned and should be kept for possible forestry operations, maintenance and construction access, and emergency situations.

Signing and mapping the major roads will help ensure visitors are informed as they explore the RCF. While trails are planned, designed, and built to offer certain experiences, the roads will still appeal to some visitors. Ensuring the roads are cleared of blowdowns and trimmed back like all trails at RCF is important for many reasons.

During future timber harvests, the roads will need to be well signed to inform visitors of active machinery and crews. The trails could offer connectivity and recreation throughout these operations. Any improvements to the roads should be coordinated with the local snowmobile club where their trail uses the roads.

WINTER USE

The community has a rich history of winter recreation and many wish to explore RCF during snowy months. The shared-use and hiking-only singletrack trails will make excellent snowshoe trails. It is recommended these trails be managed for snowshoe use during the winter.

Fatbiking on the shared-use trails could and should be considered. If managed, fatbiking may require more grooming and education of users to ensure snow conditions on shared-use trails do not deteriorate due to use.

Bike-only descents should be managed for fatbiking. If grooming, these trails could provide a fun and unique opportunity. Locals may wish to snowshoe groom these trails, efforts should be coordinated with IWT.

The existing roads would provide great classic cross-country skiing. It is recommended this be managed and allowed. IWT could consider grooming, but there are no loops and turnarounds will have to be identified. Instead, allowing backcountry use and signing and managing for it is recommended.

NORTHERN TRAILHEAD

Option 1

The northern access along Isthmus Road where the old snowmobile trail and bridge were located is recommended as an improved trailhead for the RCF. This area provides good sightlines along Isthmus Road and is already impacted as a pull-off and old logging road exit.

The topography and forest allow for easy construction of a small parking lot. It is recommended that the lot be designed and built for 15 to 30 cars. The northern access will likely be busier than the southwestern due to proximity to the cascades and its adjacency to Black Mountain of Maine, a popular recreation attraction.

The northern trailhead should provide accessible parking and facilities, to complement the short all-persons trail leading to the top of the cascades. The trailhead parking spaces should be sufficient for large trucks or vans with bike racks. Retaining trees for shade and appeal is important when clearing for the parking area.

Option 2

A second option for the northern access trailhead is in the old gravel pit on site shortly after the old snowmobile bridge. The bridge would need to be built for vehicular access and the access road from Isthmus Road and past the bridge to the gravel pit will require improvements such as hardening and widening. The gravel pit could likely easily support 15-30 parking spaces.

Similar to the Option 1 recommendations, the parking spaces should be sufficient for large trucks or vans with bike racks and trees should be kept for shade and appeal. Due to the distance from the recommended all-persons trail, it is suggested a small accessible parking lot with 1-3 spaces be built along Isthmus Road with Option 2.

SOUTHWESTERN TRAILHEAD

The southwestern access point already has a small gravel lot. The lot is about 40-feet wide and 50-feet deep, built up on fill. Ideally the space would provide 10-20 car parking spaces with one main entry/exit drive to Isthmus Road.

Like the northern access recommendations, the parking spaces should be sufficient for large trucks or vans with bike racks and trees should be kept for shade and appeal. There is no accessible trail from the southwestern access so the lot only needs one to two spaces.

FUTURE CONNECTIVITY

The partners and committee all sought to ensure options for future connectivity were left feasible with this planning. It is important to the community to be able to develop connections between their recreational assets, downtown, school, homes, and places of work.

The RCF is ideally located for future connectivity to both Black Mountain of Maine (BMOM) and the existing Pennacook Area Community Trails (PACT) behind Mountain Valley High School. In turn, the PACT and high school are directly connected to the Hosmer Field Access Trail and into downtown Rumford.

Less than 1,000-feet west up Isthmus Road from the northern access trailhead is access to BMOM. BMOM owns a narrow (100-feet wide) stretch of land down to Isthmus Road. Connecting the RCF along Isthmus Road to this point and into the BMOM cross-country ski network would offer new and exciting opportunities for trail users.

Similarly, there are only one or two (depending on exact path) private property owners between the RCF and the PACT. Connectivity from PACT could tie in between the gravel pit, Zones 1 and 2, all the way up to the logging road which runs off property and provides the approximate boundary between Zones 2 and 7. Ideally the connection may be closer to the snowmobile trail and low slopes into the gravel pit, allowing beginner or low-intermediate access from PACT and the high school. In general, the connection would likely be around one mile.

It is recommended that the community begin conversations with these neighbors to inform them of the RCF plan. Once the RCF trail system is under development, discussions with BMOM and private property owners should become more focused. Currently, the PACT connection is more valuable and therefore should be a priority for future connections.

NEXT STEPS AND IMPLEMENTATION

CONSIDERATIONS

Plan Approval

These recommendations should be integrated into the complete management plan for RCF and approved by the appropriate partners and committee. Once approved, it is important to remember that this plan is just a series of recommendations for trail development and not a detailed design. Next steps described below will help inform the community of what it will take to implement the plan.

It is essential to note that the planned trail alignments described within this memo and depicted on the maps are conceptual, and actual field layout will depend on exact ground conditions and sustainability guidelines.

Permitting and Compliance

All construction projects are subject to regulatory requirements. This section provides a brief breakdown of anticipated permitting needs to implement the recommended natural surface trails. The list is general in nature and is intended only to provide high-level planning for future trail development phases.

Obtaining proper permits can ensure that work follows local, state, and federal laws as this trail concept plan is implemented. At least as important, working under permits can help trailbuilders – and visitors – to be good stewards of the land. Permitting needs can be affected equally by landscape features and funding sources. Both should be identified during the design phases to ensure relevant permitting is completed.

People use trails for all kinds of reasons – but a chief motivator among visitors is to enjoy the outdoors. Ground disturbance and uncontrolled erosion and sedimentation can negatively impact our environment, water quality, flora, and fauna. These impacts are also unsightly and, if not quickly mitigated, can rapidly increase maintenance costs, and ultimately create trails that visitors no longer want to visit.

This project is anticipated to trigger a number of compliance needs throughout its lifetime. Permits are typically administered by federal, state, and local governments and in this case, could mean coordinating with the Maine Department of Environmental Protection (DEP), Maine Department of Inland Fisheries and Wildlife (DIFW), United States Fish and Wildlife Service (FWS), and Army Corps of Engineers (ACOE). Other agencies not mentioned may have

jurisdiction over trail and infrastructure development. Permitting should be completed with design to prepare for implementation.

In early 2022, the Maine Legislature voted to enact Legislative Document Number 1835 which reduced the need for DEP review of purpose-built mountain bike trails that met certain guidelines. These include a tread width not greater than six feet and a corridor width not greater than eight feet, along with following the Department of Agriculture, Conservation, and Forestry (DACF) "Best Maintenance Practices Maine Motorized Trail Construction and Maintenance Manual."

While trail development may not trigger stormwater review from DEP, trailhead or road construction might. Trailheads and roads are major construction projects with their own permitting needs. It is recommended qualified designers with permitting experience be utilized to meet compliance.

Additionally, threatened and endangered species, water resources (wetlands and streams), and essential habitat may be regulated. The design phase should include investigation and communication with relevant agencies to determine the extent of permitting and ensure the design fits the regulations.



Trail Design

These recommendations offer a vision for trail development at the RCF. The plan looks at conceptual opportunities and will require refinement and detailed design prior to construction. It is recommended the partners consult with a professional trail designer/builder to finalize the layouts and designs for each specific trail and feature.

Design is vital to a successful trail system. Beyond ensuring sustainable trail

principles are implemented in the trail layout, qualified designers will ensure the desired experiences are developed. Professional trail layouts will minimize resource impacts and maximize visitor experience. During design a professional will identify all permitting and compliance needs, as well as provide a more detailed cost breakdown for construction.

Trail design should occur in a phased fashion similar to construction. Trail layout typically includes field flagging, these site markings will breakdown over time and weather and animals are known to remove flagging. Field layout should occur no more than two years before anticipated construction for most projects. Additionally, qualified designers can play an important

role in implementation through quality control and client representation. As the community embarks on this plan the complexities of funding, procurement, permitting, quality, and sequencing become more important. Utilizing professional designers will help ensure trails are built to the desired specification, meet all compliance requirements, and are sustainable and enjoyable.



Trail Construction

Most of the recommended trails require extensive mechanized or hand construction which in turn requires experience and knowledge. It is recommended the alignments be constructed by a mix of IWT staff, volunteers, and professional trail builders. The Professional Trailbuilders Association (PTBA) maintains a list of trail contractors, however this list is not exhaustive and does not include all qualified trail builders.

Since great trailbuilding is part science and part art, it is often advantageous to utilize a variety of builders. While the plan and design will outline experiences, guidelines, and specifications; each trailbuilder often brings their own flavor to construction. The partners should seek out a diverse group of local and regional qualified trailbuilders to implement this plan. Using a variety of builders ensures fun and varied experiences. Additionally, the knowledge transfers between builders, land manager staff, and volunteers can lead to new ideas and techniques for everyone. Bringing in contractors from other regions can also help spread the word about this project.

Qualified trail professionals should be retained to construct all bike-specific trails. Hybrid (professional and volunteer) style implementation is advantageous for many of the recommended trails and can serve to build excitement in the community while developing skilled volunteers for future stewardship. It is recommended a professional trail builder provide oversight and management of volunteers to ensure the trail meets the design and goals of the project.

Volunteers are always a source of labor, however ensuring volunteers have the resources they need, guidance on their scope, and inspections on their product will be critical to establishing a successful trail system. Volunteers and IWT staff are well equipped to build the primitive hiking-only trails and many of the shared-use trails.

Trail development will range from the primitive hiking-only trails to the well-developed flow trails (bike-only descents). The former can be built with minimal hand tools and disturbance, while the latter will require chainsaws, mini-excavators, and more upfront impact.

Trail construction techniques and methods can vary widely based upon the desired experience, trail type, environmental regulations, and land management goals. In general, more developed shared-use and bike-only trails should be full bench construction, but flatter slopes may require half-bench or lift-and-tilt techniques. Full-bench construction on sideslopes creates a durable surface that is much better suited for longevity due to the tread being native soil. Half-bench and lift-and-tilt techniques require the use of fill soil, which is naturally looser than native undisturbed earth and requires extensive compaction to be sustainable.

Many of the area's existing trails are simple lay-of-land social paths, without any soil disturbance. These types of "rake-and-ride" or "blow-and-go" trails do not use machines or even many hand tools and tend to wear naturally and unevenly. Without tread development the trail wears as it is used, leading to more exposed roots and rocks over time and often creating wider or braided treads when users try to go around obstacles. This construction type is preferred for the primitive hiking-only trails.

Common trail building methods include mechanized and hand-building. Overall, mechanized trail construction is favored by many due to the labor-saving advantages of modern construction machines. Hand-building yields a uniquely natural looking trail which is appropriate for backcountry or remote settings, but typically does not stand up to the rigors of heavy use found in front-country trail systems.

We recommend engaging a qualified construction manager experienced with trail development as a client's representative to provide oversight during the construction progress, perform inspections, and provide quality assurance services. Often this representative is the trail designer, with their background knowledge of the detailed design and separation from the land manager as well as the builder they can avoid conflicts of interest and make accurate decisions on the trail construction approvals.





Maintenance and Stewardship

Trails should be managed according to recommended difficulty guidelines, trail type guidelines, and respective trail narratives. Master planning and design will provide these detailed guidance documents. Maintenance is an ongoing cost and should be planned for from the beginning. Typical annual maintenance budgets for traditional and bike-optimized trails are 5%-10% of the installation cost, while bike-only

trail maintenance can come closer to 20%-25% of the construction cost. Some of the annual maintenance for trails can be performed by adequately managed and trained volunteers. These tasks will include corridor trimming, downed tree removal, general clean up (branches, leaf litter, etc.), and minor drainage work.

Professional assistance will occasionally be required. The frequency of professional oversight will depend upon the quality of ongoing maintenance as well as weather patterns and use. Typically, for shared-use trails, professional maintenance will be required every 10-20 years and will involve small reroutes, major drainage work, or other large tasks. Bike-only trails can be expected to need professional touch-ups every 5-10 years as trails wear through weather and use. This will typically come in the form of rebuilding large dirt features and upgrading trails to provide slightly newer experiences which help continue to draw regional riders, give locals something novel, and help all riders progress in their skills.

IWT employs a staff of trail builders and maintainers, as well as having good relations with area contractors. These staff and professionals can likely accomplish much of the maintenance needs for the RCF. With the support of volunteers, many maintenance projects can be easily completed by local resources.

Trail Signage

A trail network requires a system of signs. Signs are the most important communication tool between land managers and trail users. A well-designed, implemented, and maintained signage system enhances the visitor experience by helping people navigate the trail network and providing information they need to make good decisions. Signage also plays a critical role in managing risk and deploying emergency services.

Signage for trails should be simple, uncluttered, and obvious. It is recommended relevant signs be placed at every major access point to a system and intersection within that system. Signs should meet the needs of all visitors, from the daily trail user to someone who is experiencing the trails for the first time. To serve the variety of visitors, sign placement should be strategic and frequent. Because signs can intrude on the natural outdoor experience, too much signage can be unsightly.

A variety of signs can be created to help visitors identify trails and their location within a system, select appropriate routes, remain confident in their trail choices, find destinations and key points of interest, and understand regulations and allowed uses. Signage can also be interpretive, helping visitors learn about responsible recreation, trail etiquette, and resource protection, as well as how to reduce risk and hazards.



At the RCF, both access and trailhead locations should provide kiosks with maps and important information. Wayfinding signage at each singletrack and doubletrack intersection is recommended. It is important to sign the doubletracks leading off RCF as exiting the community forest and entering private land.

INFORMATIONAL SIGNS

Usually positioned at the trailhead and major intersections, informational signs provide details such as trail length and difficulty. These include signs that identify a trailhead from a road, signs at

a trailhead kiosk, trail intersection signs, waymarks, difficulty rating signs, and trail length or elevation gain and loss signs.

Access point informational signs should include the trail system name, trail name, trail skill level, allowed uses, regulations, and emergency information at a minimum. Wayfinding signage along trails should include the trail name, trail skill level, and allowed uses at a minimum.

REGULATORY SIGNS

These types of signs delineate rules, such as prohibited activities, direction of travel, or other restrictions.

DIRECTIONAL SIGNS

Directional signs provide navigational information.

WARNING SIGNS

Often incorporating highly visible designs, these signs warn trail users of upcoming hazards or risks. These include visitor rules and regulations, allowed activities, road and trail intersections, and emergency signs.

EDUCATIONAL SIGNS

Educational signs can provide a variety of information for trail users, such as guidelines for responsible recreation, descriptions of natural or cultural resources, trail etiquette, and bike skills



CONCEPT TRAILS TABLE

Rummford Communitiy Forest - Planned Trail Summary

Trail	Trail Length (miles)	Trail Length (feet)	Design Cost - low	Design Cost - high	Construction Cost - low	Construction Cost - high	Contingency	Subtotal - low	Subtotal - high
100	501	0.09	\$ 5,000.00	\$ 25,000.00	\$ 9,494.20	\$ 14,241.30	\$ 2,848.26	\$ 17,342.46	\$ 42,089.56
101	802	0.15	\$ 500.00	\$ 2,000.00	\$ 3,796.48	\$ 7,592.95	\$ 1,518.59	\$ 5,815.07	\$ 11,111.54
102	7875	1.49	\$ 1,500.00	\$ 3,000.00	\$ 29,828.74	\$ 59,657.48	\$ 11,931.50	\$ 43,260.24	\$ 74,588.98
103	3449	0.65	\$ 750.00	\$ 1,500.00	\$ 16,329.70	\$ 32,659.40	\$ 6,531.88	\$ 23,611.58	\$ 40,691.28
104	887	0.17	\$ 500.00	\$ 2,000.00	\$ 8,404.00	\$ 10,925.20	\$ 2,185.04	\$ 11,089.04	\$ 15,110.24
105	2987	0.57	\$ 750.00	\$ 1,500.00	\$ 22,632.32	\$ 36,777.52	\$ 7,355.50	\$ 30,737.82	\$ 45,633.02
106	3331	0.63	\$ 750.00	\$ 1,500.00	\$ 31,547.30	\$ 41,011.49	\$ 8,202.30	\$ 40,499.60	\$ 50,713.79
107	3307	0.63	\$ 750.00	\$ 1,500.00	\$ 31,315.40	\$ 46,973.10	\$ 9,394.62	\$ 41,460.02	\$ 57,867.72
108	3842	0.73	\$ 1,000.00	\$ 2,500.00	\$ 36,385.15	\$ 54,577.73	\$ 10,915.55	\$ 48,300.70	\$ 67,993.27
109	4521	0.86	\$ 1,000.00	\$ 2,500.00	\$ 64,216.05	\$ 64,216.05	\$ 12,843.21	\$ 78,059.26	\$ 79,559.26
110	892	0.17	\$ 500.00	\$ 2,000.00	\$ 6,757.24	\$ 10,980.52	\$ 2,196.10	\$ 9,453.34	\$ 15,176.62
111	2021	0.38	\$ 500.00	\$ 2,000.00	\$ 15,307.20	\$ 24,874.20	\$ 4,974.84	\$ 20,782.04	\$ 31,849.04
112	1876	0.36	\$ 500.00	\$ 2,000.00	\$ 14,208.80	\$ 23,089.30	\$ 4,617.86	\$ 19,326.66	\$ 29,707.16
113	3979	0.75	\$ 1,000.00	\$ 2,500.00	\$ 37,679.65	\$ 56,519.48	\$ 11,303.90	\$ 49,983.55	\$ 70,323.37
114	1712	0.32	\$ 500.00	\$ 2,000.00	\$ 12,967.64	\$ 25,935.28	\$ 5,187.06	\$ 18,654.70	\$ 33,122.34
115	3605	0.68	\$ 750.00	\$ 1,500.00	\$ 51,210.08	\$ 51,210.08	\$ 10,242.02	\$ 62,202.09	\$ 62,952.09
116	2802	0.53	\$ 750.00	\$ 1,500.00	\$ 21,225.16	\$ 42,450.32	\$ 8,490.06	\$ 30,465.22	\$ 52,440.38
117	1848	0.35	\$ 500.00	\$ 2,000.00	\$ 13,999.16	\$ 27,998.32	\$ 5,599.66	\$ 20,098.82	\$ 35,597.98
Total	50237	9.51	\$ 17,500.00	\$ 58,500.00	\$ 122,032.74	\$ 202,865.34	\$ 40,573.07	\$ 172,355.80	\$ 279,938.41

GUIDELINE TABLES

Rumford Community Forest - Trail Types

	Hiking-only Accessible	Hiking-only Primitive	Shared-use Traditional	Shared-use Bike-optimized	Bike-only Gravity	Doubletrack
Description	Hiking-only accessible trails are designed and managed specifically for pedestrians of all abilities.	Hiking-only primitive trails are designed and managed specifically for pedestrians.	Shared-used traditional trails are typically designed for bicycle use but their characteristics and feel mimic primitive trails.	Shared-used bike-optimized trails are always designed for bicycle use and include characteristics and features to increase the enjoyment of riding a bike on them.	Bike-only gravity trails are designed for riding in the downhill direction. Gravity trails feature smoother tread to allow for more speed, flow, and air time.	Doubletracks are designed for vehicles but are generally managed for non-motorized use. They are often appropriate the most appropriate trail type for cross-country skiers.
Designed User	Hiker	Hiker	Hiker	Mountain biker	Mountain biker	Vehicles
Managed Users	Hiker	Hiker	Hiker and mountain biker	Mountain biker and hiker	Mountain biker	Hiker, mountain biker, and cross-country skier
Tread Width	48-60"	6-24"	12-48"	24-48"	36-72"	72-180"
Average Grade	Less than 5%	10%+	5-10%	5-10%	5-10%	5-30%
Appropriate Characteristics	Flat, smooth, consistent and stable tread, gentle grades and turns, surfaced with imported material	Stairs, steep sections, stepping stones, tight turns, rocky tread	Rocky or rooty tread, tight to wide turns, at-grade sand platform turns	Smooth tread, insloping, wide turns, at-grade and platform turns, some rocks or roots	Smooth tread, insloping, wide turns, berms, jumps, rollers, drops, ramps, features	Wide turns, smooth or uneven surface, improved or worn in surface
Inappropriate Characteristics	Stairs, steep sections, stepping stones, tight turns, rocky tread, insloping, berms,	Insloping, berms, jumps	Stairs, steep sections, too much insloping, stepping stones, jumps, berms	Stairs, steep sections, stepping stones, jumps, berms	Stairs, stepping stones, overly rocky or rooty tread, tight turns	Stairs, stepping stones, tight turns, berms, jumps

Rumford Community Forest Trail Guidelines																			
Trail	Skill Level	Trail Type	Designed User	Managed Users	Directional	Feature Frequency ¹	Constructed Tread Width ^{2,3,4}	Average Trail Grade per 1000 ⁵	Max Trail Grade	Minimum Turn Radius	Maximum Turn pad Grade ⁶	Maximum Berm/Turn Camber ⁶	Proposed Flagline Corridor Width	Corridor Width (4' above tread)	Ceiling Height Minimum ⁷	Avoidable Obstacles (50% of tread or less)	Rollable Feature Height (jumps, berms, etc.) ⁸	Rugosity (surface texture) ⁸	Tread Condition
100	White/ novice/ easiest	Accessible	Hike	Hike-only	Two-way	None	48"	3%	5%	12'	5%	2%	25' on-center	60-72"	10'	None	None	None	Firm and predictable trail surface. May include gravel or crushed stone surfacing. Camber shall be flat, trail shall be accessible.
102	Blue/ intermediate/ more-difficult	Primitive	Hike	Hike-only	Two-way	Low-medium	24"	10%	20%	3'	10%	25%	25' on-center	48-60"	10'	less than 16"	None	Medium	Semi-firm and semi-predictable trail surface. May include rock, gravel, or crushed stone surfacing. Rocks may be uneven. May include exposed roots.
101, 103	Black/ advanced/ most-difficult	Semi-Primitive	Hike	Hike-only	Two-way	Low-medium	24"	15%	30%	3'	10%	25%	25' on-center	48-60"	10'	less than 16"	None	Medium	Semi-firm and semi-predictable trail surface. May include rock, gravel, or crushed stone surfacing. Rocks may be uneven. May include exposed roots. May include stairs and steps.
104	Green/ beginner/ easy	Bike-optimized	Mountain bike	Hike/bike	Two-way	Low-medium	48"	5%	5%	12'	5%	15%	25' on-center	60-72"	10'	less than 2"	6-18"	Low	Firm and predictable trail surface. May include rock, gravel, or crushed stone surfacing. Rocks in tread shall be even.
107	Green/ beginner/ easy	Flow	Mountain bike	Bike-only	One-way	Medium	48"	7%	10%	12'	10%	25%	25' on-center	60-72"	10'	less than 2"	12-24"	Low	Firm and predictable trail surface. May include rock, gravel, or crushed stone surfacing. Rocks in tread shall be even.
105, 110, 111, 112	Blue/ intermediate/ more-difficult	Traditional	Mountain bike	Hike/bike	Two-way	Low-medium	36"	8%	15%	7'	10%	15%	25' on-center	48"-60"	10'	less than 8"	12-24"	Medium	Semi-firm and semi-predictable trail surface. May include rock, gravel, or crushed stone surfacing. Rocks may be uneven. May include exposed roots.
108, 113	Blue/ intermediate/ more-difficult	Bike-optimized	Mountain bike	Hike/bike	Two-way	Medium	36"	8%	15%	9'	10%	15%	25' on-center	48"-60"	10'	less than 8"	12"-36"	Medium	Firm and predictable trail surface. May include rock, gravel, or crushed stone surfacing. Rocks in tread shall be even.
116	Blue/ intermediate/ more-difficult	Technical	Mountain bike	Bike-only	One-way	Medium-high	36"	10%	15%	9'	15%	50%	25' on-center	48"-60"	10'	less than 8"	12"-36"	Medium-high	Less firm and less predictable trail surface. Will include rock, gravel, or crushed stone surfacing. Rocks will be very uneven. May include exposed roots.
109, 115	Blue/ intermediate/ more-difficult	FlowTech	Mountain bike	Bike-only	One-way	Medium-high	36"	10%	15%	9'	15%	50%	25' on-center	48"-60"	10'	less than 8"	12"-36"	Medium-high	Less firm and less predictable trail surface. Will include rock, gravel, or crushed stone surfacing. Rocks will be very uneven. May include exposed roots.
117	Black/ advanced/ most-difficult	Technical	Mountain bike	Bike-only	One-way	Medium-high	36"	12%	30%	9'	30%	50%	25' on-center	48"-60"	10'	less than 16"	12"-48"	High	Loose and unpredictable trail surface. Will include rock, gravel, or crushed stone surfacing. Rocks will be extremely uneven. May include exposed roots.

Footnotes

- Feature Frequency is averaged over long distances. Per 1000': "low" = 1-3 features, "medium" = 3-5 features, "high" = 5-10 features.
- Constructed tread width may be 25% wider than Guideline over short distances (less than 20 feet). All gateways must meet Constructed Tread Width.
- Tread width also applies to bridges and boardwalks. Check with local regulations for overriding guidelines on width or any other requirements (height restrictions, railings, etc.).
- Road to trail conversion may result in tread width greater than constructed tread width guideline.
- Turn pad grade measures the rise/fall across the turning surface at the base of any inslope.
- Max camber is measured at the top of the inslope. Turns can not be outsloped.
- Ceiling height should be reduced in thick vegetation where appropriate to provide a more natural "tunnel experience".
- Rugosity attempts to capture average tread coarseness. Tread area with obstacles: "low" = 0-5%, "medium" = 5-10%, "high" = 10-20%, "very high" = over 20%.

General Notes

Sustainable trails guidelines provide the foundation for all design + construction decisions ("half rule", frequent grade reversals, max grades function of soils + use, etc.). All trails should have a minimum grade and camber (in/outslope) of 3% to ensure a well-drained tread. Trail experiences are described in Notes.

Community Survey Results

General Audience

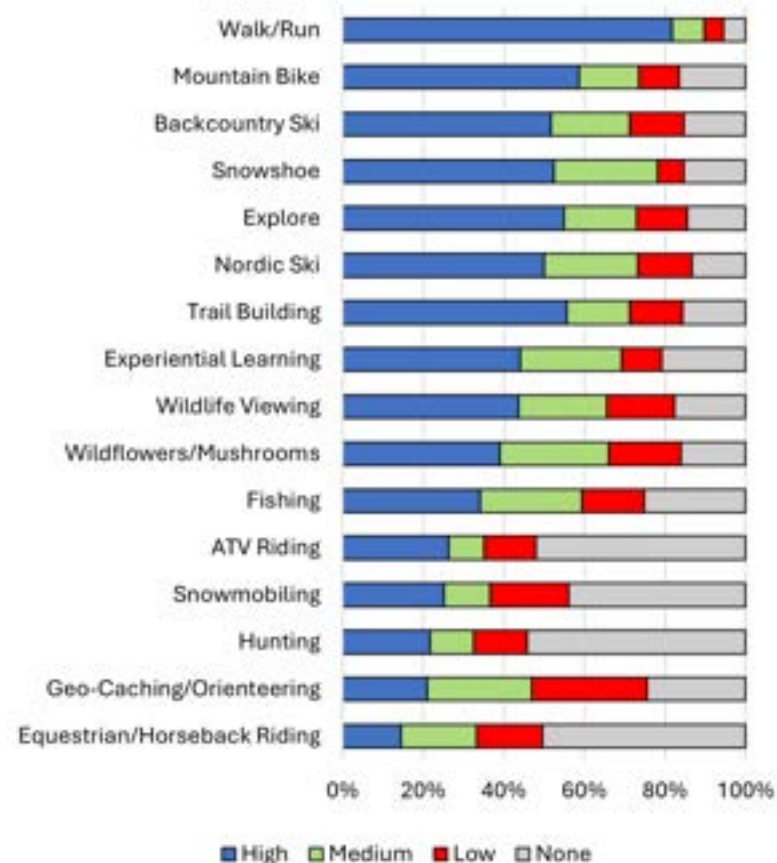
Question 1 – Have you heard about the Rumford Community Forest project?

Yes	88
No	40

Question 2 – What are your outdoor recreational interests that you'd like to see on the Community Forest?

Please give each a number by level of interest, 1 = high, 2 = medium, 3 = low, 0 = none

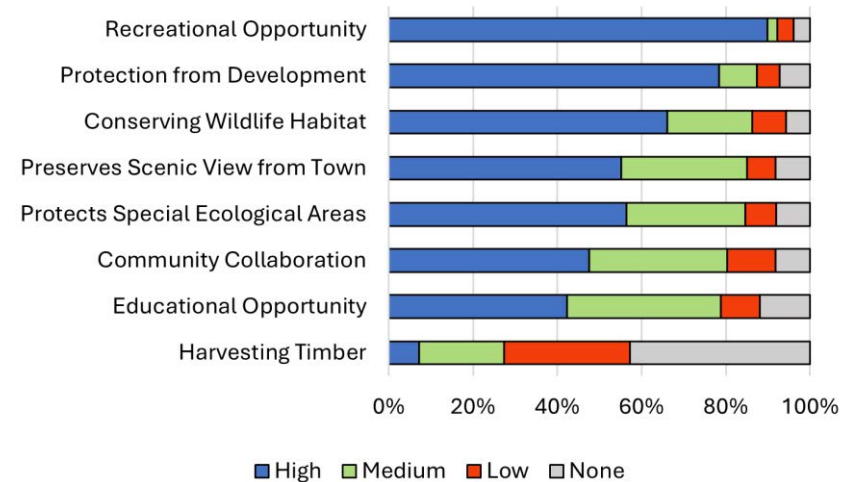
	High	Medium	Low	None
Equestrian/horseback riding	17	22	19	59
Geo-caching/orienteering	25	31	34	29
Hunting	26	13	16	65
Snowmobiling	31	14	24	54
ATV riding	33	11	16	65
Fishing	42	31	19	31
Wildflowers/mushrooms	46	32	21	19
Wildlife viewing	52	26	20	21
Experiential learning	53	30	12	25
Trail building	64	18	15	18
Nordic skiing	60	28	16	16
Exploring	61	20	14	16
Snowshoeing	65	32	8	19
Backcountry skiing	61	23	16	18
Mountain biking	71	18	12	20
Walking/running	103	10	6	7



Question 3 – What would you value most about the use of the proposed Rumford Community Forest?

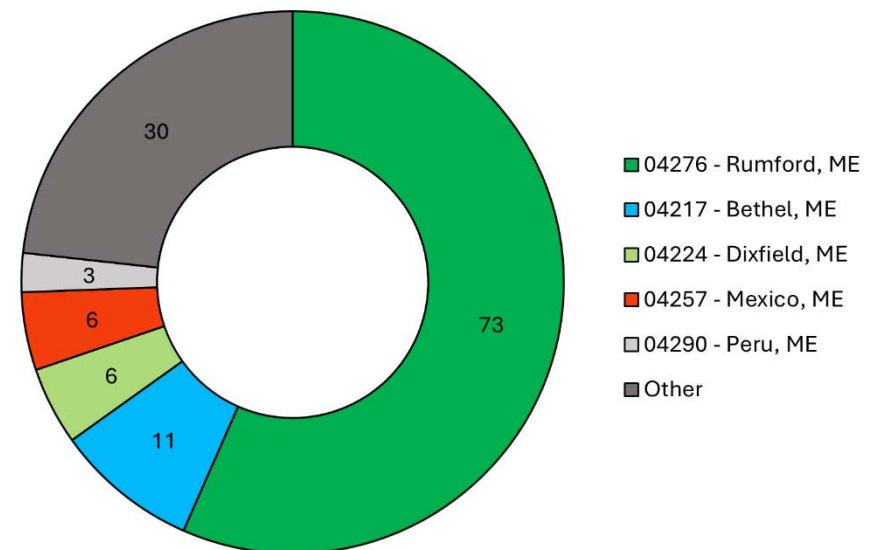
Please give each a number by level of interest, 1 = high, 2 = medium, 3 = low, 0 = none

	High	Medium	Low	None
Harvesting timber	9	25	37	53
Educational opportunity	50	43	11	14
Community collaboration	58	40	14	10
Protects special ecological areas	70	35	9	10
Preserves scenic view from town	74	40	9	11
Conserves wildlife habitat	82	25	10	7
Protection from development	87	10	6	8
Recreational opportunity	116	3	5	5



Question 4 – Where do you live?

04276 – Rumford, ME	73
04217 – Bethel, ME	11
04224 – Dixfield, ME	6
04257 – Mexico, ME	6
04290 – Peru, ME	3
Other	30
04219 – Bryant Pond, ME	3
04062 – Windham, ME	2
04216 – Andover, ME	2
04261 – Newry, ME	2
04268 – Norway, ME	2
04275 – Roxbury, ME	2
04364 – Winthrop, ME	2
04401 – Bangor, ME	2



04530 – Bath, ME	2
03110 – Bedford, NH	1
04040 – Harrison, ME	1
04102 – Portland, ME	1
04103 – Portland, ME	1
04255 – Greenwood, ME	1
04256 – Mechanic Falls, ME	1
04284 – Wayne, ME	1
04330 – Augusta, ME	1
04841 – Rockland, ME	1
04349 – Kents Hill, ME	1
84103 – Salt Lake City, UT	1

Question 5 – Gender

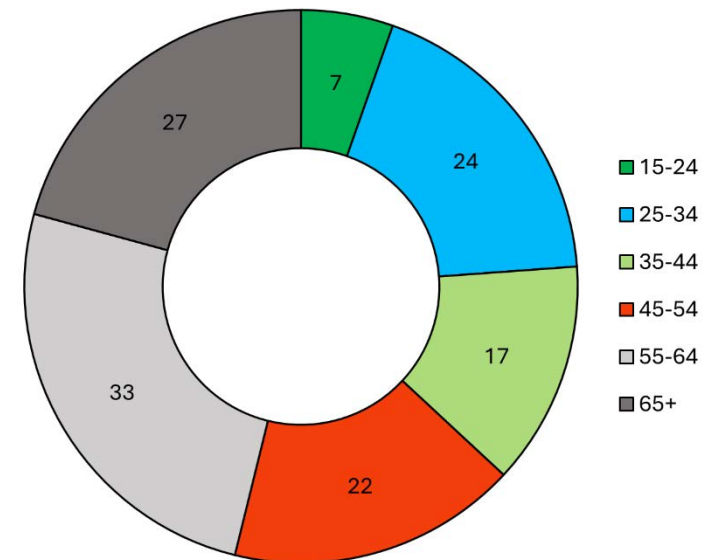
Female	56
Male	59
Prefer not to answer	3

Question 6 – Age Group

15-24	7
25-34	24
35-44	17
45-54	22
55-64	33
65+	27

Written Responses

Question 1 – Have you heard about the Rumford Community Forest? If yes, how?



- Social media (26)
- News (8)
- Word of mouth (6)
- Inland Woods + Trails (5)
- Family (3)
- Friend (3)
- A group of interested citizens told me about it (2)
- Through media and meetings (2)
- Angry Beavers (2)
- Black Mountain of Maine (Instagram) (2)
- Work for Town of Rumford (2)
- Black Mountain of Maine free ski nights (2)
- Pumpkin Fest
- Inland Woods + Trails website
- Inland Woods + Trails newsletter
- Maine Outdoor Economy Summit
- Bethel Village Trails
- Researching mountain biking in Bethel area
- Live in the area
- PACT member
- I am the Inland Woods + Trails Board President and approve of this project
- Town employee
- Mailed information to our house
- From someone who was at the town meeting about it
- From original meeting
- Steve Kasachek
- Involved with the planning
- Locals, owner
- Allie Burke
- Travis Palmer

- Membership in Inland Woods + Trails and Friends of the River Valley
- From the donors
- We are involved with the skiing/biking community in Western Maine
- Gabe Perkins
- Brie Weisman
- At one of the early street fairs held on Congress Street last summer
- Mahoosuc Land Trust
- Local chatter a few years ago after development aspirations failed for this parcel
- Live on Isthmus Road and was aware of it
- Spoke to the realtor

Question 2 – What are your outdoor recreational interests that you’d like to see on the Community Forest?

- I see from for everyone, even if I'm not into ATVs/horses
- Adaptive mountain bike trails, universally accessible (ADA) trails longer than a couple hundred feet.
- Interpretive signs, for any stone walls or cellar holes.
- Rock climbing/bouldering
- Forest Management - protect and promote old growth forest
- Walking path
- Fat biking (2)
- Future expansion and connectivity
- I'd love to see a couple of dispersed camping spots for travelers to Western, Maine.
- ATV connector trail with maintenance agreement from local club.
- Guided hikes with naturalist. Full moon hikes. Races

Question 3 – What would you value most about the use of the proposed Rumford Community Forest?

- Again, I agree and would like to see all things listed, but protection from development is priority.
- Economic development, trail connectivity to town and other communities, community engagement and events
- Link hiking trail from town of Rumford to the Black & White hiking trail, over to Andover
- Farming
- Peace and quiet
- Accessible areas for all

Question 7 – Do you have any ideas, suggestions, or other comments?

- Playground!
- Promote and tell us.
- Dog park
- Dog friendly trails
- Y'all are awesome!
- I like that this land can connect to the high school for trails + recreation for students, as well as the educational opportunities.
- Willing to help! This stuff is my jam.
- Trail connectivity to downtown Rumford, black mountain of Maine, bethel community forest, other rural communities and recreation assets. Paid trail work opportunities and trail development education for community members. Use this as a case study for holistic community supported and sustainable recreation/conservation project. A “Rumford youth corps” developed and supervised by pros??
- I'd love to see a ski and mountain bike trail system that extends from Mountain Valley High School over Black Mountain to Whitecap.
- I love the trails that are there already and would love to see the expansion of trails for biking, hiking, snowshoeing and skiing. Thank you for all of the work that's already been done to make the Rumford Community Forest what it is!
- Multiple access points and trail heads with parking
- Listen to Steve. Professionals know how to design projects to increase likelihood of positive outcomes.
- Angry Beavers (local glade enthusiast) are willing to employ best methods for cutting practices and for optimum use of existing terrain. 15 years of experience shaping and developing trails at Black Mountain and on MLT land.
- Managing the forest would be important. Use horses to log if needed to keep the forest healthy.
- Partner with the beavers for backcountry ski development

- Mountain Biking is the future- look at the NEK of Vermont for reference. Lots of \$\$ to an otherwise depleted town. Use it & preserve the land at the same time!
- I have a senior project requirement for my school and I was hoping to get involved in this project by building an enduro mountain bike trail. If there is a possibility of that I would love to be a part of it.
- A longer planning session with lunch
- This property has been used as an ITS snowmobile trail for at least 25 years and I strongly encourage that use is continued.
- Have walking trails setup with mini exercise stations, mile markers, and rest stations.
- No, leave it to the landowner
- Save all the land you can!
- We need local hiking trails.
- I'm concerned that the development of this might promote "tent camps" or squatters, people that "make it a residence" and then it's not patrolled safely to prevent this (especially being out of the town supervision and monitoring).
- Quiet place to be adventurous. i.e Year Round Trail Running, Hiking, Mountain Biking
- We've spoken about allowing trees to mature to provide old growth for future generations, and that is important to us. I think that says a lot about our town...built on the backs of so many stately trees, we would like to preserve a sense of wonderment and appreciation for their majesty.
- I have seen the development of Bethel community forest and how it has brought the community together as well as brought interest from outside the local area. In my opinion Rumford needs development to enhance community activities and opportunities as well as to promote tourism.
- I would like to see a portion of the forest set aside for permanent wilderness, never to be harvested.
- Protect it from solar and wind generation. It's been harvested, so a management plan should propagate different areas for wildlife. What a great chance to give back to mother nature!
- I'd love to see a mountain bike and hiking trail system like Bethel Community Forest that connects Rumford High School to Black Mountain and Whitecap.
- Terrific idea!

Equestrian Audience

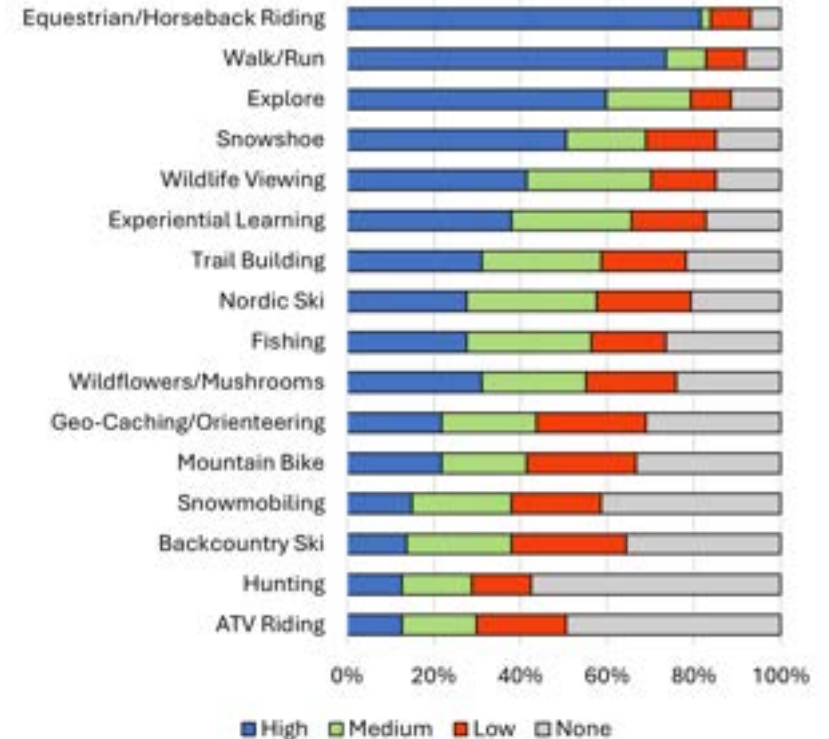
Question 1 – Have you heard about the Rumford Community Forest project?

Yes	45
No	42

Question 2 – What are your outdoor recreational interests that you'd like to see on the Community Forest?

Please give each a number by level of interest, 1 = high, 2 = medium, 3 = low, 0 = none

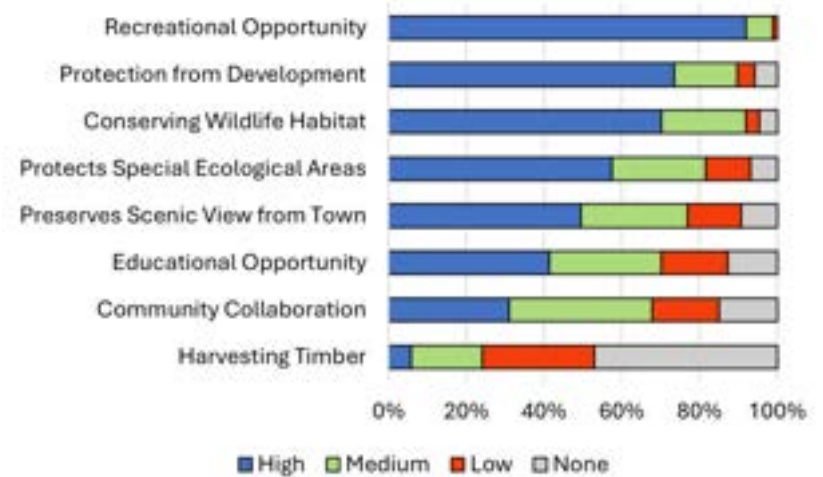
	High	Medium	Low	None
ATV riding	11	15	18	43
Hunting	11	14	12	50
Backcountry skiing	12	21	23	31
Snowmobiling	13	20	18	36
Mountain biking	19	17	22	29
Geo-caching/orienteering	19	19	22	27
Wildflowers/mushrooms	27	21	18	21
Fishing	24	25	15	23
Nordic skiing	24	26	19	18
Trail building	27	24	17	19
Experiential learning	33	24	15	15
Wildlife viewing	36	25	13	13
Snowshoeing	44	16	14	13
Exploring	52	17	8	10
Walking/running	64	8	8	7
Equestrian/horseback riding	71	2	8	6



Question 3 – What would you value most about the use of the proposed Rumford Community Forest?

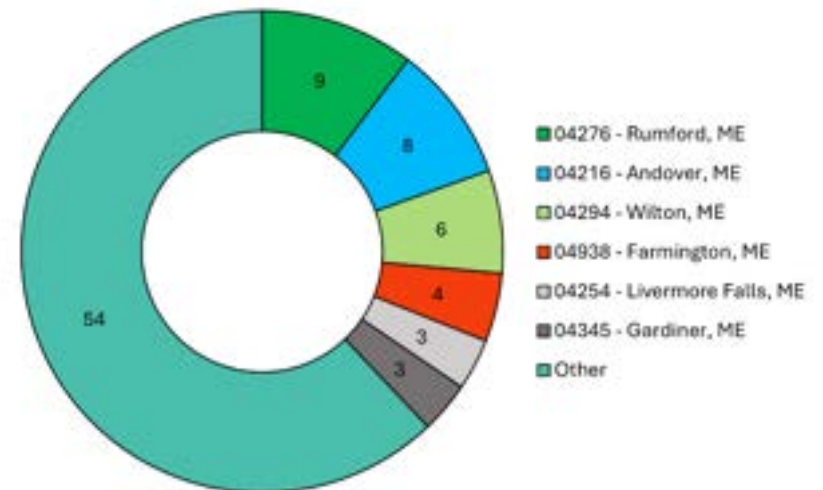
Please give each a number by level of interest, 1 = high, 2 = medium, 3 = low, 0 = none

	High	Medium	Low	None
Harvesting timber	5	16	25	41
Community collaboration	27	32	15	13
Educational opportunity	36	25	15	11
Preserves scenic view from town	43	24	12	8
Protects special ecological areas	50	21	10	6
Conserves wildlife habitat	61	19	3	4
Protection from development	64	14	4	5
Recreational opportunity	80	6	1	0



Question 4 – Where do you live?

04276 – Rumford, ME	9
04216 – Andover, ME	8
04294 – Wilton, ME	6
04938 – Farmington, ME	4
04254 – Livermore Falls, ME	3
04345 – Gardiner, ME	3
Other	54

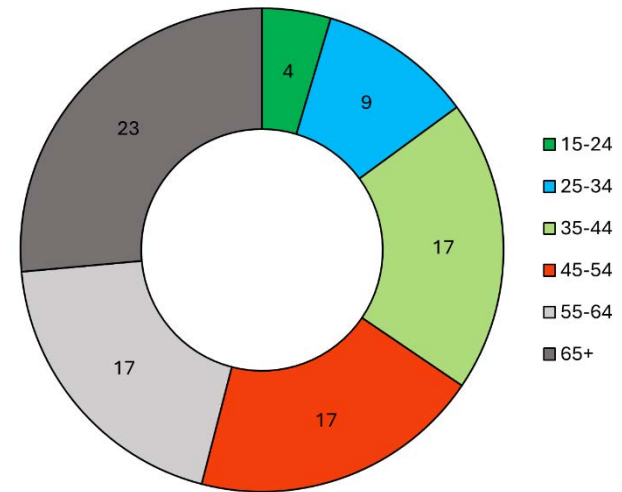


Question 5 – Gender

Female	75
Male	9
Prefer not to answer	3

Question 6 – Age Group

15-24	4
25-34	9
35-44	17
45-54	17
55-64	17
65+	23



Written Responses

Question 1 – Have you heard about the Rumford Community Forest? If yes, how?

- Social media (23)
- News
- Abutting Landowner
- Family (4)
- Friends (10)
- Ellis River Riders/Horse Club (6)
- MTRA

Question 2 – What are your outdoor recreational interests that you'd like to see on the Community Forest?

- Carriage driving with horse drawn vehicles
- Backcountry/hike in camping
- Camping with our horses.
- Camping

Question 3 – What would you value most about the use of the proposed Rumford Community Forest?

- Taking care of the water shed is so important for the town and its people
- Preserves forests from logging which we have enough of in the local area

- Camping and trail riding with our horses

Question 7 – Do you have any ideas, suggestions, or other comments?

- No, I think you folks do an amazing job
- My focus is equine so it's most meaningful to me
- I grew up in the area and return often for recreational purposes
- Another option for horses in this area would be great. Right now we just have Ellis River which is great but other options are good too and Rumford is close. If Rumford considers this I would be interested in helping and have a handful of family members that volunteer on the trails too.
- "I am very excited about this project! At age 77, I still enjoy many many outdoor activities, especially horseback riding. I'm only about 30 minutes from Rumford and like to trail ride 3 to 4 times a week for about 1 to 2 hours each time. I am always looking for new trail systems to explore, 5 to 15 miles in length. I also love to snowshoe, cross-country ski, and I'm very very interested in preserving such areas not only for myself, but for future generations.
- Thanks so much for considering the possibility of opening these trails to horses. It means a lot to many of us."
- Equine trails would be AMAZING!
- I'm desperate for a place in the area where people can just sit in nature and enjoy it. Hiking and having a place to look out at nature and read or have a picnic is ideal.
- I would love to see equestrian trails. We have two horses that we would haul in at least once a month, for an hour or more each time we visit
- I would like to see a healthy mix of everything to appeal to the masses as well as be a local attraction to this area. I live on the isthmus Rd and walk, snowmobile, enjoy most of these woods now, I would like to continue to enjoy them as well as expand.
- Outdoors/educational is great
- Dogs allowed please!!!
- Would love to see trails for horses. We have very few around here.
- Would LOVE horse trails!!
- Would love some equestrian trails .walking trails and such ..not so much motors on the same trails. Or if they are used by both please have signs about the expected trail rules. For all parties
- Trail riding and camping with my friends and horses
- I don't live there, but camp in Andover often. Lovely area.

- If it helps my hometown, I'm all in
- There are so many horse trails that share the trail alongside ATVs. it would be really nice to have a trail system that is non-motorized so I can have a place to go where my horses won't get scared by loud and fast ATVs.
- Make trail bridges safer for horses
- It's a shame people don't realize the economic boost equestrians bring to the state. Horses, truck's to haul horses, trailers, gas, food, hay, supplies and grain are all purchases made by equestrians.
- Horseback riding
- This would be awesome for your community.
- I am a mule rider, was recently in an accident that involved a SxS, coming to fast and caused my friend and I to get hurt. I'm looking for more places that DON'T ALLOW ATV use. I'm willing to help make and maintain trails for this privilege
- Would use equestrian trails many times per month. Series on interconnected looping trails

DO NOT WRITE ABOVE THIS LINE: FOR REGISTRY USES ONLY

**LAND FOR MAINE'S FUTURE TRUST FUND
PROJECT AGREEMENT**

(Pursuant to P.L. 2021, c. 398, Part FFFF)
[Fee Version]

Cooperating Entity: INLAND WOODS + TRAILS
Project Name: RUMFORD COMMUNITY FOREST
Location: RUMFORD, OXFORD COUNTY
Designated State Agency: MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION, AND
FORESTRY ("DACF"), BUREAU OF PARKS AND LANDS

Premises Covered by this Agreement:

1. Fee-Owned Parcels.

The Rumford Community Forest Parcel, being 445.8± acres of fee ownership lands in the Town of Rumford, Oxford County, Maine, as more fully set forth in Exhibit A and depicted on Exhibit B, both being attached hereto. For source of title, reference is made to the Warranty Deed from Red Hill Road, LLC, to Inland Woods + Trails being recorded contemporaneously with this Project Agreement in the Oxford County Registry of Deeds. See also plan by Maine Boundary Consultants, LLC, dated January 16, 2024, and recorded in said Registry as Plan File Number 5943.

All of the foregoing hereinafter referred to as "the Premises".

Scope (Description of Project):

The premises consist of 445.8 ± acres of land in the Town of Rumford in the County of Oxford. Inland Woods + Trails, (the “Cooperating Entity” or “IWT”) will acquire the Premises in fee and will receive funding from the Land for Maine’s Future (“LMF”) in accordance with Title 5, Maine Revised Statutes section 6200, et seq., for the primary purpose of protecting public access to recreational lands for traditional recreational pursuits including hunting, trapping, fishing, and hiking.

Additional purposes include protecting public water supply, public access to open space, natural communities, wildlife and their habitat, and other purposes identified in the Project Application.

The purpose of this Agreement is to support and preserve the multiple resource values for which this Project was chosen. All of the foregoing values and priorities are referred to herein as the “Conservation Purposes,” all of which are subject to applicable state, local, and federal laws and regulations.

Project Cost:

LMF Contribution to Cooperating Entity:	\$ 345,000
U.S. Forest Service Contribution to Cooperating Entity:	\$ 345,000
TOTAL COST:	\$ 690,000

The following are hereby incorporated into this Agreement:

1. Project Agreement General Provisions attached hereto
2. Project Application and Attachments by reference
3. Exhibits A and B attached hereto

The Land for Maine’s Future Board, represented by its Chair (hereinafter “LMFB”), and the State of Maine, Department of Agriculture, Conservation, and Forestry, represented by its Commissioner, as the Designated State Agency (hereinafter “DSA”), and the Cooperating Entity, mutually agree to perform this Agreement in accordance with Title 5, Maine Revised Statutes, Section 6200 et seq., as amended, and augmented by P.L. 2021, c. 398, Part FFFF, and with the terms, promises, conditions, plans, specifications, estimates, procedures, project proposals, maps, assurances, and certifications incorporated herein by reference and hereby made a part hereof.

Subject to the terms hereof and to the availability of funds for this purpose, LMFB hereby agrees, in consideration of the agreements made by the Cooperating Entity herein, to obligate to the Cooperating Entity the amount of money referred to above, and to tender to the Cooperating Entity that portion of the obligation which is required to pay the LMFB’s share of the costs of the above-described project. The Cooperating Entity hereby agrees,

in consideration of the agreements made by the LMFB herein, to provide the matching funds, and lands, if applicable, and to implement the project described above in accordance with the terms of this Agreement.

The following special project terms and conditions are added to this Agreement:

1. No Subdivision.

The Premises, including any structures located thereon, must remain in their current configuration, under unified ownership, and may not be further divided into parcels or lots except for boundary adjustments to resolve bona fide boundary disputes, subject to the approval of the DSA, or as may be approved under General Provisions, Part II, section H subsection (i) of this Agreement. In order to grant any such approval under this provision, the DSA and LMFB must find that the proposed division of the Premises furthers the conservation purpose and objectives of the project as defined in this Agreement and its attachments.

2. Hunting, Fishing, Trapping.

The Cooperating Entity shall not prohibit hunting, fishing, or trapping on the Premises, except to the extent of applicable state, local, or federal laws and regulations.

3. Public Access.

The Cooperating Entity shall ensure that the Premises are available for access by the general public for daytime low-impact outdoor recreation, nature observation and study; provided, however, that such access may be limited or controlled on a temporary basis under terms identified in the Management Plan as provided in paragraph 6 of this section, and then only for the purposes of public safety, wildlife management, or resource protection to assure that access is limited for specific reasons and specific time periods and conditions. The Cooperating Entity shall not prohibit, limit, or control public access to the Premises except as described in this paragraph.

4. Permitted Fees and Charges.

The Cooperating Entity agrees that any fees or charges imposed for public access to or use of the Premises shall be reasonable and comparable to those charged in Maine for similar facilities, and any such fees must be approved in advance and in writing by the DSA. The U.S. Forest Service's funding requirements may pose further restrictions on the imposition of fees and charges.

5. Limits on Transfer.

The Premises or any interest therein may not be sold or transferred without prior written approval of the DSA and LMFB as provided under General Provisions, Part II, section H subsection (i) of this Agreement, and then only to a federal, state, or local government agency or a non-profit conservation organization which is a "qualified organization" under Section 170(h) of the United States Internal Revenue Code, and a "holder" under Title 33, Maine Revised Statutes, Section 476(2), subject to the condition that the qualified organization expressly agrees to assume the rights and obligations of the Cooperating

Entity provided for by this Agreement. U.S. Forest Service's funding requirements may pose further limits on transfer of the Premises.

6. Permitted Uses and Management.

The Cooperating Entity will hold and manage the Premises for the multiple resource values and Conservation Purposes (as defined in "Scope", above) for which the Premises were chosen, with the greatest emphasis placed on the protection of public access to recreational lands.

- i. **Management Plan.** All permitted uses and management of the Premises shall be in accordance with a Management Plan that is developed by the Cooperating Entity and submitted to the DSA for review within 18 months of the recording of this Agreement. Thereafter, the Plan shall be updated by the Cooperating Entity at least every ten years and submitted to the DSA for review. The plan shall identify 1) the property's conservation values, 2) the vision and overall management goals, 3) activities to achieve those goals and to reduce risks or threats to the conservation values, 4) appropriate uses, 5) plans for public access and associated facilities, specifically referencing the installation of structures and/or lighting outlined in Section 7(ii-v), 6) plans for forest management, if applicable, and 7) management strategies for climate adaptation. Any major revisions to the Management Plan affecting public access, recreational use, wildlife habitat conditions, or vegetation conditions shall be submitted to the DSA for review.
- ii. **Forest Management.** The Cooperating Entity may engage in commercial and noncommercial forest management on the Premises, provided that all forest management activities:
 - a. Are carried out in accordance with a Forest Management Plan prepared by a licensed forester, which plan shall be incorporated into the forest management section of the Management Plan described in Section 6(i);
 - b. Are designed and implemented using Best Management Practices as set forth by the Maine Forest Service, or its successor agency;
 - c. Do not interfere with public use of the Premises, except for limited temporary restrictions; and
 - d. Do not conflict with the provisions of this Agreement.

7. Structures or Improvements.

As of the date of this Agreement gravel roads, former skid roads and log landings, and a bridge over Scotty's Brook are the only structures or improvements on the Premises.

The following structures or improvements associated with permitted uses shall be allowed on the Premises subject to receipt of all state and local permits prior to the commencement of construction:

- i. minor structures and improvements associated with permitted outdoor activities, such as unlighted signs, information kiosks, benches, picnic tables, viewing

- platforms, fishing platforms, and/or blinds for wildlife observation;
- ii. a concession stand, and a yurt or other similar structure, neither of which to be attached to a permanent foundation or base;
- iii. unpaved trails and paths for use by pedestrians and motorized and nonmotorized vehicles, along with related improvements including rails, stairs, bridges, culverts, erosion control structures, and ramps;
- iv. parking areas, parking lot barriers, and road access gates;
- v. trail or parking lot lighting. The Cooperating Entity shall provide the DSA with prior written notice of the design and location of lighting to be installed;
- vi. Primitive campsites, which may include tent platforms, privies, picnic tables, fire rings, and other minor structures not attached to a permanent foundation or base. The Cooperating Entity shall provide the DSA with prior written notice of the design and location of campsites;
- vii. barriers necessary for discouraging unauthorized access to adjacent lands; and
- viii. boundary markers.

The placement and use of other structures intended to enhance permitted uses of the Premises may be allowed after written approval from the DSA based upon a written proposal, including a site plan, and receipt of all state, federal and local permits. Only those structures, alterations, improvements, or other development that enhance permitted uses of the Premises shall be permitted.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the 31ST day of JANUARY, 2021 by their duly authorized representatives.

THE LAND FOR MAINE'S FUTURE BOARD

By: 

Patrick Keliher, Its Chair

STATE OF MAINE

Department of Agriculture, Conservation and Forestry

By: 

Amanda E. Beal, Its Commissioner

COOPERATING ENTITY

By: 
Gabriel Perkins, Executive Director
Inland Woods + Trails

STATE OF MAINE
County of Oxford

Date: 11/30/24

Then personally appeared the above-named Gabriel Perkins, duly authorized Executive Director of Inland Woods + Trails and acknowledged the foregoing to be his free act and deed in his capacity and the free act and deed of said Inland Woods + Trails.

Before me,


Notary Public
Print Name: Victoria Johnson
My Commission Expires: 08/28/2026
Seal:

VICTORIA JOHNSON
NOTARY PUBLIC, STATE OF MAINE
MY COMMISSION EXPIRES AUG. 28, 2026

**LAND FOR MAINE'S FUTURE TRUST FUND
PROJECT AGREEMENT GENERAL PROVISIONS**

Part I – DEFINITIONS

1. The term “DSA” or “Agency” as used herein means the Designated State Agency as shown on Page 1 of the Project Agreement.
2. The term “Director” as used herein means the Commissioner or agency head of the DSA or any representative lawfully delegated the authority to act for such Director.
3. The term “Premises” as used herein means the lot or parcel or parcels of land as described and shown on Page 1 of the Project Agreement.
4. The term “Project” as used herein means a single project, a consolidated grant, a project element of a consolidated grant, or project stage which is subject to the Project Agreement, and as described on Page 1 of the Project Agreement.
5. The term “Cooperating Entity” as used herein means a political subdivision or instrumentality of the State of Maine or a non-profit conservation corporation which will implement the Project as provided in this Agreement.

Part II – CONTINUING ASSURANCES

The Cooperating Entity specifically recognizes that Land for Maine's Future Trust Fund project assistance creates an obligation to acquire, use and maintain the property described in the Project Agreement consistent with Title 5, M.R.S., Section 6200 et seq., as amended, and augmented by P.L. 2021, c. 398, Part FFFF, and the following requirements:

A. LEGAL AUTHORITY:

The Cooperating Entity warrants and represents that it possesses the legal authority to apply for the grant and to otherwise carry out the project in accordance with the terms of this Agreement and has either marketable title to the Premises or a binding Agreement to acquire the same. A resolution or similar action has been duly adopted by the governing body of the Cooperating Entity authorizing the filing of the application and implementation of the Project, including all understandings and assurances contained herein, and directing and authorizing the person identified as the official representative of the Cooperating Entity to act in connection with the application and to provide such additional information as may be required by the LMFB or the DSA and to enter into this Agreement.

B. FINANCIAL ABILITY:

The Cooperating Entity warrants and represents that it has the funds and the commitment to finance the cost share of acquisition together with all other costs of the Project, including

for monitoring and management, except the Land for Maine's Future Trust Fund Recreation Fund share stated on the cover page of this Agreement.

C. USE OF FUNDS:

The Cooperating Entity shall use moneys granted by LMFB only for the purposes of acquisition/access improvement of the Project as approved by LMFB and provided for herein.

D. USE AND MAINTENANCE OF PREMISES:

The Cooperating Entity shall assure that the Premises shall be forever used, operated and maintained as prescribed in this Agreement and in compliance with all applicable laws, including without limitation Title 5, M.R.S. Section 6200 et seq., as amended and augmented by P.L. 2021, c. 398, Part FFFF. Permits and licenses necessary for the implementation of this Agreement or use of the Premises shall be obtained and complied with by the Cooperating Entity. All costs of acquisition or implementation of the Project and ownership and management of the Premises shall be paid by the Cooperating Entity, except as to the cost share to be provided by LMFB as specified herein. The Cooperating Entity shall ensure that appropriate signage is established and maintained on the Premises in a prominent location to acknowledge the support of the Lands for Maine's Future Program.

E. RETENTION AND CUSTODIAL REQUIREMENTS FOR RECORDS:

The Cooperating Entity shall keep a permanent record in the Cooperating Entity's property records, available for public inspection, to clearly document that the property described in this Project Agreement, and the signed and dated Project boundary map made part of this Agreement has been acquired with Land for Maine's Future Trust Fund assistance and that it cannot be converted to uses other than those specifically provided by this Agreement without the prior written approval of the LMFB and the Director of the DSA. Financial records, supporting documents, statistical records, monitoring records and all other records pertinent to this grant and the Project shall be retained by the Cooperating Entity and may be inspected by representatives of LMFB and the DSA during normal business hours.

F. ANNUAL REPORTING REQUIREMENTS:

On each anniversary of this Agreement, the Cooperating Entity shall report on an annual basis on a monitoring form as approved by LMFB. The form shall be sent to: 1) the Director of the DSA; and (2) the Director of LMFB. For the purposes of this Agreement, the anniversary date for reporting purposes shall be the date of recording of this instrument in the applicable registry of deeds.

G. RIGHT OF ENTRY:

The DSA or LMFB, its employees, agents and representatives, shall have the right to enter the Premises at all times and in any manner without prior notice to assure compliance with the terms of this Agreement and any applicable laws.

H. PROVISIONS IN THE EVENT OF TRANSFER:

i. PRIOR NOTICE AND APPROVAL:

In the event of any intended sale or transfer, in whole or in part, of the Premises or any interest therein, the Cooperating Entity shall provide at least sixty (60) days prior written notice of the same to the DSA and LMFB and shall obtain written consent from the same prior to such transfer.

ii. DISSOLUTION:

In the event of dissolution of the Cooperating Entity, at least sixty (60) days prior written notice of such shall be provided to: (1) the Director, DSA; and (2) Director, LMFB. Prior written consent to the transfer and disposal of the Premises shall be obtained from LMFB as with a conveyance of the Premises under Subsection H(i) unless the DSA requires that the Cooperating Entity transfer title to the Premises to the DSA or a successor designated by the DSA under Subsection I(d). U.S. Forest Service's funding requirements may pose further limits on transfer of the Premises.

iii. SUCCESSORS AND ASSIGNS:

Except as otherwise provided herein, this Agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto. The Cooperating Entity shall incorporate the terms of this Agreement by reference in any deed or other instrument by which the Cooperating Entity sells or transfers any interest (including leasehold interest) in all or a portion of the Premises. In the event that the LMFB or the DSA ceases to exist, the rights and responsibilities of that party shall automatically be vested in any successor agency designated by the Legislature. Failing legislative designation, the successor agency shall be as determined by the Governor.

iv. SHARE IN PROCEEDS:

In the event of any sale, transfer, or condemnation of any or all of the Premises or disposal of the Premises pursuant to dissolution (hereinafter "transfer"), the Cooperating Entity shall pay to the Land for Maine's Future Trust Fund, or to another fund designated by the LMFB, a share of the proceeds of the transfer. For the purposes of this Agreement, this share is defined as the product of:

- (a) the ratio of the value of the LMF's contribution to the value of the Premises as a whole as of the date of this Agreement, hereby established as 50.0%, multiplied by
- (b) the appraised value of the transferred Premises or portion thereof at the time of the transfer, unencumbered by this Agreement or other encumbrances recorded after the date of this Agreement (excluding value attributable to authorized improvements to the Premises made after the date of this grant and not paid for by the State).

The Cooperating Entity's obligation to make this payment to the Land for Maine's Future Trust Fund does not depend on the Cooperating Entity receiving any payment for the transfer and is not reduced by any payment made by the Cooperating Entity pursuant to other obligations. The Parties acknowledge that a transfer of the Premises would also obligate the Cooperating Entity to make payments to the U.S. Forest Service (the "federal funder") pursuant to a recorded Notice of Grant Agreement. The Parties specifically intend that the payment to the Land for Maine's Future Trust Fund mandated by this subsection is in addition to any payments made to the federal funders or any other entity, and that the total payments made by the Cooperating Entity upon a transfer may exceed the appraised value of the Premises.

The LMFB may waive receipt of any proceeds, provided that the said funds are applied to conservation of a substitute property as approved by the LMFB. This payment to the fund shall not relieve the transferee of the continuing obligations to hold, manage and use the Premises under the terms of this Agreement.

The State's share of proceeds shall be paid to the LMF at the time of the transfer, sale, condemnation, or dissolution.

I. ENFORCEMENT ALTERNATIVES:

In the event that the Cooperating Entity does not meet one or more of its obligations under this Agreement or the deed restrictions and covenants by which it holds title to the Premises, or in the event of dissolution of the Cooperating Entity, the DSA may exercise, in its sole discretion, any of the following remedies following written notice and thirty (30) days opportunity for the Cooperating Entity to cure the default:

- (a) any of the remedies or rights set forth in the Cooperating Entity's deed to the Premises;
- (b) the right to require specific performance on the part of the Cooperating Entity;
- (c) the right to a return of the State's share of proceeds as defined in Section H(iv); and
- (d) any other rights or remedies available at law or in equity including, but not limited to, the right to require that the Cooperating Entity perform remedial work and transfer title to the Premises to the DSA or a successor designated by the DSA under such terms and conditions as the court may require. In the event that the DSA exercises any of the rights available to it upon default of the Cooperating Entity, the Cooperating Entity shall reimburse the DSA for its costs of enforcement and collection, including reasonable attorneys' fees.

In addition to the foregoing remedies, it is understood and agreed that the Project creates a public charitable TRUST entitled to all the protections thereof under state law.

J. AMENDMENT:

This Agreement may not be amended, in whole or in part, except with the written consent of all of the parties hereto.

K. NOTICES:

Any notices or requests for approval required by this Agreement shall be in writing and shall be personally delivered or sent registered or certified mail, return receipt requested, or by other courier providing reliable proof of delivery, to the Cooperating Entity, the DSA

and the LMFB at the following addresses, unless one has been notified by the others of a change of address:

To Cooperating Entity:	Inland Woods + Trails P.O. Box 572 Bethel, Maine 04217
To DSA:	Department of Agriculture, Conservation, and Forestry 22 State House Station Augusta, Maine 04333
To LMFB:	c/o Land for Maine's Future Program 22 State House Station Augusta, Maine 04333-0022

NOTE: For the purposes of notice provisions under this Section K, the DSA and the LMFB shall be referred to collectively as the "State", and when being sent, notices shall be sent to both entities.

(a) In the event that notice mailed to the Cooperating Entity at the last address on file with the State is returned as undeliverable, the State shall send notice by certified mail, return receipt requested, or by such commercial carrier as requires a receipt, and by regular mail to the Cooperating Entity's last known address on file with the tax assessment records of the municipality of Rumford, Maine, and with the Bureau of Corporations, Secretary of the State of Maine, if applicable and the mailing of such notice shall be deemed compliance with the notice provisions of this Agreement. The Cooperating Entity's notices must include sufficient information to enable the State to determine whether Cooperating Entity's plans are consistent with the terms of this Agreement and the Conservation Purposes hereof.

(b) When the Cooperating Entity is required to obtain the State's prior written consent and approval, the Cooperating Entity's request shall be in the form of a written application and shall include sufficient details and specifications for the State to adequately review and analyze the same.

Within 60 days of receipt of a complete application, the State shall provide a written decision which shall grant, grant with conditions, withhold approval, or, with consent of the Cooperating Entity, extend the time within which to complete analysis of the application. The parties agree that the application and review process shall be completed as expeditiously as possible.

(c) The State shall not give written consent and approval unless the Cooperating Entity demonstrates to the satisfaction of the State that the proposed use or facilities is consistent with the terms, conditions, and purposes of this Agreement and will not diminish or impair the natural resources and scenic values of the Protected Property.

(d) In the event that the Protected Property is owned by more than one Cooperating Entity, the Cooperating Entity or its successor owners shall designate an agent responsible for the seeking of approvals from the State, and for the receipt of notices from the State. In the

event that no single entity or agent is so designated, the approval of or notice to any executive officer of the Cooperating Entity shall be deemed the approval of or notice to all such owners.

Exhibit A
Metes & Bounds/Legal Description of the Premises

A certain lot or parcel of land, situated on the southerly, and northeasterly, sides of Isthmus Road, so-called, in the Town of Rumford, County of Oxford, and the State of Maine, being more particularly bounded and described as follows:

Beginning at a point, being a found 4" iron pipe, on the assumed southerly sideline of Isthmus Road, so-called, and being at the northeasterly most corner of the land now or formerly of Richard C. Boucher and Bernice M. Boucher, as described in the deed recorded in the Oxford County Registry of Deeds in Book 631, Page 499, and being at the northeasterly most corner of the Boucher Family Burial Ground within said land, as described in the deed recorded in the said Registry in Book 2755, Page 194, said point also being N 36°37'25" W, and, 4.88 feet, from another found 4" iron pipe;

Thence N 77°23'40" E, along said Isthmus Road, so-called, 220.03 feet, to a point, and the beginning of a curve to the right;

Thence easterly, along said Isthmus Road, so-called, and said curve to the right, 189.537 feet, to a point, said curve to the right having a radius of 1,143.140 feet, a delta of 9°30'00", a chord bearing of N 82°08'39" E, and a chord distance of 189.320 feet;

Thence N 86°53'38" E, along said Isthmus Road, so-called, 118.19 feet, to a point;

Thence N 89°49'35" E, along said Isthmus Road, so-called, 175.36 feet, to a point;

Thence N 85°17'16" E, along said Isthmus Road, so-called, 321.70 feet, to a point;

Thence N 86°53'24" E, along said Isthmus Road, so-called, 135.90 feet, to a point, and the beginning of a curve to the right;

Thence easterly, along said Isthmus Road, so-called, and said curve to the right, 133.030 feet, to a point, said curve to the right having a radius of 1,112.950 feet, a delta of 6°50'55", a chord bearing of S 89°41'09" E, and a chord distance of 132.951 feet;

Thence S 75°58'20" E, along said Isthmus Road, so-called, 60.20 feet, to a point;

Thence S 63°29'35" E, along said Isthmus Road, so-called, 264.86 feet, to a point;

Thence S 79°23'46" E, along said Isthmus Road, so-called, 422.12 feet, to a point;

Thence S 70°04'58" E, along said Isthmus Road, so-called, 120.33 feet, to a set iron rod and cap, and the land now or formerly of Roger A. Viger, Jr. and David Viger, as described in the deed recorded in the said Registry in Book 5455, Page 643;

Thence S 25°56'48" E, along said Viger, 2,460.40 feet, to a found boulder at the intersection of blazed lines, and the land now or formerly of Harold C. Pachios and Penelope P. Carson, as described in the deed recorded in the said Registry in Book 2799, Page 50;

Thence S 28°44'38" E, along said Pachios – Carson, 2,587.57 feet, to a set nail and washer in a found 4'x4'x.5' boulder, and the land now or formerly of Top Of The World, LLC, as described in the deed recorded in the said Registry in Book 5739, Page 904, and being at the westerly most corner of the land now or formerly of Linkletter Timberlands, LLC, as described in the deed recorded in the said Registry in Book 3640, Page 226;

Thence S 60°28'22" W, along said Top Of The World, LLC, 728.00 feet, to the found remains of a wood post in a stone pile, and the land now or formerly of David J. Rhodes, Sr. and Leslie A. Rhodes, as described in the deed recorded in the said Registry in Book 3954, Page 5;

Thence S 61°35'28" W, along said Rhodes, and the land now or formerly of Sean Munkacsi and Tiffany White, as described in the deed recorded in the said Registry in Book 5634, Page 860, 2,215.55 feet, to the found remains of a wood post in a stone pile, and the land now or formerly of Jeffery J. Waugh, as described in the deed recorded in the said Registry in Book 5226, Page 335;

Thence S 59°19'22" W, along said Waugh, being partially along a stonewall, 486.66 feet, to a found 2" iron pipe, on the assumed northeasterly sideline of said Isthmus Road, so-called, and being at the southeasterly corner of the land now or formerly of Roger Arsenault and Barbara Arsenault, as described in the deed recorded in the said Registry in Book 1840, Page 140;

Thence N 27°41'20" W, along said Arsenault, being partly along a stonewall, 544.07 feet, to a set nail and washer in a found boulder with painted rock on top;

Thence S 64°02'38" W, along said Arsenault, 239.14 feet, to a set iron rod and cap, on the assumed northeasterly sideline of said Isthmus Road, so-called;

Thence N 48°57'40" W, along said Isthmus Road, so-called, 250.27 feet, to a set iron rod and cap, and the remaining land of Red Hill Road, LLC ;

Thence N 35°21'23" E, along said remaining land of Red Hill Road, LLC , 373.27 feet, to a set iron rod and cap;

Thence N 27°17'04" W, along said remaining land of Red Hill Road, LLC , 231.01 feet, to a set iron rod and cap, and the land now or formerly of Berl E. Nisbet, Sandra J. Nisbet, Harold K. Nisbet, and Toni M. Nisbet, as described in the deed recorded in the said Registry in Book 2743, Page 251;

Thence N 29°25'59" W, along said Nisbet, and the land now or formerly of Donna Moore Nisbet, as described in the deed recorded in the said Registry in Book 4711, Page 171, 1,483.46 feet, to a found 2"x½" iron bar, and the land now or formerly of Eugene Gerald Knox and Penny L. Knox, as described in the deed recorded in the said Registry in Book 2243, Page 115;

Thence N 27°55'33" W, along said Knox, 981.73 feet, to a found 2"x¼" iron bar, and the land now or formerly of Michael E. Mattor (also known as Michael E. Matthews) and Angela Perry, as described in the deed recorded in the said Registry in Book 1294, Page 120;

Thence N 26°22'40" W, along said Mattor – Perry, and the land now or formerly of Mark A. Milligan and Deborah M. Milligan as described in the deed recorded in the said Registry in Book 5278, Page 561, 374.26 feet, to a found 1" iron rod;

Thence N 28°58'31" W, along said Milligan, 415.04 feet, to a found ¾" iron rod with cap marked "PLS 2434", and the land now or formerly of Roland D. Milligan, Jr. and Cynthia A. Milligan as described in the deed recorded in the said Registry in Book 5278, Page 576;

Thence continuing N 28°58'31" W, along said Milligan, 606.61 feet, to a found ¾" iron rod with cap marked "PLS 2434", and the land now or formerly of Kim B. Gravel and Paul L. Gravel as described in the deed recorded in the said Registry in Book 5278, Page 547;

Thence continuing N 28°58'31" W, along said Gravel, 444.67 feet, to a found 2" axle, and the said land now or formerly of Boucher;

Thence N 62°09'54" E, along said Boucher, 1,725.56 feet, to a found 4" iron pipe;

Thence N 27°55'24" W, along said Boucher, 594.69 feet, to a found 4" iron pipe;

Thence N 26°36'38" W, along said Boucher, 91.04 feet, to a found 5/8" iron rod, and the said Boucher Family Burial Ground;

Thence N 31°01'42" W, along said Boucher, and said Burial Ground, 45.12 feet, to the point of beginning;

Containing 445.8 Acres, more or less.

The basis of bearing for this description is GRID NORTH based on the Maine State Coordinate System West Zone, NAD 83 (Cors96) Epoch 2002, using a Stonex S900A RTK GNSS (GPS) receiver. The 2023 magnetic declination was found to be 15° west of Grid North. The found 4" iron pipe, at the point of beginning is at a coordinate of NORTH 635470.901, EAST 2840803.993.

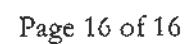
All said "Set iron rod and cap(s)" are 5/8" rebar with a 2" aluminum cap marked "MAINE BOUNDARY CONSULTANTS, LLC SET BY PLS 1303 – 2502".

All said "Set nail and washer(s)" are 1/4" diameter nails in a drill hole with a 2" aluminum washer marked "MAINE BOUNDARY CONSULTANTS, LLC SET BY PLS 1303 – 2502".

This description is based on the "Boundary Survey Map of the proposed Rumford Community Forest" dated June 28, 2023, revised November 14, 2023, and recorded on January 16, 2024 as OCRD plan file number 5946, prepared by Daniel T. Yarumian & Robert A. Yarumian II, of Maine Boundary Consultants LLC, Moderation Center, 8 River Road, Buxton, Maine, 04093, and conforms to the Maine Board of Licensure for Professional Land Surveyors, Rules, of April 2001, Chapter 90, Standards of Practice.

Meaning and intending to describe a portion of the premises, as described in the deed Cissel Enterprises LLC to Red Hill Road, LLC, dated December 6, 2022, and recorded in the Oxford County Registry of Deeds in Book 5732, Page 549.

Survey of the Premises, Recorded on January 16, 2024, as OCRD Plan File No. 5943



TOWN OF RUMFORD

PLANNING BOARD

Meeting Minutes (Draft)

April 5, 2023

TOWN HALL CONFERENCE ROOM

Officials Present: Kenneth MacFawn, Derek Taber, Andrew Cayer, Travis Palmer, Stacy Carter, George O’Keefe, and Richard Coulombe

Others Present: Gabe Perkins of Inland Woods and Trails, Kara Wilber for 60 Lowell Street project, Patrick Ryan for 1528 Route 2 project and Bruce Farin of Sun journal.

1. Call to Order by Chairperson at 6:00 PM
2. Pledge of Allegiance
3. Agenda additions or deletions
None
4. Approval of Minutes from the March 1, 2023, regular Planning Board Meeting

Motion: Motion to Approve

Made By: Kenneth MacFawn , second: Andrew Cayer

Vote: 4 - FOR 0 - AGAINST 0 – ABSTAIN

5. Code Enforcement Report (If necessary)

Update on building demo at 218 Pine Street, dangerous building hearing on 2 Plymouth Avenue and selectboard voted to demolish the structure and 254 Route 108 tax acquired and demo.

6. Kara Wilber gave a site plan review pre application presentation for project at 60 Lowell Street. They have financing lined up, the project looks to renovate the basement/first floor into useable space for a restaurant, pool and future incubator spaces for other businesses, maintain the occupancies on the second/ground floor and the university on the front of the second floor and turn the rear of the second floor and the whole forth floor into a 35 unit mini hotel. Solar panels will be installed on the roof, and a whole new heating system, and will use local contractors if available.
7. Patrick Ryan gave a site plan review pre application presentation for storage units project at 1528 Route 2 west of Rumford Center he wants to build. The property is 18 acres, the building will be 40 x 160 it will have 30- 10 x 20 storage units and 8 – 5 x 10 units with power to the site.
8. Gabe Perkins of Inland woods and trails gave an insight as to their organization and what they do and how they would like to run the new Rumford Community Forest Project. Their organization is a 501C3 nonprofit they run the Bethel Community Forest which is 1,510 acres. They have a trail steward, seasonal trail staff and volunteers that help maintain the trail systems. They already have 6 miles of trails in Rumford, this project is a 446 acre site next to Black Mountain and would connect downtown Rumford with Black Mountain through hiking and walking tails. They would gather input from the town's people as to what the town's people would like the property used for and use that input to develop the property. Its use is dependent on what the town's people want the property used for.

Motion: Motion to for the planning board to be a convening body for the community forest project with Inland Woods and Trails.

Made By: Andrew Cayer , second: Travis Palmer

Vote: 4 - FOR 0 - AGAINST 0 – ABSTAIN

9. Comprehensive Plan
Dereck will reach out to the person he had coming to speak to the selectboard and planning board about comprehensive plan review and update and will get a new date for a joint meeting of both boards.
10. Parking
The town manager and economic developer spoke about parking on the business island and that there is enough parking for what we have currently and in the future. People may need to walk a little bit to get to a business or other occupancy.
11. Citizen Comments
None

9. Adjournment

Motion: Motion to adjourn

Made By: Kenneth Macfawn , Second: Andrew Cayer

Vote: 4 - FOR 0 - AGAINST 0 -ABSTAIN

Time: 7:28 PM

Rumford Community Forest Planning Committee

The following individuals are contributing professionals to Rumford Community Forest planning:

- Gabe Perkins, Executive Director, Inland Woods + Trails
- Karla Leandri Rider, Development + Communications Coordinator, Inland Woods + Trails
- Julie Renaud Evans, Program Director, Northern Forest Center
- Kendall Gray, Program Coordinator, Northern Forest Center
- Lynnette Batt, Project Manager, Trust for Public Land

The members of the Planning Committee participated in monthly meetings to develop the mission and vision of the forest and to ensure that the stewardship plan reflects local priorities and values.

- Andrew Arsenault, Rumford resident
- Jeff Arsenault, Rumford resident
- Roger Arsenault, Rumford resident
- Lynnette Batt, Project Manager, Trust for Public Land
- Matthew Chapdelaine, Planning Board Member, Town of Rumford
- Richard Coulombe, Code Enforcement Officer, Town of Rumford
- Greg Deane, Rumford resident
- Ed Easter, Board President, Inland Woods + Trails
- Julie Renaud Evans, Program Director, Northern Forest Center
- Kendall Gray, Program Assistant, Northern Forest Center
- Karla Leandri Rider, Development + Communications Coordinator, Inland Woods + Trails
- Ryan Nichols, Rumford resident
- George O'Keefe, Economic Development Director, Town of Rumford
- Travis Palmer, Planning Board Chair, Town of Rumford
- Todd Papianou, Mountain Valley High School
- Gabe Perkins, Executive Director, Inland Woods + Trails
- Jeff Sloan, Board Vice President, Inland Woods + Trails
- Jon Starr, Rumford Polar Bears Snowmobile Club
- Bob Stickney, Rumford Polar Bears Snowmobile Club
- Derek Tabor, Planning Board Member, Town of Rumford
- Brie Weisman, Rumford resident
- Karen Wilson, Board Member, Inland Woods + Trails

Contracted Professionals

The following consultants worked with the Planning Committee to create the ecological assessment, forest management plan, and recreation report which served as the basis for the Rumford Community Forest Stewardship Plan.

- Dr. Rick Van de Poll, Principal, Ecosystem Management Consultants
- Bill Haslam, Maine Licensed Forester, American Forest Management Inc.

Steve Kasacek, Trail Development and Education, Outdoor Sport Institute

Rumford Community Forest Infrastructure Map

Access

Site of Old Bridge Crossing

Small Landing

Proposed Spur

Main Road

Old Landing Area

North Fork

Old Landing Area

Old Landing Area

Access and
Parking



Map created by Bill Haslam
Map Date: April 22, 2024
This map is not a survey

Data Sources: USDA,
MaineGIS, Field Data

Legend

Internal Road

Forest Stand Boundary

Ownership lines

Streams