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# Birch Ridge Community Forest Management Plan

August 2020

BIRCH RIDGE COMMUNITY FOREST STEERING COMMITTEE

## Acknowledgements

The Birch Ridge Community Forest Management Plan was a collaboration between the Birch Ridge Community Forest Steering Committee, contracted Natural Resource professionals and input from the broader community.

### Birch Ridge Community Forest Steering Committee

The following members of the BRCF Steering Committee are contributing authors of the BRCF Management Plan.

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- ❖ Deborah Goard, M.S., NH Licensed Forester, Project Manager, SELT
- ❖ Lee Alexander, PhD, Wildlife Biologist, Lake Resident

The remaining members of the Steering Committee provided invaluable time and information to ensure the overall BRCF Management Plan accurately reflected the values and interests of the greater New Durham community.

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While not a formal part of the BRCF Steering Committee the following people contributed time and knowledge regarding educational and outreach events at the BRCF for the Management Plan.

- ❖ Zoe Aldag<sup>2</sup>, SELT
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1 BRCF Trails Subcommittee

2 BRCF Education & Outreach Subcommittee

### Contracted Natural Resource Professionals

The following Natural Resource Consultants worked with the BRCF Steering Committee to create the *Forest Stewardship Plan* and the *BRCF Trail Assessment and Feasibility Study* which were used as the basis for the overall BRCF Management Plan.

- ❖ Jon Martin, NH Licensed Forester
- ❖ Lew Shelly, Professional Trail Planner

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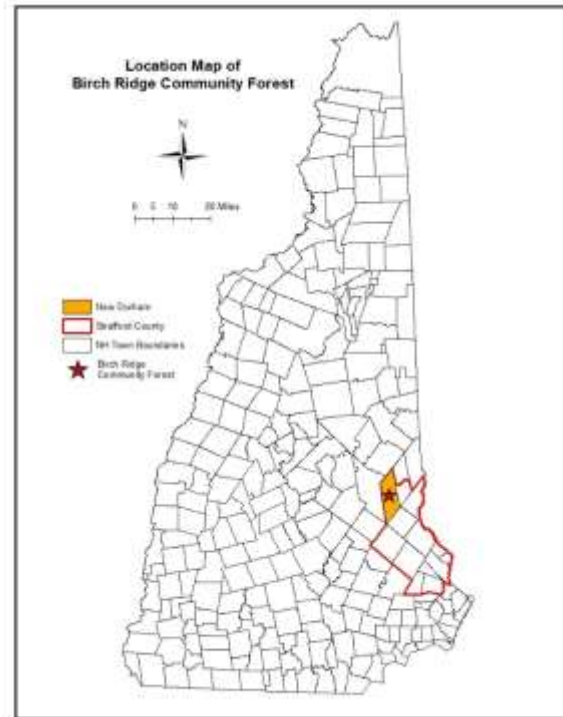


# Birch Ridge Community Forest Overview

## Property Location

The Birch Ridge Community Forest (BRCF) encompasses 2,027 acres located south of Merrymeeting Lake in New Durham, Strafford County, NH (*Figure 1*). The property extends eastward from the Merrymeeting River across Rattlesnake Mountain, Mt. Eleanor, and Birch Ridge. It reaches southward to Coldrain Pond and the Ela River. Straddling two watersheds, 1,311 acres drain north to Merrymeeting Lake in the Pemi-gewasset/Winnepesaukee watershed and 708 acres drains south to the Salmon Falls/Piscataqua watershed.

The BRCF has direct public access via road frontage on Merrymeeting Road, South Shore Drive and Birch Hill Road. Additional access for land management activities only (no public access) is available through right-of-ways on private land off Brackett Road and Coburn Woods Road.



*Figure 1: Map showing the location of the Birch Ridge Community Forest, located in New Durham, NH.*

## Property Description

With the recent heavy commercial logging that occurred through mid-2019, approximately 75% of the BRCF currently consists of young to pole-sized forest. The remaining 25% of the BRCF includes wetlands, fields, log landings, blueberry and some areas with more mature forests. The mature forests on the property are mainly those left uncut due to difficult terrain or left as buffers around wetlands and property boundaries.

Notable physical features include Coldrain Pond and its associated wetlands that border the southern end of the property, and four striking and steep land masses – Birch Ridge, Mt. Eleanor, Rattlesnake Mountain and a steep hill north of Coldrain Pond. Another large wetland complex, as well as a series of vernal pools, also occur in the drainage area located northwest of Coldrain Pond.

A more detailed description of the landcover on BRCF is included in the *Forest Stewardship Plan* found in [Appendix F](#).

## Property History

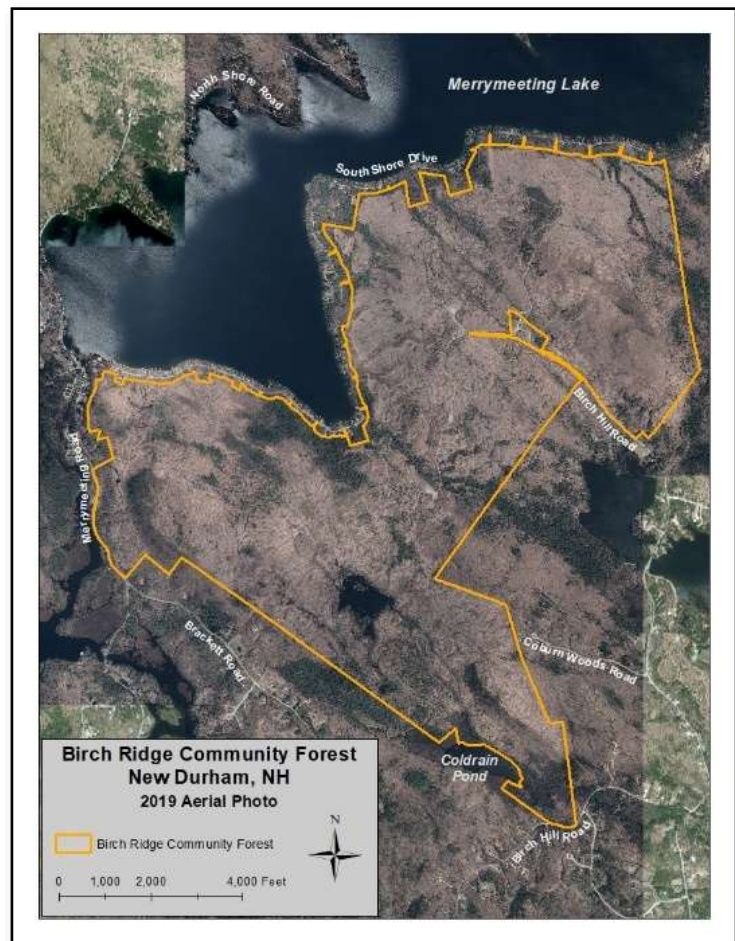
The BRCF has a history similar to much of New Hampshire and New England. Documentation of stone walls, two small cemeteries and a few former structures and quarries, indicates a historical agricultural use in these areas. Based on historical documents, any traditional agriculture was abandoned, and most of the property returned to a forested condition many years ago, most likely in the mid to late-1800's.

The most recent agricultural activity on the property was a commercial lowbush blueberry field. The blueberries were raked, gathered and sent to markets in Boston. The operation ended around 1970.

Over the last several decades, the property has been periodically harvested for timber. The more recent history of the property involves intensive timber harvesting by the prior owner over almost the entire property. Even so, the property still has a wide variety of wildlife habitats, significant wetlands and water resources, and depleted but productive forest resources. An aerial photo showing the leaf-off condition of the property in May, 2019, near the end of the most recent commercial harvesting, can be seen in *Figure 2* below.

## Cultural Resources

A Phase 1A archaeological survey was conducted over the entire property in the summer of 2019 by Independent Archaeological Consultants (IAC). A more focused Phase 1B survey on specific portions of the property was also conducted by IAC in the summer of 2019. Due to the sensitive nature of the known information it is not included in this plan but is on file with SELT. Additional consultations with archaeologists will occur as needed depending on planned management activities. Additionally, the presence of cultural resources on the property must be understood prior to undertaking certain more intensive management activities.



*Figure 2: Aerial photo taken May 8, 2019 of the Birch Ridge Community Forest*



## BRCF Acquisition

The BRCF conservation project was led by a partnership between the Southeast Land Trust of New Hampshire (SELT), the Merrymeeting Lake Association (MMLA), and Moose Mountains Regional Greenways (MMRG). The MMLA secured a purchase agreement to acquire the BRCF from Dillon Investments, LLC. At the time of closing, that agreement was assigned to SELT. Prior to selling the property to SELT, the prior owner conveyed a conservation easement to MMRG on 2,022 acres of the BRCF. The conservation easement includes Third Party Rights of Enforcement held by the State of New Hampshire through the Department of Environmental Services (NHDES) and the Town of New Durham. The New Durham Board of Selectmen required this legal interest as part of the Town's contribution to the project. NHDES also requires a third-party interest due to its grant funding through the Aquatic Resource Mitigation Program (ARM).

In addition to the ARM Program and Town of New Durham, other funding sources included the NH Land and Community Heritage Investment Program (LCHIP), the USFS Community Forest Program, and \$1,843,552 in private gifts.

Included in the fee deed to SELT are restrictions held by LCHIP and the USFS. The deed restrictions include:

- A right of public access for hunting, fishing and transitory passive recreation.
- The landowner ability to decide on certain recreational activities, including camping, bicycling, horseback riding, trapping, snowmobiling and motorized wheeled vehicles.
- The BRCF shall be owned by an eligible entity defined under the Community Forest Program, if ever conveyed by SELT to another entity.
- The BRCF shall be managed consistent with the USFS Community Forest Program.
- If the BRCF is sold or converted to a non-forest use inconsistent with the Community Forest Program then SELT or the current landowner is to pay the USFS the amount equal to the current appraised value of the parcel or the sale price, whichever is greater. Further, neither SELT nor the landowner would be eligible for Community Forest grants.

## Community Benefits

The BRCF provides a variety of recreational and environmental benefits to the Town of New Durham and its surrounding communities.

BRCF allows public access for activities such as hiking, snowshoeing, wildlife viewing, mountain biking, snowmobiling and hunting. The property includes 13+/- miles of woods roads and trails, including a 4.2-mile section of State Snowmobile Corridor 22, a major east-west link. Wood roads and trails are accessible from several points along public roads, and from the New Durham Town Beach and the NH Fish & Game's Coldrain Pond Wildlife Management Area. Trails also link to the adjacent Lions Camp Pride, a

335-acre special needs-accessible camp. The planned public trail system and designated uses are described in more detail beginning on page 15.

The BRCF's aquatic resources include 125+/- acres of wetlands, consisting of emergent marsh and shrub wetlands, forested swamps, peatlands, a beaver impoundment, and Coldrain Pond. There are also 31 documented vernal pools. Within the Winnepesaukee watershed, the property includes 9.5+/- miles of wetland frontage and 1.2+/- miles of intermittent streams. Within the Salmon Falls watershed, the property includes 8.4+/- miles of wetland frontage, 1,028+/- linear feet of perennial streams, and 1 mile of intermittent streams. Collectively these wetlands and their forested upland buffers provide significant habitats for a diverse wildlife community.

The property comprises 12% of the Merrymeeting Lake watershed and is the scenic viewshed from almost the entire south side of this 1,100-acre Lake. Merrymeeting Lake is an oligotrophic lake and is known as one of the cleanest lakes in New Hampshire. The lake supports a landlocked salmon and lake trout fishery and is the water supply for the NH Fish & Game Powder Mill Fish Hatchery.

Most of the property is identified in the NH Wildlife Action Plan (WAP) as among the Highest Ranked Habitat in NH or in the Biological Region. With varied topography, it contains mostly productive Group 1 forest soils conducive to growing oak and includes some sites of rare natural plant communities.

Conserving the BRCF has resulted in a nearly contiguous block of 7,400 acres of conserved forestland sitting within a 69,800-acre aggregated forest block, the second largest in southeast NH. The project has completed the protection of Coldrain Pond. Landscape connectivity will protect overall ecosystem function, water quality, flood control, and aquifer recharge.

Sections of southern NH currently experience heavy development pressure, especially near scenic features, such as Merrymeeting Lake. This increases the importance of this significant block of undeveloped land as a water quality buffer to the built-up area along the lake shore, a future nature-based recreational resource for the local communities, and a haven of respite for local wildlife populations. The new conservation status of the BRCF will be especially valuable for achieving long-term regional land conservation goals.

### Community Engagement

Community involvement and engagement in the establishment of the Birch Ridge Community Forest as well as this management plan has been deep, active, and underway since the fall of 2018. From the start, the project partners of SELT, MMRG, and the MMLA actively sought public input about the project, public goals, and future uses of the BRCF.



The BRCF Steering Committee was formed in September 2018 and met 12 times through the end of 2019. In addition to representatives from SELT and MMRG, the Steering Committee included a broad cross-section of residents, town leaders, and community-based recreational and educational user groups. (See [Appendix A](#) for the list of *BRCF Steering Committee Members*).

To further engage the public, the Steering Committee undertook a series of activities:

1. **Community Forum:** Held on November 1, 2018, more than 50 residents attended. Attendees were provided a brief project overview and given the opportunity to provide oral or written responses to prompting questions regarding goals in the areas of Municipal Needs, the Cabin, Education, Wildlife, Water Quality, and Recreation. (See [Appendix B](#) for *BRCF Visioning Session - Summary of Public Comments*.)
2. **Community Survey:** In conjunction with the Community Forum, during the fall/winter of 2018 a survey form was mailed to all residents and property owners. The purpose of the survey was to obtain feedback on public uses and goals for the BRCF. A total of 204 community members responded to a survey. (See [Appendix C](#) for *BRCF Public Survey - Summary of Responses*).
3. **Public Programs:** Sponsored by SELT and MMRG, five public programs/field trips took place in 2018, and four in 2019. This included spring/summer songbird field trips and fall hawk watch. In July 2019 there was a grand opening celebration with more than 200 attendees!). A schedule is currently being developed for 2020/2021. (See [Appendix D](#) for a list of past *Public Programs at BRCF*).

All Steering Committee meetings were held in New Durham and were open to the public.

The community's cumulative feedback was used by the Steering Committee to finalize the Vision and Goals for the BRCF. These were adopted in January 2019.

During 2018-2019, the Steering Committee worked with a licensed forester, a trails consultant and wildlife biologists to develop the various components of a Management Plan. In addition, a subcommittee drafted "Outreach and Educational Programs" goals for the Management Plan.

The recommended Management Plan will be presented to the public for comment and feedback, with an anticipated public presentation in summer 2020. At that public forum, the Steering Committee will seek further public input on the proposed acquisition of 600 abutting acres as an addition to the BRCF (Phase 2). Further input will be sought on how this additional acquisition expands or strengthens the current vision, goals, and public uses. After considering public feedback, the Steering Committee will make any necessary revisions, and adopt the proposed Management Plan.

Once the Management Plan is adopted, the Steering Committee will transition to a smaller Management Committee. Based on the recommendation of the Steering

Committee and SELT's Land Stewardship Committee (February 2020) and the approval by SELT's Board of Directors (February 2020), the Management Committee will consist of 11 members with designated representation from the Town of New Durham and other partners/stakeholders. The Management Committee's primary responsibility will be to continue to provide a vehicle for ongoing community input and feedback on the BRCF. In addition, the Management Committee will work to update the plan to include Phase 2, as well as develop annual work plans based on available funds and resources. (See [Appendix E](#) for the full description of the Management Committee members, terms, roles, and responsibilities).

With the ongoing support of the community and partners, much has happened at the BRCF since its acquisition by SELT in July 2019. The Powder Mill Snowmobile Club and Merrymeeting Lake Marina staff volunteered over 800 hours, with an estimated value of \$56,000 in-kind and direct funding, during the summer and fall of 2019. This significant contribution was essential to begin the restoration of NH State Corridor 22 and other snowmobile trails from the damage that occurred over two years of intensive timber harvesting operations. This restoration work provided benefits far beyond snowmobiling as these trails are also the principal multi-use all-season recreational trails throughout the property. In addition to trail work, Powder Mill Snowmobile Club volunteers also cleaned up in and around the cabin prior to the public celebration of the project in July 2019.

## Birch Ridge Community Forest Vision and Goals

The Steering Committee utilized public input from the community survey and community forum to develop and adopt a *Vision for the Birch Ridge Community Forest*. The Vision statement provides a framework for understanding the community's desires and hopes for the BRCF:

*The Birch Ridge Community Forest grows into a mature woodland of high-quality trees, interspersed with young forest stands and openings that provide landscape views and habitat for native wildlife. The property is permanently conserved and sustainably managed for multiple benefits, including water quality, wildlife habitat, forestry, trails and recreation, educational programs, scenic views, and climate change mitigation. Educational and outreach events occur frequently, and build awareness, understanding, and support for the Community Forest. The property welcomes a diversity of activities in all seasons. Access points and trails are constructed and maintained in a manner that is sensitive to the conservation of the property's natural resources. When viewed from on or off the property, the Birch Ridge Community Forest contributes dramatically to the visual landscape of the Merrymeeting Lake watershed while providing cultural, economic, and other benefits to New Durham and the surrounding communities.*



To focus work toward achieving this Vision, the Steering Committee identified eight broad goals covering the principal community benefits and natural resource values provided by the BRCF:

***Non-motorized Recreation:*** *The BRCF is enjoyed by the public for a wide range of compatible, human-powered recreational activities, including hiking, skiing, hunting, fishing, and mountain biking on designated trails. Trails will be connected to adjoining properties as part of a larger network of recreational trails in the area.*

***Snowmobiling:*** *The BRCF continues to be a key parcel within a broader snowmobile trail network, with snowmobiling allowed on appropriately designated and maintained trails, consistent with adequate snow cover and ground conditions.*

***Education & Outreach:*** *The BRCF is recognized as a resource to support community education and outreach activities through partnerships with New Durham and area schools, non-profit organizations and clubs, and area businesses, as well as activities organized by SELT and MMRG.*

***Scenic:*** *The BRCF enhances the scenic views from and to Merrymeeting Lake and the surrounding areas.*

***Forestry:*** *The BRCF is sustainably managed as a model community forest to produce high-quality and high value wood products, while also managing special use areas that contain sensitive plants or animals or are designated for specific wildlife or recreation related activities.*

***Wildlife Habitat:*** *The BRCF protects a diversity of vegetative communities to create and sustain suitable habitats for a full range of naturally occurring wildlife populations, including rare, threatened and endangered species.*

***Water Quality:*** *The BRCF protects and enhances ground and surface water quantity and quality flowing to the Merrymeeting Lake, Merrymeeting River, and other water bodies.*

***Climate Change Mitigation:*** *The growing and maturing woodlands of the BRCF contribute to carbon sequestration, while the BRCF's topography and proximity to other conserved lands enables species to adjust to disturbances relating to climate change.*

To facilitate achieving these broad goals, expert advice was obtained from natural resource professionals to document current conditions and recommend guidelines and strategies to direct future management. Their detailed plans are included in the Appendices and will provide the technical basis for the management of the BRCF. These plans include:

- *Forest Stewardship Plan for BRCF – by Jon Martin, Martin Forestry Consulting (See [Appendix F](#))*

- *Wildlife Habitat Management Recommendations for Birch Ridge Community Forest* -- Charles Bridges, M.S., C.W.B. and Lee Alexander, Ph.D. (see [Appendix G](#))
- *Birch Ridge Community Forest Trail Assessment and Feasibility Study* – Lew Shelly, Snowhawk, LLC (see [Appendix H](#))

The focus of land management for the period covered by this Management Plan is the recovery of the forest after the intensive logging that occurred prior to SELT’s ownership. Assessing regrowth and monitoring plant and animal response is a significant component of the objectives and strategies (see below) that are designed to work toward achieving the goals stated above. Likewise, objectives and strategies to achieve recreational goals will focus on developing opportunities for a variety of activities that are appropriate for the sites, soils and available infrastructure, while minimizing potential resource impacts.

Actual management actions and recreational opportunities will be driven by available funding, and SELT staff and volunteer resources. Since most of BRCF was commercially harvested over the last few years, there will be very little revenue from timber harvesting to support other management goals, practices or studies. As such, exploring funding options and pursuing funding sources is central to creating opportunities, and will influence the timeframe or feasibility of implementing specific objectives and strategies.

## **Land & Recreation Management, Objectives & Strategies 2020-2024**

During the next five years (2020 – 2024) new proposals will be made, and strategies developed, to achieve attainable forestland and recreation management goals. This ongoing process will focus on assessing current conditions, monitoring evolving uses and requirements, as well as exploring and securing project funding in order to accomplish management activities and goals. Collectively, there is a need to take an adaptive approach to the management of BRCF. Ideally, this involves an ongoing process of assessing, proposing, planning, and initiating projects as knowledge, opportunities and resources present themselves.

The following sections describe the various objectives and strategies necessary to achieve desirable outcomes.

### **Property Access and Infrastructure Overview**

**Parking/Kiosks:** Two new parking areas are planned to provide public access. Trailheads will exit the parking areas, and kiosks with educational and permitted use information will be located at the trailheads. The first parking area and trailhead access to be

designed and built will be near the intersection of Brackett Road and Merrymeeting Road. From this parking lot, the Rattlesnake Mountain and Mt. Eleanor trail loops will be developed during the next two field seasons (2020-2021). As illustrated on the *Trails Map* (see p. 16), this “mountain loop” is on the northwest corner of the property and will intersect with the Lake Trail and Corridor 22.

The second parking area will be located near the mid-slope of the hill off Birch Hill Road. From this location the public can access the cabin and trails in the middle and eastern end of the property. A kiosk with educational and permitted use information will be located at the trail head. A Birch Ridge hiking loop will be developed during the field seasons of 2021 – 2022, that will offer scenic views atop the ridge along with those found on Corridor 22 and the Scenic Loop Trails. In 2020-2021, the feasibility of designing a universally accessible trail will be explored to connect this parking area to vistas of Merrymeeting Lake from the central part of the property.

**Property Boundaries:** The entire property was surveyed as part of the acquisition. The boundary is rather complicated. The property abuts many residential lots along South Shore Road, and in these locations some abutting owners had taken liberties over the years with the use of the property directly behind or next to theirs. During the property acquisition, SELT resolved or signed agreements to resolve all encroachments with abutters.

At various intervals along the South Shore Road boundary, access strips connect the larger property to the town road. These are clearly shown on the survey. Older monuments at corners include iron pipes and drill holes, as well as more recent capped rebars in some locations. For all other corners not already accurately monumented, new rebars with red caps were installed. For corners next to South Shore Road these rebars are set flush with the ground. All boundaries are blazed on nearby trees, with blazes facing in, along or out, depending on the actual path of the boundary. Corners to the southeast of Coldrain Pond were not located due to their being in wetlands.

**Roads and Trails:** With its long history of ownership by forestry companies, the BRCF has an extensive internal system of woods roads and skid trails. The main east-west woods road through the property is a 4.3+/- mile section of NH State Snowmobile Corridor 22. In addition, at the time the land was transferred to SELT, seven actively used roads and 15 unofficial trails or unused/closed roads enter the property at various locations. Forestry, wildlife habitat management, and other stewardship activities depend on good access, woods roads and log landings. While some work has been done, the internal road system needs to be assessed, desired uses and standards determined, and maintenance conducted as appropriate. Woods roads and management access are shown in *Figure 3* below.

Some of the woods roads, including Corridor 22, Lake Trail and the Scenic Loop, are part of the recreational trails and will be a focus for repair and restoration during the next few years. Log landings will be retained and managed for both forest and wildlife habitat management objectives. Specific details are described in the Forest and Wildlife Management Plans (see [Appendix F](#) and [Appendix G](#)).

**Stream Crossings:** The BRCF is a large property with variable topography and the internal roads cross many streams. The grant from the NH Department of Environmental Service’s Aquatic Resource Mitigation (ARM) program requires the repair of three stream crossings damaged during the logging operations prior to the property becoming BRCF. Two locations are in the central portion of the BRCF along Corridor 22. The third location is along the management (non-public) access to BRCF off Bracket Road through private land. These are planned to be repaired in 2020.



Figure 3 The above map shows the woods road system and management access on BRCF to be used for land management activities.

**Cabin:** The BRCF Steering Committee agreed with public input that the small cabin at the end of Birch Hill Road should be kept. Over the winter of 2019/2020, the cabin was utilized by the local snowmobile club as a warming hut during the snowmobile season. As a clearer vision for additional recreational and educational use at BRCF is developed by the BRCF Management Committee, additional opportunities for the cabin to support activities at the BRCF will be considered.

**Sanitary facilities:** The need for sanitary facilities needs to be evaluated – especially should the BRCF become a destination for educational use by local schools or camps. The location, type, and number of facilities needs to be determined.

## Property Access and Infrastructure Objectives and Strategies 2020-2024

**Objective I.** Construct two parking areas for public access during 2020

- Strategy 1. Complete designs and layouts for Merrymeeting Rd and Birch Hill Rd parking
- Strategy 2. Obtain necessary permits and approvals
- Strategy 3. Hire and schedule contractors to construct parking areas



Strategy 4. Design, construct and install public informational kiosks at parking areas

**Objective II.** Identify and resolve issues pertaining to use of Class VI town road

Strategy 1. Discuss use of Class VI road with Town of New Durham

Strategy 2. Develop mutual understanding of Class VI road use and maintenance with abutter

**Objective III.** Determine and initiate management of BRCF internal road system

Strategy 1. Complete comprehensive assessment of the condition of internal road system

Strategy 2. Determine desired condition of roads and skid trails by expected future use

Strategy 3. Identify actions to repair, stabilize and protect internal roads and trails

Strategy 4. Seek funding from NRCS (and others) to restore roads to desired standards

Strategy 5. Install stream crossings required by ARM

Strategy 6. Identify additional stream crossing needs and funding sources

**Objective IV.** Identify additional public access to the BRCF

Strategy 1. Explore designs & funding opportunities for creating a universally accessible trail

Strategy 2. Determine the feasibility of access from South Shore Rd and other locations

**Objective V.** Evaluate the cabin and need for other public amenities

Strategy 1. Determine appropriate public and management uses for the cabin

Strategy 2. Assess the current condition of the cabin to support desired uses

Strategy 3. Determine the need and approach for providing sanitary facilities

### **BRCF Recreation and Public Use Overview**

The Trails Assessment and Feasibility Study (see [Appendix H](#)) identifies many options for recreational enjoyment of the property. With its long history of ownership by forestry interests, the BRCF is a property with an extensive internal road/trail system. The recent intensive logging added many additional roads and skid trails to those already there. Part of the challenge of the trail assessment study and Steering Committee deliberations was to determine which of the many potential trails should be maintained for both public use and future land management. The Steering Committee narrowed down the trail options based on historic use, resource and water protection, impact on wildlife habitat, funding availability, and sustainability.

The resulting planned public trail network consists of approximately 10 miles of trails for hiking/snowshoeing, mountain biking and snowmobiling which is summarized in *Figure*

4 below. Trail widths will range from footpaths a few feet wide up to approximately 16 feet wide on woods roads used by snowmobiles.

**Anticipated Trail Lengths & Uses**

Trail	Miles (approximate)	Hiking & snowshoeing	Mountain biking	Snowmobiling
Lake Trail	1	x	x	x
Corridor 22	4.2	x	x	x
Scenic Loop	0.8	x	x	x
Birch Ridge Loop	1.7	x	*	
Rattlesnake Trail	1.7	x	x	
Mt. Eleanor Trail	0.6	x		
<b>TOTAL Miles</b>	<b>10</b>	<b>10</b>	<b>9.4</b>	<b>6</b>

\* Portion of the trail not open to mountain bikes

*Figure 4: This chart shows the approximate lengths of each planned trail system as well as the public uses to be allowed.*

The following maps (see *Figures 4, 5 & 6*) depict the trails to establish and maintain over the next five years. During this time, the BRCF Management Committee will assess the quality and sustainability of these trails and listen to community interests for new or different opportunities. These opportunities may include: a universally accessible trail near the center of the property, access from Camp Pride, access from South Shore Road, and a trail link to NH Fish and Game property to the southeast around Coldrain Pond.

In assessing trails, the potential impacts of new and existing trails on wildlife were considered. To help with this assessment a tool developed by NH Fish & Game, “Trails for People and Wildlife”, was used (see [Appendix I](#)). The tool considers where trails may have the most impact on sensitive habitats and the greatest potential disturbance to wildlife. The interactions between the existing and planned trail networks and their impact to wildlife can be seen on the two maps in [Appendix I](#) entitled Level of Impact of Trails to Wildlife – Existing Trails Network & Planned Trail Network. Most notably, trail locations around the wetland in the south-central portion of the property and to the north of Coldrain Pond were determined to be most sensitive and will not be designated as public trails. Additionally, the same applies to trail segments in the central location of the property. While trails were added to provide access to Mt. Eleanor, Rattlesnake Mountain and Birch Ridge, the planned trails will be located to minimize the impact to the more sensitive areas.

**Pedestrian Access:** Passive, pedestrian activities such as hiking, snowshoeing, and cross-country skiing are allowed on all trails at the BRCF, as shown in *Figure 5*. These trails will be designed, restored and/or developed during the next two to three field seasons (2020-2022).

Additional trails may be added to the system as public interest and use is determined and when consistent with natural resource protection.

**Mountain Bike Access:** Mountain bikes will be allowed on most BRCF trails except where specifically excluded. Trails currently open to mountain bikes include the planned Rattlesnake Trail Loop, parts of the planned Birch Ridge Loop, and all the snowmobile trails. Some of these trails are not yet developed. Trails designated for mountain bike use are shown in *Figure 6*.

**Snowmobile Access:** Snowmobiling is the only motorized recreation allowed on the BRCF, and it is limited to designated trails. The designated trails are State Corridor 22 as it crosses the BRCF, the Lake Trail, the Scenic Loop, and several other existing or planned short trails that extend onto private land. Winter trail use and management is coordinated with the local Powder Mill Snowmobile Club. Trails for snowmobiling are shown in *Figure 7*.



*Figure 5: The public trail system shown above includes existing and future trails that will be open to the public.*



Figure 6: The above map shows the trails within the BRCF public trail system anticipated to be open for mountain bike use.



Figure 7: The above map shows the trails within the BRCF public trail system available for snowmobile use as well as additional connector trails to access the BRCF trail system from abutting private lands.

**Other Allowed Activities:**

- Hunting and fishing are allowed at BRCF in accordance with NH State law
- Dogs are welcome but must remain under the control of owners. Placement of signage will be considered to educate the public about the impact of off-leash dogs to sensitive wildlife habitat and to amphibian wildlife species such as salamander and frog eggs in vernal pools

**Activities Not Allowed:** Some recreational activities are not allowed at BRCF, including:

- target shooting
- recreational trapping
- baiting wildlife
- motorized recreation other than snowmobiling

**Equestrian Access:** Over the next few years, the BRCF Management Committee will engage with the equestrian community to walk the trails, gain an understanding of their trail and parking needs, and determine the work and funding required prior to authorizing a horseback riding trail system. Significant work is underway to repair the property’s



main roads from damage they sustained during the recent timber harvesting. The current priority is to get existing trails into good condition to minimize the potential for erosion.

**Camping:** The BRCF Management Committee will explore the potential for camping by both organized groups and individual campers. The Management Committee needs to fully understand what allowing camping means in terms of both natural resource impacts and oversight responsibilities. Further, infrastructure needs and administrative processes must be understood and developed prior to authorizing camping on the BRCF.

## **BRCF Recreation and Public Use Objectives and Strategies, 2020-2024**

**Objective I.** Layout and mark new hiking trails agreed to by the Steering Committee

Strategy 1. Establish hiking trails on Mt. Eleanor, Rattlesnake, and Birch Ridge

**Objective II.** Determine locations and use of additional trails

Strategy 1. Explore designs & funding opportunities for creating a universally accessible trail

Strategy 2. Examine opportunities to create a hiking trail to Lions Camp Pride

**Objective III.** Designate mountain biking trails in cooperation with the mountain biking community

Strategy 1. Assess trails and roads for their suitability for mountain biking

Strategy 2. Identify work needed on mountain bike trails and funding opportunities

**Objective IV.** Maintain cooperative working relationship with Powder Mill Snowmobile Club

Strategy 1. Assess post-winter trail conditions with Club and identify annual work

Strategy 2. Evaluate status of temporary trails and determine necessary adjustments

Strategy 3. Review agreement with Club governing use and responsibilities

**Objective V.** Provide information to the public on recreation at the BRCF

Strategy 1. Create maps and related information for individuals and user groups

Strategy 2. Develop user information to post in kiosks at parking areas

Strategy 3. Identify avenues for distribution of information on BRCF recreation

**Objective VI.** Formulate recommendations for activities under consideration

Strategy 1. Evaluate opportunities and constraints for equestrian access

Strategy 2. Evaluate opportunities and constraints for camping

## Education and Outreach Programs Overview

Among the Goals for BRCF is that the property be recognized as a resource for community education and outreach. The property provides excellent opportunities as an outdoor classroom for area schools, non-profit organizations, clubs, area businesses and adult education. By engaging the broader community in education and outreach programs we hope to foster an appreciation for the role the BRCF, and the natural world in general, plays in clean water, healthy forests, wildlife habitat and outdoor recreation. Further, through BRCF education and outreach we strive to develop a greater understanding of how natural lands can be utilized and managed to benefit local communities.

Both SELT and MMRG are already using the BRCF in their outreach and education programs, as referenced previously in the Community Engagement section. SELT, as the owner of the BRCF, is the main partner in its management. Other core partners are MMRG, MMLA, UNH Cooperative Extension, the Powder Mill Snowmobile Club, and the Town of New Durham through its Conservation Commission and Recreation Department. Representatives of these organizations serve on the Steering Committee and will remain involved as the Steering Committee transitions to the Management Committee. Education and outreach programs by core partners will continue annually. These efforts, such as birding field trips, can also add to our knowledge of the BRCF. As part of their outreach activities, SELT will develop property maps for recreationists and other users showing trails and significant features, as well as other information pertaining to the BRCF. Initially this information will be available on web pages hosted by SELT with links to key partners.

The Steering Committee discussed broader community engagement and identified additional potential partners and stakeholders, including community organizations such as scouts and 4-H, summer camps and local primary and secondary schools. There are at least three secondary schools within a reasonable driving distance of the property (Kingswood Regional, Prospect Mountain, and Farmington), as well as many elementary schools. Area colleges and technical schools also have natural resource programs that could utilize the BRCF for projects and scientific research.

Currently, however, much work needs to be done at the BRCF before the property is suitable for hosting school groups and others. Parking needs to be constructed and trails improved. Policies and procedures for third party group use of the BRCF need to be determined. Progress on the education and outreach goal over the five years of the current planning cycle may largely be focused on these efforts to prepare the BRCF for accommodating use by a broader array of stakeholders.

The Steering Committee also considered other needs to grow opportunities for education and outreach. It is acknowledged that the Steering Committee itself, and the Management Committee that it will transition to, has a very limited capacity to conduct educational programs. The most effective role of these committees may be to engage partners in ways that keeps the BRCF in mind as they plan their activities and providing

information on the BRCF that assists partners in developing educational programs and opportunities.

## **Education and Outreach Objectives and Strategies 2020-2024**

### **Objective I.** Education and Outreach by core partners

Strategy 1. SELT and/or MMRG will conduct 4 - 6 programs annually at the BRCF

Strategy 2. Contact local media to both advertise and report on BRCF events

### **Objective II.** Contact potential partners and stakeholders

Strategy 1. Assemble a list of potential partnering organizations along with contact information

Strategy 2. Determine efficient and cost-effective approaches to engaging partners

Strategy 3. Determine ways the BRCF can be used by research institutes as a living laboratory

Strategy 4. Implement an outreach program to targeted persons and organizations

### **Objective III.** Establish a mechanism to inform the stakeholders on BRCF activities and status

Strategy 1. Develop maps and information to post on SELT web page

Strategy 2. Establish links to partner/stakeholder web pages

### **Objectives IV.** Determine policies and procedures for group activities at the BRCF

Strategy 1. Review policies and procedures that apply to other SELT properties

Strategy 2. The Management Committee recommends a course of action to SELT

## **Scenic Views Overview**

An important community benefit associated with the establishment of BRCF is maintaining scenic views of the property from the New Durham area and Merrymeeting Lake. This includes North Shore Road, South Shore Road, Merrymeeting Road, Brackett Road, Birch Hill Road, Birch Ridge, Mount Eleanor, Rattlesnake Mountain, Mount Molly, Mount Bet, Coldrain Pond, Merrymeeting River and Merrymeeting Lake. In addition, a related goal is to *enhance the scenic views of Merrymeeting Lake and the surrounding areas from the BRCF property*. Specifically, this includes improving the scenic views from the old field habitat near the cabin, and from various locations along some of the higher elevation recreational trails.

## Scenic Views Objectives and Strategies for 2020 - 2024

### **Objective I.** Reestablish the view of Merrymeeting Lake from the cabin area

Strategy 1. Contract with a brontosaurus operator to clear trees and brush within a 5-acre old field area that is located downslope from the cabin.

### **Objective II.** Identify other landscape vantage points and the vegetation/tree-clearing work required to establish and maintain scenic views from designated trails.

Strategy 1. Snowmobile trails: NH State Corridor 22, Lake Trail, and “Scenic Loop”

Strategy 2. Assess view potential from hiking and mountain biking trails

### **Objective III.** Construct a wildlife viewing platform at the beaver impoundment wetland area.

Strategy 1. Determine the type of construction and location on the northwest shoreline

Strategy 2. Obtain suitable building materials (e.g., pressure-treated lumber)

Strategy 2. Engage a dedicated team of skilled volunteers to construct

## Forest Management Overview

The property's long history of periodic forest cutting by previous owners has created a diversity of tree species and forest stand age-structures. As a result, despite the recent heavy cutting that removed most of the mature trees throughout the property, there remains a diverse vegetative composition and age-class structure. While red maple and beech trees are currently the dominate species in the forest, oak, pine and birch seedlings occur on high-graded and clear-cut sites. In other areas, a diverse mixture of sapling and pole-size trees are dominate. With appropriate monitoring and intermediate silvicultural treatments when and where needed, the long-term forest management goal is the development of high-quality hardwood and conifer stands that will provide both economic and wildlife habitat values.

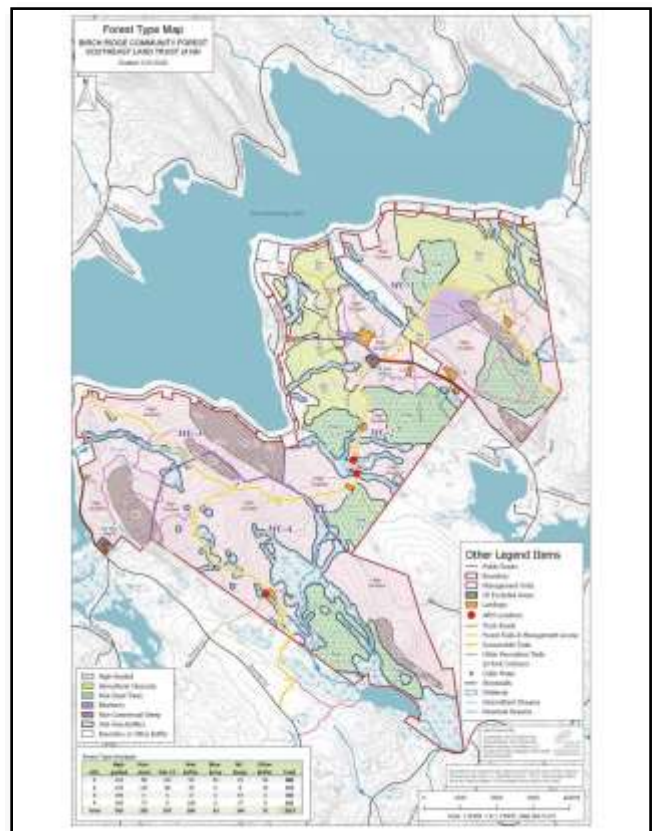


Figure 8: This map, from the Forest Stewardship Plan for BRCF in Appendix F, shows the existing forest types on the property. Detailed descriptions can be found in the full Forest Stewardship Plan.

A *Forest Stewardship Plan* for BRCF (see [Appendix E](#)) provides detailed descriptions of the main forest types on the property and divides the BRCF into four management units for operations planning. As designated on the BRCF Forest Type map above in *Figure 8*, the main forest type areas include high-graded, silvicultural clear-cut, pole stand, blueberry, non-commercial steep, and wet area buffers.

The *Forest Stewardship Plan* also contains detailed forest management recommendations for each of the four management units. In addition, recommended practices are provided for log landings and skid roads. Since most of the property experienced heavy timber harvesting immediately prior to its acquisition by SELT, the overall timber management approach is to monitor forest regeneration and perform beneficial intermediate treatments. However, during the next 5-10 years, purposeful tree cutting is the best means and process to achieve other BRCF management goals. This includes creating scenic vistas, re-establishing grass/forb habitat and low-bush blueberry fields and creating/maintaining early successional forest habitats.

## Forest Management Objectives and Strategies 2020-2024

**Objective I.** Reestablish the view of Merrymeeting Lake from the cabin area

Strategy 1. Award a contract with a brontosaurus operator to clear trees and brush within a 5-acre old field area that is located downslope from the cabin.

**Objective II.** Identify tree-clearing required to establish and maintain views from designated trails.

Strategy 1. Snowmobile trails: NH State Corridor 22, Lake Trail, and “Scenic Loop”

Strategy 2. Hiking/mountain biking trails: Birch Ridge loop and Rattlesnake Mtn. Trail

**Objective III.** Restore the former blueberry field area at the north end of Birch Ridge.

Strategy 1. Determine the specific location and acreage for the area

Strategy 2. Remove standing trees/shrubs by mechanical means (e.g., brontosaurus) or by manual chainsaw operations.

Strategy 3. Develop a prescribed burning plan

Strategy 4. Investigate the process and permits required to conduct prescribed burning

**Objective IV.** Conduct regeneration surveys of selected high-graded areas to determine the need for silvicultural treatments to improve stocking quality.

Strategy 1. Primary focus is to expand early successional habitat patches in MU 4 and MU 1

**Objective V.** Map and monitor invasive or nuisance species (e.g., plants, animals, and insects)



Strategy 1. If warranted, remove invasive or nuisance species through appropriate management practices

**Objective VI.** Manage and monitor conditions of recently used log landings

Strategy 1. Smooth, seed and mulch as needed to stabilize soils and minimize erosion

Strategy 2. Mow landings periodically to maintain desired herbaceous conditions

## Wildlife Habitat Overview

As a result of recent and past forest management practices, the BRCF contains a diversity of wildlife habitats, significant wetlands areas, and depleted but potentially productive forest resources. As such, the recommended wildlife habitat management approach is to provide and maintain a diversity of vegetative communities while facilitating the natural recovery of the post-harvest forest. Active restoration in specific areas may be required to create desirable habitat conditions. The *Forest Stewardship Plan* for BRCF (see [Appendix F](#)) and the *Wildlife Habitat Management Plan* (see [Appendix G](#)) provide detailed information and recommendations to accomplish this outcome.

The overall wildlife habitat management goal for the BRCF is to promote a diversity in both composition and age structure of vegetative communities to create and sustain suitable habitats for a full range of naturally occurring wildlife populations, including rare, threatened and endangered species. [Appendix I](#) contains a list of wildlife species known to occur on BRCF.

The *Wildlife Habitat Management Plan* (see [Appendix G](#)) provides general wildlife habitat recommendations related to: acorn/nut production, conifer regeneration, wetlands, early successional/young forest habitat, dead and down woody material, cavity trees, woods roads, log landings, and old field habitat. The *Wildlife Habitat Management Plan* also provides site-specific recommendations for the current five-year planning period to restore an old field habitat and establish two (2) wildlife habitat focus areas within the BRCF.

## **Wildlife Habitat Objectives and Strategies for 2020-2024**

**Objective I.** Reclaim the 5+/- acre old-field habitat located down-slope from the cabin.

Strategy 1. Contract with a brontosaurus operator to cut trees and brush in the 5-acre old field

Strategy 2. Maintain a grass/forb habitat by periodic mowing or prescribed burning

Strategy 3. Plant and manage the abutting log landing as a part of the old field habitat

**Objective II.** Restore the former blueberry field area at the north end of Birch Ridge.

- Strategy 1. Determine the specific location and acreage of the area to be restored
- Strategy 2. Remove standing trees/shrubs by mechanical means (e.g., brontosaurus) or by manual chainsaw operations.
- Strategy 3. Develop a prescribed burning plan
- Strategy 4. Investigate the process and permits required to conduct prescribed burning

**Objective III.** Monitor the vegetative response in the log landings.

- Strategy 1. Recommend any re-seeding needed to establish herbaceous forage for wildlife
- Strategy 2. Monitor landings to determine use by nesting turtles

**Objective IV.** Develop specific wildlife management recommendations for the four (4) Management Units and the six (6) Forest Types described in the *Forest Stewardship Plan*.

- Strategy 1. Perform a habitat assessment for each management unit and forest type
- Strategy 2. Provide habitat management recommendations to be performed in conjunction with future forest silviculture practices

**Objective V.** Designate the beaver impoundment and its surroundings as a wildlife focus area

- Strategy 1. Determine the boundary of the wildlife habitat focus area
- Strategy 2. Perform a four-season inventory of wildlife species observed
- Strategy 3. Develop specific wildlife habitat recommendations

**Objective VI.** Establishment an “Early Successional Forest” wildlife habitat focus area.

- Strategy 1. Determine the location/boundary of the wildlife habitat focus area
- Strategy 2. Pursue funding for stream crossings necessary to access the site
- Strategy 3. Explore possible grant funding for early successional habitat management
- Strategy 4. Prepare and submit grant proposals and begin operational planning.

## Water Quality Overview

There are 125+/- acres of wetlands, including 31 vernal pools, 2,300+/- feet of frontage on Coldrain Pond, and 1,028+/- feet of perennial streams within and adjacent to the BRCF. Collectively, these important water quality resources comprise a significant watershed area that drains into Merrymeeting Lake, Merrymeeting River, Coldrain Pond, Hayes Brook, and Ela River. Management activities and public use of the BRCF will be conducted in ways that ensure that ground and surface water quality and quantity is protected.

## Water Quality Objectives and Strategies 2020-2024

**Objective I.** Complete installation of stream crossing structures per ARM grant requirements

Strategy 1. Contract and schedule the necessary work

Strategy 2. Report to ARM, as needed, on the completed work

**Objective II.** Assess water quality and habitat conditions of the perennial streams

Strategy 1. Enlist local water quality monitors to conduct stream testing on the BRCF

Strategy 2. Evaluate streamside habitat conditions and document problem areas

**Objective III.** Identify stream crossings and culvert locations requiring repair or improvement

Strategy 1. Monitor and document the effectiveness of currently installed culverts

Strategy 2. Maintain the effectiveness of swales and ditches intended to minimize silt transport

## Climate Change Mitigation Overview

The growing and maturing woodlands of the 2027-acre BRCF provide a meaningful contribution to carbon sequestration. As regional climate action plans are initiated, carbon sequestration from forested areas such as the BRCF may accrue value as carbon credits to offset pollution. In addition, the BRCF's topography and proximity to other conserved lands enables both plant and animal species to adjust to disturbances relating to climate change.

## Climate Change Mitigation Objectives and Strategies 2020-2024

**Objective I.** Seek opportunities to achieve connectivity to other conserved forest lands within the region to facilitate plant and animal dispersal and movement.

**Objective 2.** Monitor scientific findings and legislative initiatives to identify the potential role that BRCF management can play to help mitigate the impact of climate change.

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## **Appendix A BRCF Steering Committee Members**

## APPENDIX A

### Birch Ridge Steering Committee Members

<b>Name</b>	<b>Organization/Interest</b>
Lee Alexander	Lake Resident/Wildlife Biologist
Jeff Allard	Lake Resident; New Durham Planning Board
Charlie Bridges, Chair	New Durham Resident; Former NHFG/Wildlife Expert
Nancy Bryant	Lake Resident
Patti Connaughton-Burns	MMRG Former Executive Director
Dan Coons	MMRG Interim Executive Director
Michelle Craycraft	New Durham Resident; New Durham Elementary School
Bob Craycraft	New Durham Resident; UNH Cooperative Extension - Lakes Monitoring Program
Rebecca DiGirolomo	UNH Cooperative Extension - Forestry & Wildlife Strafford & Belknap Counties
Lorrie Drake	New Durham Resident; MMRG/Educator
Jillian Eldredge	MMRG Executive Director
Andrew Fast	UNH Cooperative Extension
Ron Gehl	New Durham Resident; New Durham Conservation Commission; MMRG
Mike Gelinias	New Durham Resident; Powder Mill Snowmobile Club
Deborah Goard	SELT Stewardship Director
Brian Hart	SELT Executive Director
Brad Helfer	New Durham Resident; Mountain Bike Community
Nichole Hunter	Town of New Durham Recreation Dept. – Former employee
Celeste Chasse	Town of New Durham Recreation Dept.
Peter LaPointe	Lions Camp Pride
Jim Matthew	New Durham Resident; Powder Mill Snowmobile Club
Matt Murphy	Lake Resident/Powder Mill Snowmobile Club
Billy Palmatier	Kingswood Regional School
Wendy Scribner	UNH Cooperative Extension – Forestry & Wildlife Carroll County; MMRG
Parker Schuerman	SELT Land Manager
Steven Snow	Lakes Region Technical School
Mark Sullivan	Lake Resident; Merrymeeting Lake Association
Allan Thorell	Lake Resident; Farmington Fish and Game Club
Janet Thorell	Lake Resident; Farmington Fish and Game Club



## **Appendix B BRCF Visioning Session – Summary of Public Comments**

## APPENDIX B

### Birch Ridge Community Forest Visioning Session November 1, 2018

At the BRCF Visioning Session, attendees were encouraged to provide comments on major issues/topics. The following summary provides written and/or verbal comments made by attendees at one of the topic stations staffed by Steering Committee members as well as during the general discussion.

#### **Municipal Needs**

- Can the town earn money from the forestry or does it go to SELT?
  - Trail fees? Cross-country skiing?
  - Insurance needs for recreation? Parking issues/costs?
- 
- Will help address/meet Master Plan needs/desires
  - Will take question out of possible needs (new radar/public needs will no longer be a concern)
  - Possibly a source of revenue from forestry
  - Will forever be a natural area to share with our kids
- 
- Have an area designated for community use – a space/meeting place?
  - Shelter, limited toilet facility, picnic tables
  - Rustic, protected – could be at terminus of trails
- 
- If an income generating use could be allowed, the income could be used to pay for events and activities for education, recreation, etc.
  - Suggested – placing yurts on the property for rental. This would bring visitors to the area to support local and area businesses already in place and may encourage new businesses. Draw for yurts camping – hiking, snowmobiling, hunters, snowshoeing. Yurts are low impact.
- 
- Administrative responsibility?
  - Funding and BMP accountability?
  - Who does the housekeeping – trails, etc?
- 
- When forest management decides cutting is required, would there be an opportunity for the - community individuals to pay for the privilege of cutting wood for personal use instead of hiring a logger?

- 
- Bringing a message from the general store manager (who made our pizza tonight): Please increase recreation and bring in folks during all seasons.
- 

- Example for landowners/towns for land management
  - Schools or colleges could do research on rare communities
- 

## **Education**

- Educational trips for kids
  - Environmentally-conscious camping
  - Survival skills
  - Tree & wildlife recognition
- 

- Partnering with the school for field trips, programs in a school setting with connection to physical location
  - Connect animal/wildlife with animal presentation in school of native to area animals
  - Story walk – book pages along the trail families can read as they are out in nature. Books can change over time. Maybe partner with library
  - Trail markers/scavenger hunt with info on wildlife and natural resources for education along with exploration
- 

- Outside tour for local school
  - Snowshoe activities
- 

- Needs that could be met:
    - o Use for forestry classes (tree ID, different forestry practices)
    - o Hydrology classes
    - o Geology classes
    - o Soil sampling
    - o Compass practice
    - o All ages could visit and learn about life cycles, water cycles, wildlife
    - o Wildlife habitat experiments
  - Possible infrastructure improvements:
    - o Small parking area
    - o Trails
    - o Kiosks
- 

- Creation and management of several land tracts that will show different experimental forestry practices
  - o Clear cut vs. selective cut
  - o Reforestation with different tree plantations:

- Walnut, black locust, chestnut polycultures
    - Allow natural regrowth after clear cut vs. cutting back aggressive beech sprouting, etc.
  - Could bring in UNH students to study different plots and make their own studies
- 

- Focus 1 acre as an educational mushroom/fungal space – both hardwood and evergreen moister area
  - Develop fungal forays to draw from the region
  - Emphasize symbiosis between trees and fungi
  - Use the cabin as place for identification of specimens, etc.
- 

- I would like to see more family events such as snowshoe tracking
  - How to prune evergreens when gathering greens for wreaths that protect and help the trees
  - How to maintain trails
  - I would like to get local schools involved in trails, learning forestry, wildlife, etc. Get teachers interested in working and guiding students in these directions and develop curriculum around these ideas.
- 

- Management of the resources – the balance of keeping all factors equal to the other (i.e. not cutting forest vs. cutting forest)
  - Edibles of the woods
  - Identifying plants, trees, bushes, flowers, fruits
  - How animals depend on plants – or other sources of food – herbivores vs. meat eaters and the role they play in balancing nature
- 

- Habitat studies for area schools, format similar to Squam Lake
  - Who pays to trail docents?
  - Who pays admin costs?
  - BMP practices – opportunities to model and teach
  - Living Conservation Model
  - Opportunities for stewardship for high school and local college students
  - Train with Agi program at UNH – nursery for endangered species
- 

- Forestry classes from UNH
- 

- I would like to see the forest develop and maintain multiple habitats and highlight each with public information posts. Manage each habitat to maximize wildlife (both plant and animal) and use this to educate elementary school students. In addition, there is a separate effort to convert the Powder Mill Hatchery into a much larger state-of-the-art hatchery with modern wastewater management, possibly nutrient recycling. Continuing the tour of the Birch Ridge property down to the Hatchery would make a wonderful and comprehensive educational opportunity.
-

- Great for education – schools, scouts camping and use of cabin, some sort of covered area if bad weather.
- 

- Animal tracking
  - Searching for salamander and stream macroinvertebrates
  - Tree identification
  - Maple syrup tapping demonstration
  - Nighttime snowshoe & stargazing treks
- 

- For elementary schools – nature trails, field trips
  - Middle & High Schools – Interpretive trails (design and install for younger kids)
    - o Lab work – tree ID, animal habitats, population studies
  - Vocational opportunities – forestry studies, logging practices, wildlife management – internships?
  - Community – nature trails with interpretive signs
    - o Workshops – forestry, tree ID, birding, native plants, mushrooms, wildlife habitat
  - Needs: teacher training/workshops, parking for buses, shelter (keep the cabin), trail signs, instructors
- 

- The schools can use the land for science, history, orienteering, etc. It could also be a resource for P.E. winter sports.
- 

- Outdoor lab for school kids and teachers
  - Collect, measure, record acid rain
  - Identify terrestrials in food chain beginning with salamanders, frogs, worms
  - Photosynthesis, measure CO<sub>2</sub> and impact
  - Identify plant and tree types, monitor growth rates
  - Music – record wind, water, bird sound
  - Collect data on year to year climate change
  - Do compass/map orienteering
  - Survival techniques
  - Landscape painting
- 

- o What community educational needs could the property meet?  
Structure could be used as an education center.
  - o What infrastructure or improvements will be needed to support future educational opportunities?  
Develop two parking/access areas.
-



## Wildlife

- Encourage creation of wildlife habitat to improve habitat (rabbit, etc.)
  - Take wildlife into consideration when foresting with future cuts
- 

- Maintain successional forest
  - If able, contact Audubon about open “seed” squares (bird habitat)
- 

- Clearing at top by cabin used to be much larger. Can we consider maintaining or expanding cleared area to manage for wildlife that need larger cleared areas?
  - On the Town’s website is the long-term Milfoil Management Plan. It lists many state threatened and endangered animals last seen on the 2,000 acres next to the river. Blanding’s and spotted turtles, dragonflies, etc. It would be great to investigate whether these species still exist and if so, develop plans to protect them.
- 

- Trout stream/habitat improvement? Coordinate with Trout Unlimited?
  - Considerations:
    - o Trail free areas for “shy” species, sensitive areas off-limits
    - o Birding “blinds” and benches in prime areas
    - o Encourage native plants; remove nonnatives/invasives
    - o Food species – maintain a variety of habitats
    - o Interpretive signs for varied habitats and likely wildlife
- 

- Who is responsible for monitoring the wildlife?
  - How will visitors learn about the wildlife present in Birch Ridge?
- 

- Great possibility for education – introducing folks and schoolchildren to natural habitat for species
- 

- Do not defragment the property by trail development
- 

- The logging agency is leaving behind pines smaller than 8”, red oaks, stumps and some white oaks. Will there be any planting of trees?
- 

- Should be used to provide habitat for species in decline and actively managed
- 

- Will trapping be allowed as a management tool?
-

- The heavy forest cutting provides an opportunity to promote and sustain habitat for young forest/early successional wildlife such as ruffed grouse, woodcock, and an array of songbirds including prairie, chestnut-sided, blue-winged and yellow warblers.
  - Wildlife can be considered in planning by gathering and mapping information on forest stand structure and composition, as well as mapping wetlands, vernal pools and stream corridors.
  - The property should be surveyed for species classified as endangered, threatened or of special concern. If identified, these species should be encouraged.
- 

- Are there wildlife related resources or issues that you are aware of?  
Not certain if this question refers to problems, desires, or preferences. Also, with my background in forestry and wildlife, I am rather biased...
  - How should wildlife be considered in planning for this community forest?  
Yes. In general, enlightened forest management can benefit wildlife. More specifically, several types of important habitats need to be maintained by active management practices (e.g., top of Spruce Ridge). Other types of critical habitats need to be protected from any disturbance (vernal pools, riparian/stream, ponds, old-growth stands, etc.).
  - Are there specific species that should encouraged on the property?  
Yes. In particular, this applies to any State or Federal designated "species of concern", threatened, and endangered species.
- 

- Are there wildlife related resources or issues that you are aware of?  
No. there is an abundance of wildlife in the area.
  - How should wildlife be considered in planning for this community forest?  
Help maintain habitat areas.  
Wetland areas are of concern of course.
  - Are there specific species that should be encouraged on the property?  
Anything we can do to attract raptors. There is plenty of space to maintain territories.
- 

## **Recreation**

- Prefer to see light recreation: hiking, hunting, fishing, snowshoe, ski, also skimobile ok. But for horses/mountain biking would like to see clubs who can manage damage.
- 
- Mountain bike on snowmobile trails?
  - Cabin – heating hut for snowmobile riders
  - Access parking lot near Merrymeeting Lake

- Snowshoe activities – guided/non-guided
- 

- I envision a multi-use trail system open to the public and designed in a manner where each “sport” has an opportunity to use their own trails
  - I envision the trail system is laid out in such a way to cover all points of interest on the property
  - I envision that Powdermill Snowmobile Club will be allowed to take part in the decision of trail layout, parking areas, and overall management of the proposed trail system
- 

- Has the committee planned for additional points for public access other than Birch Hill Rd.?
  - What plans or funding have been put forth to maintain Birch Hill Rd. for public access?
- 

- No target shooting
  - No hunting on Sundays? If possible, allow the non-hunting public to have safe access during hunting season also
  - No ATVs
  - Dogs, if leashed and picked up after – banned if not compatible with wildlife
- 

- Horse riding trails
  - Dog sled training trail
- 

- All suggested uses are supported, however, there should be a restriction against tree stands/blinds. This is being written by a hunter, so as a hunter I would support this.
  - Adopt BMPs for trail maintenance/creation
  - Snowshoeing, sledding, etc. as additional uses
- 

- Include slope degree of trails
- 

- Would like to see trails from the camp to Birch Ridge and camping for our kids (maybe lean-tos)

Peter LaPointe from Lions Camp Pride (via Patti)

---

- The property provides an outstanding opportunity for the development of purpose-built mountain bike trails, as a destination site to attract \$\$ to the town.
- 

- Should permit the town to build yurts to help raise funds for management expenses and property access upkeep
-

- Develop a mushroom educational grove 25-50 sq. ft., partly meadow/partly forest
  - No ATVs. Limit motorized vehicles to snowmobiles
  - Hiking, x-country skiing, fishing
  - Hunting a concern!
- 

- I would like to request an additional buffer between the land and abutters on S. Shore Road. Hunting close to homes is problematic as well as others coming close to the property. Proposing an additional 100 feet.
- 

- Concern about S. Shore Rd. access points, specifically 20' right of way near 210 S. Shore Rd.
- 

- I had a long conversation with Steven Edwards in early October 2018 who does not want access to be via the class VI extension of Birch Hill rd. He previously had theft of \$10k copper pipe from his property, so got permission from the town to put up a chain gate. So he added, off the cuff: "I'll build a road elsewhere to make a different access." Edwards is a developer and has road building equipment, so he has the capability to do this. Feel free to call/email me to get more details about the conversation.
- 

- Allow horseback riding – may have been traditional as it is a low impact use and not noticed.
  - Have loop trails and through trails (distance point to point)
  - Have trailer parking starting with about an acre field or gravel lot. Size of each trailer is about 30'x80'
  - Have in water crossing
  - Have horse friendly bridges
  - Loop trails length 3-8, 8-12, 12-20 miles
  - Source for more info: NH Horse Council
- 

- No hunting – interferes with recreation uses
  - No ATVs or motorbikes – damaging, noisy, hazardous to others
- 

- Is there consideration of making the current logging operation area a parking lot for future access?
- 

- Contact Lion's Pride about access/parking. Great trail head area.
- 

- How about horseback riding? Wouldn't nature tours on horseback be great? Snowshoeing is also a great idea. Preserving threatened species and teaching others how to do it.

- 
- Human-powered encouraged – hiking, xc skiing, mountain biking – build some actual marked trails
  - Need trailheads, parking
  - Snowmobiles in winter, gated other seasons
  - Events – guided hikes, full moon skiing, races
  - Keep building as shelter/meeting place
- 

- I would like to see some trails available for horseback riding. Perhaps work with NHH & Trail.
- 

- Horseback riding – loops that have minimal interaction/mountain bike trails
- 

- Cross country skiing, mountain biking, hiking, birding/wildlife
- 

- All existing recreational uses should be allowed to continue, although how they are occurring on the property needs to be assessed and some controls or limits may be necessary. For example, a process needs to be established for review and approval of new snowmobile and hiking trails.
  - New recreational uses could be developed and promoted for those with mobility or vision impairments. Trails should be available for people of all abilities.
  - Motorized recreation, except for snowmobiles, should not be allowed.
  - Log landings should be evaluated for their potential to provide parking and access to the property.
- 

- What existing recreational uses should be allowed to continue on the property?  
All that are currently listed and/or “required” by the agencies that provided grant funding. Eventually, there would be benefit of having a list of “appropriate” activities be posted on a website as well as on a kiosk in parking areas. I also suggest that list of “prohibited” activities be included as well.
  - Are there new recreational uses that should or should not be considered?  
Yes. Similar to what occurs on the SELT Stonehouse Forest in Barrington, “orienteeing” is another appropriate activity. While winter snowmobiling is totally fine, I am not in favor of allowing ATVs or dirt bikes (motorized).
  - Where should parking and access to the site be located? (please mark on the map).  
Other than the parking area at the New Durham Town Beach (on MM Lake), I don’t have any further suggestions – at this time.
-



- What existing recreational uses should be allowed to continue on the property?  
Maintain all existing usage. Provide some consistency in trail maintenance for all usage. Joint collaboration for maintenance and brushout work will ensure multi-use for snowmobile, snowshoe, sleddogs, cross-country skiing, mountain biking, horseback riding, etc.
  - Are there new recreational uses that should or should not be considered?  
ATV
  - Where should parking and access to the site be located? (please mark on the map)  
Corner of Bracket Road and Merrymeeting Lake Road.  
The top of Birch Hill Road will need some adjustment due to abutter concerns but there are multiple options there.
- 

### **Water Quality**

- Can other groups be involved in helping manage repairs to property from erosion, i.e. replanting, seeding?
- 
- Vegetation to control runoff
  - Thoughtful trail design to avoid water impacts
  - Encourage/maintain stream buffers, vernal pools
  - Design parking areas that allow infiltration
  - Include educational signage about water quality impacts and how the forest helps water quality
- 
- Allow property owners along S. Shore Rd. to expand failing septic systems onto small portions of Birch Ridge property?
  - Sale of lot line adjustments?
  - It's in the interest of addressing direct water quality impacts to the lake
- 
- A healthy forest will help absorb runoff and help maintain good water quality for the lake
  - Would like to see the property recover rapidly
  - I am not aware of any water quality issues except for current damage from logging
- 
- Water quality of the whole watershed needs to be protected. Since the fish hatchery has already polluted the river and that pollution is headed toward Winni – why should the fish hatchery remove 7 million gallons a day? It seems a recipe for disaster. They are polluting 7 million gallons per day. Think of it!
- 
- As an abutter on S. Shore Rd. I would like the opportunity to purchase a bit of land behind my 100 ft. from the road as a buffer from hunting or recreation. Also, the spring runoff affects my current septic system. I would like to be able to have some room to

relocate it so that it makes it better. Looking for additional 100 ft. behind the property line.

---

- Have adequate drainage, maintain edge (buffer)
  - Prohibit motor vehicles – no ATVs
- 

- Leave buffer areas
  - Use manure to grow vegetation for wildlife
  - Protect sensitive areas/species
- 

- Projects for young people etc. on planting infant trees
  - Memorial areas for planting trees in memory of loved ones
- 

- Keep as natural as possible, except allow for forestry (in accordance with Forest Management Plan and licensed forester)
  - Remove invasive species, not via herbicides
  - Create baseline water quality entering in and exiting process. Then test some areas consistently (annual/biennial, etc.)
- 

- Concern about additional lake access and runoff if property is developed
- 

- Protect lake by preventing development
  - Filter stormwater
- 

- Best management practices (BMPs) should be employed during all management and recreational activities to protect water quality.
- 

- How can the Birch Ridge Community Forest protect water quality?  
By monitoring/ensuring that all NH and Federal water quality standards are followed.
  - Are you aware of any existing water quality related issues that Birch Ridge should address?  
No.
-

## The Future of the Cabin

- Keep it as a field for diversity
- 

- Please keep the cabin if possible.
- 

- Lose the cabin.
- 

- Keep the cabin for classroom/shelter for students, x-c ski shelter, public info/trail maps
- 

- Make the cabin a public information center and put porta toilets beside it for 365 use by recreators
- 

- Keep the cabin! But what about access – parking – that would not cause an issue for home owners?
- 

- Yes! Keep the cabin. It is useful and aesthetically pleasing.
  - Could be used as a shelter for students attending environmental programs/educational opportunities
  - Keep it in good shape – possible small expansion for one classroom
- 

- Suggest removal (maybe auction it off)
  - The cabin will create a liability issue and be costly.
  - Who will maintain it?
  - Who will police the use?
  - How will it be divvied to users (if it stays)?
  - What will insurance costs be?
- 

- The cabin should be kept maintained for both education (history) and serve as a storm/rain shelter for visitors
  - Who will be responsible for assessing the cabin as to when to perform maintenance and by whom?
- 

- Yes, building should be kept, it is part of the land
- 

- Proper reforestation around cabin
- Use it as a shelter for overnight camping and educational center

- 
- I think it should be kept. It could be used by students visiting the property as a temporary classroom, for shelter in bad weather, as a warming hut, etc.
- 

- I see no reason to preserve a building for potential vandals. Cost of maintenance and liability costs would be prohibitive.
- 

- Yes! Keep the hut, it is a good building for a warm-up hut in the winter for showshoeing and x-c skiing. We could put in a wood stove and have volunteers man the wood stove on weekends!
- 

- Education – school kids to use building for a conference learning i.e. plants, trees, wildlife
  - Sky and star gazing – lookout view finder for hiking, snowshoe, snowmobile, biking
  - Snowmobile to run trips and poker run as a stop point
  - Boy and girl scouts for camping and soft food storage
  - You could charge for use of the building to help defray the cost of the maintenance
- 

- Leave the cabin as it could be used in an emergency situation and save a live
  - Volunteers could maintain it
- 

- Station for bathrooms – to assist with managing the yurts. See recreational use suggestion.
- 

- Keep building standing – allow people to rent it out for camping purposes
  - Money from rental can go to maintain cabin
- 

- No. More trouble than it's worth.
- 

- Warming hut! Rest area for hiking
- 

- Yes, leave it. Warming hut to get out of weather
- 

- Snowmobile and hiker emergency shelter
- 

- Reserve hut for overnight camping, scouts primarily
- Science teachers – classroom

- Warming hut for cross country skiing/snowshoeing
  - Storage for trail maintenance equipment
  - Scouts maintain hut or Matt Murphy & Jim
  - Landscape painting for artists
- 

- Utilize the building for general use for various purposes – different groups/different needs
  - Have someone be in charge of maintenance/upkeep and be the person/group in charge of allowing use/reservations
  - This way it could be used by scouts, educators, artists, hikers, etc.
  - Questions of liability? Safety measures. Procedures for proper use.
- 

- I think the building should be kept, unless its condition (which is currently unknown) is such that restoring it is cost prohibitive.
  - The building could be used several ways, including a warming shelter for winter visitors, indoor space for educational programs, temporary overnight use by researchers, consultants, land stewards, etc. working on the property
  - Improvements: composting toilets, cutting trees & other plants around building, and probably interior work needs to be done.
  - Unfortunately, the potential for vandalism is likely to be high.
- 

- Do you think this building should be kept?  
Yes. There is no compelling need to tear down or remove.
  - How do you think the existing building could be used?  
At this stage, I am not sure what should be the primary use (or uses). Certainly some educational activities/programs could benefit.
  - What types of improvements would be necessary?  
Perhaps a small working group can be established to come up with some recommendations. Included would be the pros and cons of keeping, as well as conversion and/or maintenance costs.
- 

- Do you think this building should be kept?  
Yes.
  - How do you think the existing building could be used?  
Would make a wonderful education center.
  - What types of improvements would be necessary?  
There is no septic. Lookout observation deck and site location kiosk.
-

## **Notes from General Discussion**

### Education Facility

- Need for bathrooms
- And for other users

### SELT – Capital Fund

- Revenue for improvements and maintenance

### Education – get kids involved and invested

- Organizations can be involved as well – improvements to C.F.

### Need for fire roads or maintenance roads?

- No
- Some exist and will be kept

Access points? Property boundary survey this winter.

When did this start? April 2018

### Map of watershed showing trails?

- Will be maps of the C.F.
- Maybe other maps after

### If forest products are left after purchase can they be sold?

- Yes, but will take time most likely



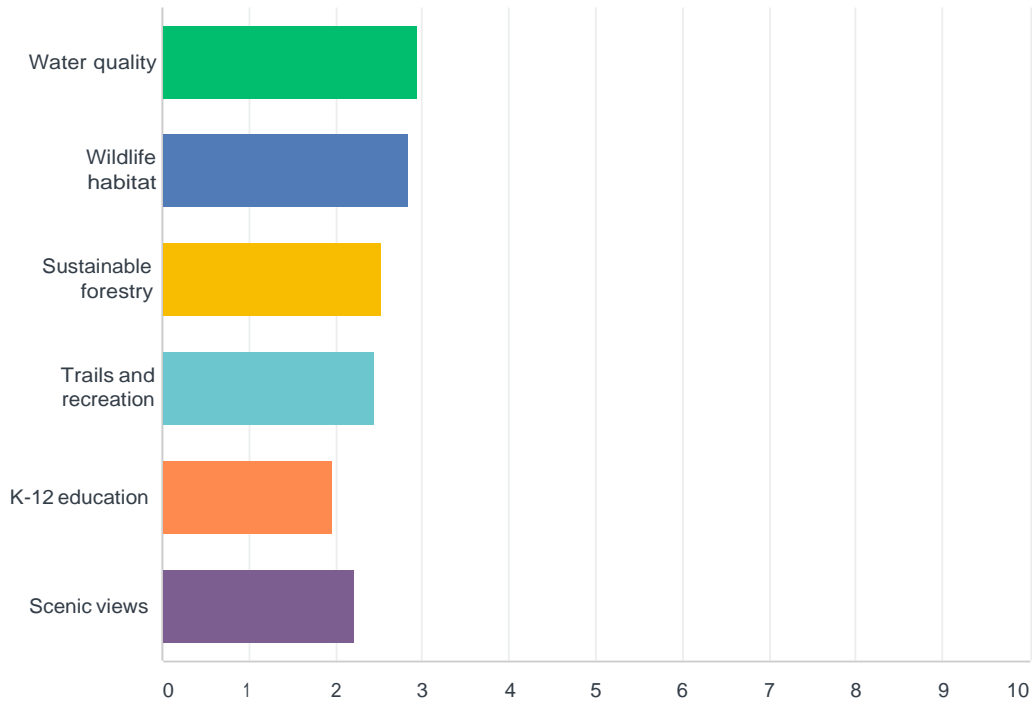
## **Appendix C BRCF Public Survey – Summary of Responses**

## APPENDIX C

### Birch Ridge Community Forest Input Survey - SurveyMonkey

Q1 Please indicate the relative importance for each of the following resources of the Birch Ridge Community Forest:

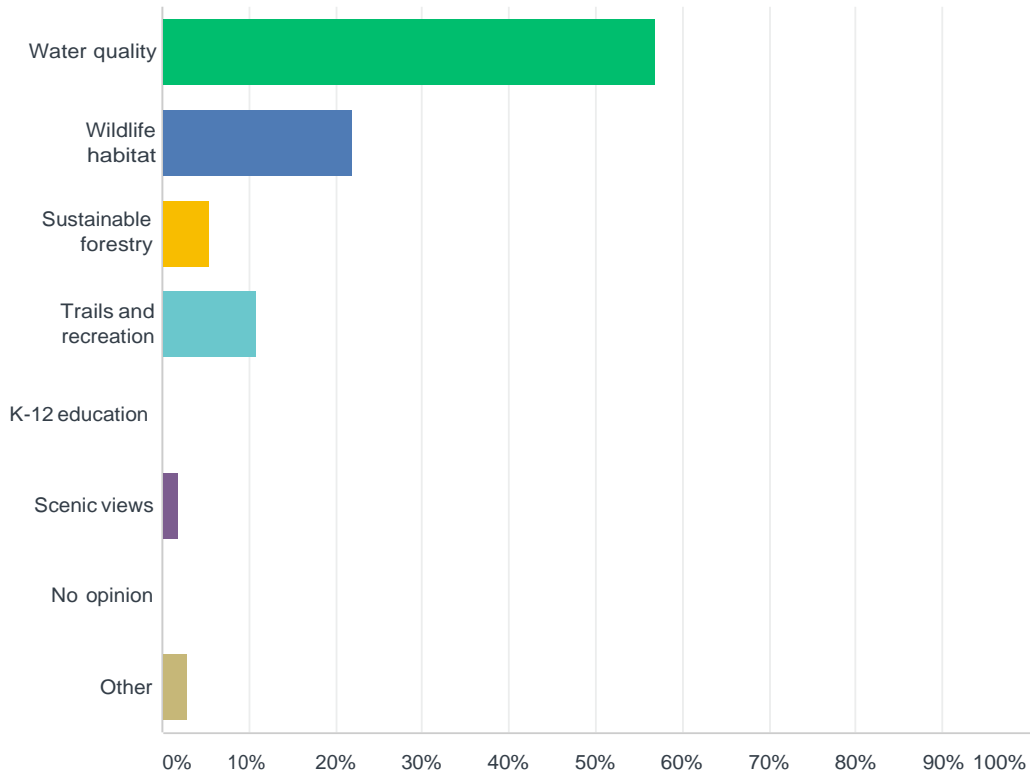
Answered: 204   Skipped: 0



	LOW IMPORTANCE	MEDIUM IMPORTANCE	HIGH IMPORTANCE	TOTAL	WEIGHTED AVERAGE
Water quality	0.00% 0	4.90% 10	95.10% 194	204	2.95
Wildlife habitat	0.00% 0	16.18% 33	83.82% 171	204	2.84
Sustainable forestry	7.84% 16	29.90% 61	62.25% 127	204	2.54
Trails and recreation	8.82% 18	37.75% 77	53.43% 109	204	2.45
K-12 education	25.49% 52	52.45% 107	22.06% 45	204	1.97
Scenic views	16.67% 34	44.61% 91	38.73% 79	204	2.22

## Q2 Which of these issues is of the highest importance on Birch Ridge Community Forest in your opinion? (Choose one only)

Answered: 204 Skipped: 0



ANSWER CHOICES	RESPONSES	
Water quality	56.86%	116
Wildlife habitat	22.06%	45
Sustainable forestry	5.39%	11
Trails and recreation	10.78%	22
K-12 education	0.00%	0
Scenic views	1.96%	4
No opinion	0.00%	0
Other	2.94%	6
Total Respondents: 204		

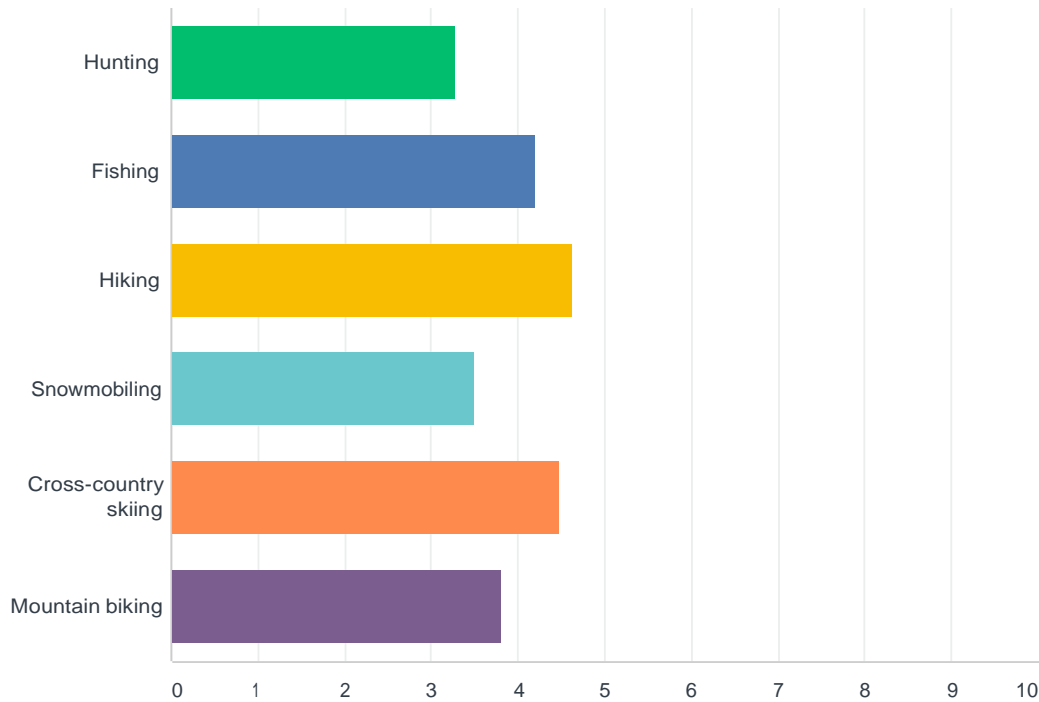
### Q3 If you answered "Other" in question 2, please tell us what topic interests you that is not listed here:

Answered: 11 Skipped: 193

#	RESPONSES	DATE
1	I chose water quality but wildlife habitat is just as important. With so much building our water is less in amount and quality - and wildlife is threatened by hunting, autos & disease. Thank you for your conservation ideals.	12/10/2018 12:39 PM
2	Don't know why K-12 belongs in this?	12/6/2018 2:28 PM
3	I have never seen so many displaced animals post logging.	12/6/2018 2:25 PM
4	The town NOT purchase this land.	11/30/2018 3:16 PM
5	Should be a multiple use area including hunting	11/22/2018 7:43 AM
6	Beautiful view from our camp	11/19/2018 4:24 PM
7	Keep it from being built on	11/19/2018 4:23 PM
8	Trails & recreation would be 2nd.	11/17/2018 2:38 PM
9	Public use of the land in perpetuity - protection from the area being designated as a no-trespass sanctuary, as has been done with places like Stamp Act Island on Lake Wentworth.	11/16/2018 6:33 PM
10	I think this is terrible! This land should not ever have houses built on it. People come to this lake to escape society. Now when we are on out on the lake all we will see is civilization. I think this will ruin the lake and why people come here. Build somewhere else!!!	11/16/2018 4:43 PM
11	hiking, walking, & nature trails	11/16/2018 12:01 PM

**Q4 The Birch Ridge property has traditionally been open to the public for the following recreational activities. Please indicate your level of agreement with the following statement regarding the continued recreational uses of the property. Once conserved, the following recreational activities should continue on the Birch Ridge Community Forest:**

Answered: 203 Skipped: 1



	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	NO OPINION	TOTAL	WEIGHTED AVERAGE
Hunting	14.78% 30	16.75% 34	17.73% 36	21.67% 44	26.60% 54	2.46% 5	203	3.29
Fishing	2.46% 5	0.49% 1	14.78% 30	35.47% 72	43.35% 88	3.45% 7	203	4.21
Hiking	1.48% 3	0.49% 1	2.96% 6	22.66% 46	70.44% 143	1.97% 4	203	4.63
Snowmobiling	11.82% 24	9.85% 20	19.21% 39	28.57% 58	26.60% 54	3.94% 8	203	3.50
Cross-country skiing	0.99% 2	0.49% 1	4.93% 10	34.48% 70	55.17% 112	3.94% 8	203	4.48
Mountain biking	4.93% 10	6.90% 14	21.18% 43	30.54% 62	31.03% 63	5.42% 11	203	3.80

## Q5 Please share additional recreational activities you believe should be allowed on the Birch Ridge Community Forest:

Answered: 54 Skipped: 150

#	RESPONSES	DATE
1	ATV usage on trail	12/21/2018 1:08 PM
2	Horseback riding	12/17/2018 10:03 AM
3	Cross-country skiing, hiking, mountain biking should pay for registration. They take all parking spots then snowmobiles/motor boats have no place to park but they pay for registrations. It's not fair/right that some have to pay for enjoyment and others pay nothing.	12/17/2018 10:02 AM
4	Snowshoeing	12/12/2018 1:45 PM
5	Horseback riding	12/12/2018 1:44 PM
6	ATV trails continued on the ridge	12/10/2018 12:48 PM
7	Bear baiting and target practice	12/10/2018 12:44 PM
8	I would be happy to see the land used for educational outdoor programs/hiking, but I am concerned about the parking issue. I would prefer that there is a good spot that does not increase traffic. I am concerned that cars will line up on S. Shore Rd. to gain quicker access to the hut and trails.	12/10/2018 12:33 PM
9	ATV trails	12/10/2018 12:28 PM
10	horseback riding allowed	12/8/2018 9:40 AM
11	Horseback riding if it can be done in a way that minimizes trail impact	12/7/2018 1:55 PM
12	ATV trail	12/6/2018 2:35 PM
13	Horseback riding, ATV, trail races, outdoor theater	12/6/2018 2:33 PM
14	Snowshoeing	12/6/2018 2:28 PM
15	crosscountry runs	12/6/2018 2:21 PM
16	Disc golf would be fun, good hiking trails. Happy that something will be coming to New Durham.	12/6/2018 2:19 PM
17	Posted awareness info to let people know	12/6/2018 2:17 PM
18	Anything low impact, low noise, I'm all for!	12/6/2018 2:11 PM
19	ATV, dirt bike	12/6/2018 2:05 PM
20	Keep open for public	12/4/2018 12:17 PM
21	ATV Trails	12/1/2018 11:34 AM
22	Atv/Utv/trail bike access.	11/30/2018 6:08 PM
23	Bird Watching	11/30/2018 3:51 PM
24	Camping areas.	11/29/2018 11:47 AM
25	4-wheeling, camping (tents only)	11/26/2018 1:52 PM
26	snow shoeing	11/21/2018 4:30 PM
27	Supervised nature walks	11/21/2018 2:09 PM
28	Benches, a central toilet, bocci, parking, shuffleboard	11/19/2018 4:25 PM
29	Use trails for jogging.	11/17/2018 2:43 PM



30	The trail system is an important economic component to the area. In the winter it is part of a major state corridor system that connects the eastern side of the state to the lakes region and points west.	11/17/2018 12:23 PM
31	possible designated OHRV trail(s)?	11/17/2018 9:23 AM
32	Horseback riding	11/17/2018 8:19 AM
33	It would be nice to have a camping area for responsible, organized groups, perhaps built around the site of the abandoned cabin.	11/16/2018 6:39 PM
34	Picnics, tables	11/16/2018 5:33 PM
35	Limited season ATV'ing off snowmobiling tracks - Area has long history of ATV'ing in Spring and Fall Dog walking as long as clean up is required	11/16/2018 3:58 PM
36	Horseback riding	11/16/2018 3:44 PM
37	Handicap accessible trails	11/16/2018 3:37 PM
38	HUNTING. A public parking area or two.	11/16/2018 2:44 PM
39	Snow shoeing	11/16/2018 2:08 PM
40	Snowshoeing	11/16/2018 12:10 PM
41	Nature trails	11/16/2018 12:02 PM
42	Camping	11/16/2018 11:59 AM
43	Snow shoeing	11/16/2018 8:58 AM
44	Hunting : no traps, no blinds, no tree stands, no bait, no dogs	11/16/2018 6:19 AM
45	Birdwatching	11/15/2018 6:59 PM
46	Walking paths (mild demands for older folks), picknicking	11/15/2018 6:22 PM
47	horseback riding	11/15/2018 5:56 PM
48	guided nature walks	11/15/2018 5:56 PM
49	Like to see ATV trails that have existed for year on the ridge area continued.	11/15/2018 5:12 PM
50	Camping for wilderness education	11/15/2018 3:05 PM
51	Camping, possibly horseback riding	11/15/2018 10:58 AM
52	Snowshoeing	11/15/2018 8:51 AM
53	Horseback riding	11/13/2018 6:43 PM
54	picnicing on a carry in carry out basis.	11/13/2018 4:29 PM

## Q6 Are there activities that you feel are not appropriate to allow on the Birch Ridge Community Forest? If so, please explain:

Answered: 85 Skipped: 119

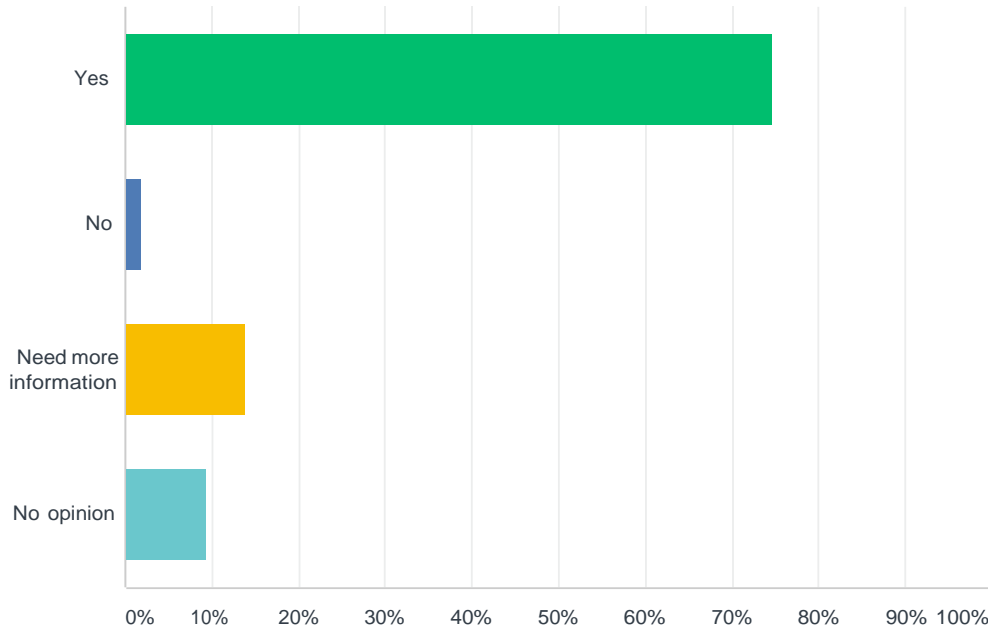
#	RESPONSES	DATE
1	4 wheeling, mountain biking. Cause destruction of terrain, also noise.	12/27/2018 3:10 PM
2	ATVs, logging and snowmobiling. Let the forest be a refuge for wildlife with only benign human use.	12/19/2018 1:59 PM
3	Hunting! Too close to homes! If people want to hike, etc. nobody wants to worry about being shot!	12/17/2018 3:17 PM
4	ATVs or motor bikes, tear up trails badly	12/17/2018 10:03 AM
5	I would like to see no wheeled vehicles and no motorized vehicles. A place for quiet woods enjoyed by everyone on foot.	12/13/2018 1:58 PM
6	Overnight parking of vehicles, especially RVs in any parking lots provided to recreational uses. No ATVs.	12/12/2018 1:45 PM
7	Overnight camping (no campfires)	12/12/2018 1:43 PM
8	Hunting - plenty of other places (woodlands) to hunt.	12/10/2018 12:51 PM
9	Hunting is questionable because of danger of stray bullets/uneducated hunters. How much would mountain bikes tear up the land? Erosion/unsightly mess from this?	12/10/2018 12:47 PM
10	ATV trails. Keep signs to a minimum please!	12/10/2018 12:44 PM
11	My concern is hunting with the possibility of hiking with dogs and kids on the property.	12/10/2018 12:33 PM
12	Fires	12/8/2018 8:01 AM
13	ATVs, dirtbikes, 4-wheelers - any motorized activity other than snowmobiling	12/7/2018 1:55 PM
14	Hunting	12/6/2018 2:35 PM
15	Cookouts	12/6/2018 2:33 PM
16	4 wheeling	12/6/2018 2:32 PM
17	Snowmobiling, 4 wheeling	12/6/2018 2:28 PM
18	ATVs, hunting, trapping	12/6/2018 2:26 PM
19	Snowmobiling has enough places. Smell/noise pollution. Can we have more green space.	12/6/2018 2:23 PM
20	Camping, overnight huts	12/6/2018 2:17 PM
21	I would not like it developed at any means	12/6/2018 2:15 PM
22	Camping: as an abutting landowner, I don't want the general public overnight camping & lighting campfires. No motorized vehicles (ATVs, dirt bikes, etc.); keep noise to a minimum, minimize trespassers.	12/6/2018 2:11 PM
23	Camping - fire hazard, stewardship of landing	12/6/2018 2:09 PM
24	Hunting! It's unsafe with other activities as described and too close to homes on the Chalk/March side of the ridge. There are many other places to hunt. If you want conservation land, make it as such.	12/6/2018 2:05 PM
25	Hunting	12/4/2018 12:17 PM
26	Hunting and camping	12/4/2018 12:16 PM
27	I don't feel it's appropriate to allow ATV usage here. The vehicles just tear up the trails - the same goes for motorbiking.	12/4/2018 12:14 PM
28	Camping	12/4/2018 12:12 PM

29	ATV's, dirt bikes, camping, dogs off leash	12/3/2018 11:46 AM
30	Camping, cooking out , campfires	12/1/2018 11:34 AM
31	No ATV's	11/30/2018 7:59 PM
32	1.) Hunting: Not a good mix for hiking, etc. + Risks of Lead contamination of water and wild-life. 2.) Snowmobiling: Dangerous for users and hikers. Potential liability(s) for Trusts. 3.) Mix of mountain bikes on hiking trails can also be a rick for injury for both uses. 4.) Fishing: Should also be limited to non-lead based gear.	11/30/2018 3:51 PM
33	Having this forestry would increase the cost on the town resource (police, fire and EMS). The selectmen would never increase their budget to accomadate the cost.	11/30/2018 3:21 PM
34	Snowmobiling & mountain biking - erosion problems. Noise pollution from snowmobiling.	11/30/2018 11:43 AM
35	Hunting	11/28/2018 11:24 AM
36	4 wheeling and snowmobiles in moderation. Allow numbers to be controlled.	11/26/2018 1:51 PM
37	Any activity involving motorized vehicles: dirt bikes, ATVs, etc.	11/26/2018 1:48 PM
38	Any motorized vehicles.	11/26/2018 1:40 PM
39	Things that maintain natural beauty of the forest. I don't want it to become a tourist attraction.	11/26/2018 1:37 PM
40	camping - setting up an outdoor camp site for overnight, multiple spots with cars driving in. camping in a lodge and the current camp for children are not what i'm implying here.	11/21/2018 4:30 PM
41	Overnight camping, campfires, hunting. It also seems counterproductive to have walking trails, animal habitats, and clearcutting on the same land. And if there is hunting, the property should be closed to nonhunters for the duration.	11/21/2018 2:09 PM
42	All commercial activities (e.g. snack bars, concession stands)	11/21/2018 2:03 PM
43	4 wheel drive vehicles, ATVs - air and noise pollution	11/21/2018 1:55 PM
44	Smoking	11/19/2018 9:26 PM
45	ATVs and dirt bikes	11/19/2018 4:26 PM
46	War games (paint guns, etc.)	11/19/2018 4:25 PM
47	Prefer no motorized vehicles	11/19/2018 3:02 PM
48	ATVs. They ruin the paths. Drivers are not courteous and often go off trail.	11/19/2018 2:51 PM
49	Snowmobiling and mountain biking, which generate too much noise and disturb wildlife.	11/19/2018 12:16 PM
50	As long as hunting can done safely without risk to recreational enthusiasts - then fine.	11/18/2018 8:09 PM
51	I would be concerned about the mixed use of hunting and the other recreational uses during hunting season, unless monitored and posted.	11/18/2018 6:41 AM
52	Motorized vehicles like dirt bikes, ATV's, etc. These vehicles make way too much noise.	11/17/2018 2:43 PM
53	A well managed natural resource should be available to all responsible users.	11/17/2018 12:23 PM
54	camping or other overnight recreational activities	11/17/2018 9:23 AM
55	atv erion	11/16/2018 7:05 PM
56	Free running pets, which can intimidate both wildlife and other people.	11/16/2018 6:39 PM
57	Camping tenting overnight	11/16/2018 4:50 PM
58	Hunting and recreation do not go together, and thus limits the potential use of the area. Hunting should be kept within defined areas so that those wanting to hike, mountain bike, cross country ski can do so without fear of becoming one of the "accidentally hunted"	11/16/2018 3:58 PM
59	Dirt bikes/4 wheelers, motorized vehicles of any kind	11/16/2018 3:44 PM
60	Dirt bikes and 4 wheelers	11/16/2018 3:37 PM
61	Hunting -- stray bullets	11/16/2018 3:02 PM
62	4 WHEELER TRAILS combined or not with snowmobles.to be shut down during mud season. Would also be economically beneficial to the local businesses.	11/16/2018 2:44 PM

63	ATVs	11/16/2018 12:10 PM
64	I have concerns about hunting in the area if it is always open to the public, which would include visitors to the area who are not familiar with local hunting seasons.	11/16/2018 12:05 PM
65	No 4-wheel drive vehicles (i.e. Jeeps)	11/16/2018 12:04 PM
66	Hunting	11/16/2018 12:02 PM
67	No hunting traps, no baiting, no tree stands	11/16/2018 8:58 AM
68	Motorized activities should not be permitted. The forest should be enjoyed by people and animals and not gas powered machines.	11/16/2018 8:21 AM
69	biking is ok as long as the trails do not cause erosion	11/16/2018 6:19 AM
70	ATVs	11/15/2018 6:59 PM
71	operation of motor driven, wheeled vehicles off of paved areas	11/15/2018 6:22 PM
72	no overnight camping, atv and dirt bike usage	11/15/2018 5:56 PM
73	motorized activities, snowmobiles excepted/ cross country skiers will need separate trail system	11/15/2018 5:56 PM
74	No other than the cutting that is so severe up there now. Awful!	11/15/2018 5:12 PM
75	ATV's or other, non-snow machines which will impact trails and ground cover and create noise.	11/15/2018 4:48 PM
76	Camping or ATV riding	11/15/2018 3:57 PM
77	Hunting will conflict with fall and other recreational activities rendering dangers .	11/15/2018 3:05 PM
78	Any type of motorized access	11/15/2018 11:25 AM
79	ATV/4-wheelers: Too destructive to the environment and to trails. Target shooting: Fish&Game Club right down the road Open fires: California - nuff said...	11/15/2018 10:58 AM
80	Motorcross biking,	11/15/2018 9:43 AM
81	Target shooting - it would be a danger to others using the community forest.	11/15/2018 9:17 AM
82	I'm not against ATV but am concerned about noise level and trail destruction.	11/15/2018 9:01 AM
83	Public outings, eg fairs, shows,etc	11/15/2018 8:51 AM
84	motorized vehicles	11/13/2018 8:20 PM
85	Hunting and the discharge of a fire arms is always a concern as I am never sure if a hunter is on my own abutting property	11/13/2018 4:29 PM

### Q7 Do you support the proposed structure for the ownership and conservation of the Birch Ridge Community Forest?

Answered: 202 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	74.75%	151
No	1.98%	4
Need more information	13.86%	28
No opinion	9.41%	19
<b>TOTAL</b>		<b>202</b>

### Q8 If you answered "No" for question 7, please share why you do not support the proposed ownership and conservation outcome:

Answered: 5 Skipped: 199

#	RESPONSES	DATE
1	There's no possible way this will only cost the town \$100 annually. The land belongs to the people, not a private entity. People should do with land any legal activity, only requiring the consent the adjacent landowners.	11/30/2018 6:10 PM
2	The cost of the town is incorrect. It would add cost to the 3 town departments, which would increase the town taxes. i believe it is the worst idea that the Merrymeeting Lake Association came up with. Unless they would agree to compusate for the added cost in their tax rate. i disagree with everything about this purchase.	11/30/2018 3:27 PM
3	MMRG - you give up control of the easement. They should pay BRCF for the control. More info on Town of New Durham right of enforcement.	11/30/2018 11:44 AM
4	Moose mountain annual cost is \$3,200 and the town would be less than \$100? Why the major difference?	11/17/2018 2:47 PM
5	MMRG and Town should have a Town resident living on MM Lake and a MMLA member on body making decisions in respect to the Town Forest	11/15/2018 6:04 PM



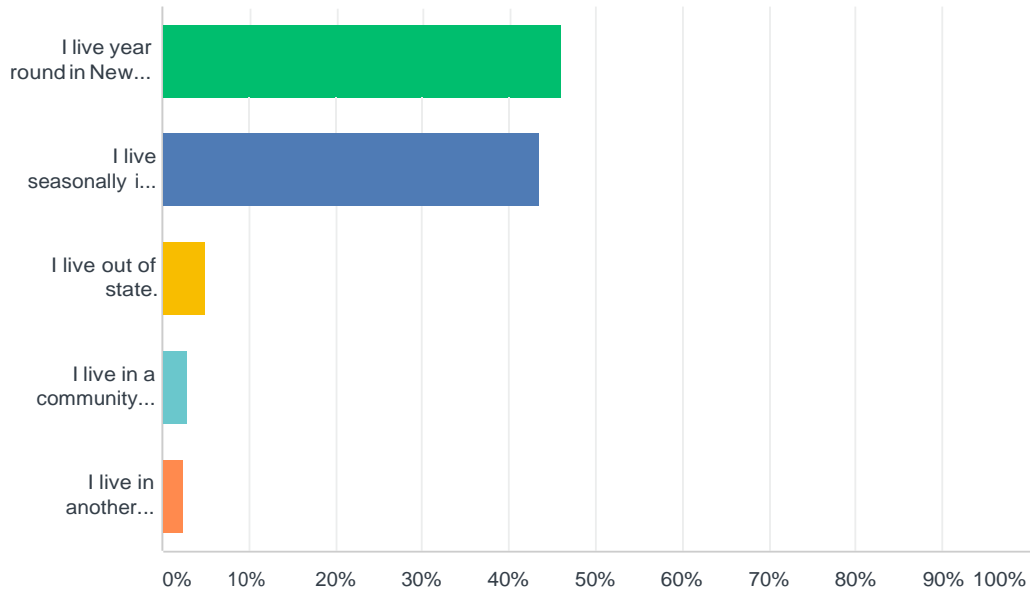
## Q9 If you selected "Need more information" for question 7, please share what additional information you would like to understand:

Answered: 24 Skipped: 180

#	RESPONSES	DATE
1	What are the overall goals of SELT and MMRG?	12/13/2018 1:59 PM
2	Location/access	12/10/2018 12:36 PM
3	who is paying each of these? the taxpayers of New Durham??	12/8/2018 8:02 AM
4	The Birch Ridge Forest has been used for recreational snowmobiling for many years and we would not want this activity restricted by SELT or another entity.	12/6/2018 4:59 PM
5	Presently do not know anything about this project. Why not publish in the newspaper (weekly)	12/6/2018 2:29 PM
6	Location of structure and traffic - how to access it.	12/6/2018 2:26 PM
7	Continued upkeep and how changes in original/initial goals.	12/6/2018 2:22 PM
8	Would it be housing in a gated community?	12/6/2018 2:20 PM
9	Details	12/6/2018 2:05 PM
10	1.) How SELT will fund initial and continued improvements? 2.) How SELT will fund annual current land use tax? 3.) Is SELT making application for additional land use relief? 4.) What are the details for MMRG enforcements and use policy? 5.) What if town invests additional enforcement beyond the \$100.00 projection?	11/30/2018 4:09 PM
11	How is "trail" defined? Trails for walking, or trails for dirt bikes. What are the "conservation goals" of MMRG?	11/26/2018 1:48 PM
12	Who will pay for upkeep?	11/26/2018 1:44 PM
13	Is this consistent with other similar arrangements?	11/23/2018 8:35 AM
14	As important as ownership is management authority - who will manage, how will management be evaluated?	11/21/2018 2:06 PM
15	What are the positives? Negatives from opponents? How will this impact current New Durham taxpayers... a year from now, next 5 years, etc.? Any future discussion on impacts?	11/19/2018 3:04 PM
16	I would prefer the Town ownership. Will they do any of the work that SELT would do...maintain trails, etc.?	11/19/2018 2:57 PM
17	Who is purchasing the land? If more than one, will remaining be equal shares? Is any of the land put into current use?	11/19/2018 2:46 PM
18	How would the public park and gain access for the activities listed? As a property owner on the lake I'm concerned about the traffic, parking and volume of people coming to participate in activities.	11/18/2018 3:40 PM
19	Is this a typical arrangement? It seems like there are two many stewards on this project.	11/18/2018 6:42 AM
20	What happens if any of these businesses go out of business? Does the town take over?	11/17/2018 2:47 PM
21	Tax implications for residents	11/17/2018 11:25 AM
22	I do not want the town to lose main ownership.new durham taxpayers should have final say.	11/16/2018 2:46 PM
23	It really depends on what it ends up being used for and how it would affect the surrounding area.	11/16/2018 2:28 PM
24	It would be helpful to have more information regarding SELT and MMRG to ensure that they have Merrymeeting Lake's best interest in mind. And to understand that they have a clear vision of what the people on the lake wish for that land.	11/15/2018 9:56 AM

### Q10 Please select the one statement that most accurately describes your living situation.

Answered: 202 Skipped: 2



ANSWER CHOICES	RESPONSES	
I live year round in New Durham.	46.04%	93
I live seasonally in New Durham.	43.56%	88
I live out of state.	4.95%	10
I live in a community abutting New Durham (Alton, Brookfield, Middleton, Strafford, Wolfeboro).	2.97%	6
I live in another community in New Hampshire.	2.48%	5
<b>TOTAL</b>		<b>202</b>

## Appendix D Public Programs at BCRF

## APPENDIX D

### Public Programs at the Birch Ridge Community Forest

Date	Attendees	Event	Leader / Primary Sponsor	Description
9/23/2018		Hawk Watch	Virginia Long / MMRG	Join MMRG staff member/birder Virginia Long on a scenic shoulder of Birch Ridge to watch for raptors in fall migration. Participants are encouraged to bring binoculars, telescopes (optional), sturdy walking shoes, a portable chair, and a snack or picnic lunch. Optional guided walk to see more of the property.
10/13/2018		Mushroom Foray and the Role of Fungus in the Forest	Jason Karakehian / MMRG	Mycologist Jason Karakehian teaches us about fungi collection, seasonality and their role in ecosystems. After gathering, we'll show and tell and learn what we've got. Info also provided on identifying poisonous and edible mushrooms. Held on private property with views of Birch Ridge.
10/20/2018	21	Foliage Walk - Birch Ridge	Duane Hyde / SELT	Explore the proposed Birch Ridge Community Forest in New Durham and take in scenic views of Merrymeeting Lake in its full fall glory. On a clear day, views of Mt. Washington are possible.
12/1/2018	13	Timber Harvest BRCF	Andy Fast / SELT	Andy Fast, UNH Cooperative Extension County Forester, and Emma Tutein, UNH Cooperative Extension Wildlife Biologist, will lead a tour of cut areas and teach us about the process of timber harvests. Why are they important for forest health? What state regulations are in place? How is the land responding now and how will it respond over time? We'll also talk about SELT's future plans for the proposed Birch Ridge Community Forest, and how we plan to manage it to benefit the forest and wildlife that call it home!
2/2/2019	18	Birch Ridge Snowshoe - The Wetland in Winter	PattiConnaughton-Burns, Mike Speltz, Micheal Gelinias, Robert Craycraft / MMRG	Snowshoe the Birch Ridge Community Forest with Mike Speltz, former Land Agent for the Forest Society. Hike to the largest open water wetland in the future Birch Ridge Community Forest to see which animals are using the wetland, how the surrounding forest is recovering from the recent harvest, and why the "dead" winter landscape is anything but! SELT is working in partnership with Merrymeeting Lake Association and Moose Mountains Regional Greenways to acquire and manage this 2,000-acre property.
7/13/2019	200	BRCF Celebration	SELT, MMLA, MMRG	Multiple field trips: Lunch at the Cabin (easy: < 1 mile, 2h) Enjoy your lunch with a view of Merrymeeting Lake and learn about the ecology of the forest and the history of the land. Option to hike up to the cherished Blueberry Hill and the original Aspinwall settlement and graveyard. Hike on the Ridge (moderate: 2.5 miles, 2h) Start at the cabin and enjoy lunch and a hike with great views of the landscape and Merrymeeting Lake. This loop hike includes Blueberry Hill, the Aspinwall settlement and graveyard, and explores the geological ridge for more of a challenge. Hike Mount Eleanor (strenuous: 2.7 miles, 3h) Hike to the top of Mount Eleanor and enjoy the fresh air and great views while you eat your lunch. Continue past the peak to finish at the cabin.
12/7/2019	14	BRCF Hike	Duane Hyde / SELT	Hike the expansive Birch Ridge Community Forest in New Durham and take a breath of fresh air before the holiday hustle. If there is sufficient snow, bring your snowshoes for the hike. If the flakes aren't falling yet, don your hiking boots instead.

## Appendix E BRCF Management Committee

## APPENDIX E

### Birch Ridge Community Forest Management Committee

The BRCF Management Committee shall serve as a standing committee of SELT and is subject to the SELT's policies as may be adopted by SELT's Board of Directors. The BRCF Management Committee reports to SELT's Land Stewardship Committee.

BRCF Management Committee members shall be appointed for terms of three years. Initial terms will be staggered with terms of 1, 2, and 3 years, with roughly 1/3 of the Committee renewing annually. There are no limits on the number of terms a member may serve.

The BRCF Management Committee will meet at least twice annually, and more often as the Committee or SELT may require. Meetings are anticipated to be held in the spring (February-March) and Fall (September-October) to coincide with planning and budgeting periods.

Meetings of the BRCF Management Committee shall be open to the public. Public comments are welcome at the discretion of the chairperson.

#### **Members of the BRCF Management Committee**

All members nominated for the BRCF Management Committee shall be approved by SELT's Board of Directors, as required by its bylaws.<sup>1</sup> The chairperson shall be selected by the members and stakeholders.

#### **Core Members**

Each of the following organizations shall nominate a representative to serve on the Birch Ridge Community Forest Management Committee.

1. A resident of the Town of New Durham, appointed by the New Durham Board of Selectmen
2. A representative of the Town of New Durham Conservation Commission
3. A representative of the Merrymeeting Lake Association
4. A representative of the Moose Mountains Regional Greenways
5. A representative of the Southeast Land Trust of New Hampshire (SELT)
6. A representative of the Powder Mills Snowmobile Club

#### **Key Stakeholders**

Individuals with the requisite experience or education for each of the following interests shall be nominated by the BRCF Steering Committee.

7. Hunting / Fishing
8. K-12 Education
9. Non-Motorized Recreation
10. Forestry
11. Wildlife Interests

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<sup>1</sup> Section 7.1 of SELT's bylaws reads in part "All committee members shall be appointed by the Board of Directors, unless otherwise provided by these bylaws."

Upon conclusion of the initial term of each stakeholder, or the stakeholder's resignation or failure to participate, the BRCF Management Committee shall nominate subsequent stakeholders.

### **Non-voting Members**

In addition to the above members, SELT's Stewardship Director (or designee) and Land Manager shall serve as non-voting members.

### **Management Committee Responsibilities**

1. **Big Picture:** Recommend Management Plan for adoption by SELT's Land Stewardship Committee. The Management Plan covers a 10-15 year period and includes identifying management goals and priorities consistent with the requirements of the conservation easement and funding programs.
2. **Annual Priorities:** Adopt an annual work plan for the Community Forest. The work plan shall include:
  - a. Prioritization of work
  - b. Timetable for implementation
  - c. Estimate of cost and available funds

The actual implementation of the work plan shall be subject to SELT's available staff and resources.

3. **Implementation:** Support implementation of the annual work plan in coordination with SELT through volunteer work days and project activities
4. **Community Engagement:** Create an annual schedule of community activities, outreach events, and educational partnerships to promote community engagement with and use of the Community Forest
5. **Eyes and Ears:** Seek and gather community feedback about the public's use, desires for, and concerns regarding the Community Forest, and share with the Management Committee and SELT

These responsibilities may be revised by as may be recommended by the Management Committee and/or SELT, and as may be approved by the Board of SELT.

SELT shall provide administrative support for the Management Committee, including agendas, minutes, distribution of materials, and securing meeting space.



## Appendix F Forest Stewardship Plan for BCRF

**APPENDIX F**

**FOREST STEWARDSHIP PLAN**

**For The**

**Birch Ridge Community Forest**

**Owned By:**

**SOUTHEAST LAND TRUST OF NH**

**Located on:**

**Birch Hill Road, Merrymeeting Road, and South Shore Road  
New Durham, NH  
Strafford County**

**Prepared for:**

**Southeast Land Trust  
6 Center Street,  
Exeter, NH 03833**

**Prepared by:**

**Martin Forestry Consulting, LLC  
PO Box 89  
New Hampton, NH 03256  
(603) 744-9484**

**April, 2020**

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Jon Martin  
NH LPF #375  
NRCS TSP #10-6585

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## INTRODUCTION

This forest stewardship plan is prepared in accordance with the requirements and standards within the Southeast Land Trust of New Hampshire's (SELT) Policy on the Management of Fee Owned Lands, the requirements of a 2018 NHDES Aquatic Resource Mitigation (ARM) grant, and standards found in the Moose Mountains Regional Greenway conservation easement associated with the property, NH Current Use Assessment, and NH Tree Farm Program. The property qualified for the Community Forest Program (CFP) administered by the US Forest Service. This competitive grant program selects properties that will provide long term community benefits through active forest management, educational opportunities, access for public recreation, clean water protection, and wildlife habitat enhancements.

The Birch Ridge Community Forest is 2,027 acres sited south of Merrymeeting Lake in New Durham, NH. For years the property has been the subject of repeated attempts to either protect or develop. The current history of the property involves intensive timber harvesting over the entire property area. The property contains a wide variety of wildlife habitats, significant wetlands and water resources, and depleted, but productive forest resources. Sections of southern NH experience heavy development pressure, especially near scenic features, such as Merrymeeting Lake. This increases the importance of this significant block of undeveloped land as a water quality buffer to the built up area along the lake shore, a future nature based recreational resource for the local communities associated with the property and, a haven of respite for local wildlife populations. The new conservation status of the Birch Ridge Community Forest (BRCF) will be especially valuable for achieving long-term regional land conservation goals.

## LANDOWNER GOALS AND OBJECTIVES

Eight specific goals are listed for the BRCF in a vision and goals statement issued by the BRCF Steering Committee. These goals include:

Water Quality: Protect and enhance ground and surface water flowing to Merrymeeting Lake, Merrymeeting River and other water bodies

Wildlife Habitat: protect a diversity of vegetative communities to create and sustain habitats for a full range of naturally occurring wildlife species including and rare, threatened, or endangered species

Forestry: Sustainably manage the property as a model community forest to produce high-quality and high value wood products while also managing special areas that contain sensitive plants or animals or are designated for specific wildlife or recreation related activities.

Non-Motorized Recreation: provide opportunities for a wide range of compatible human-powered recreational activities, including hiking, skiing, hunting, fishing, and mountain biking on designated trails. Trails will be connected to adjoining properties as part of a larger network of recreational trails in the area.

Snowmobiling: Continue to provide the BRCF as a key parcel in the broader snowmobile trail network, allowing snowmobiling on appropriately designated and maintained trails consistent with adequate snow cover and ground conditions.

Education and Outreach: Gain recognition as a resource to support community education and outreach activities through partnerships with New Durham and area school, non-profit organizations and clubs, and area businesses, as well as activities organized by SELT and Moose Mtn. Regional Greenways.

Scenic/Aesthetic: Enhance the scenic views of and to Merrymeeting Lake and the surrounding areas.

Climate Change Mitigation: Management of the growing and maturing woodlands of BRCF contributes to carbon sequestration, while the BRCF's topography and proximity to other conserved lands enables species to adjust to disturbance related to climate change. The complete text of the Vision and Goals Statement is included in the Appendix of this plan.

## **GRANT and EASEMENT GOALS AND PURPOSES**

Long term goals stipulated by the conservation easement (Dillon Investments LLC to Moose Mountain Regional Greenway, July 2019) include a list comparable to that above. The Conservation Easement in its entirety is included with or attached to this plan.

The Aquatic Resource Mitigation (ARM) Grant awarded for the property contains three required projects, the completion of which are planned for in this document. Additionally, several goals are noted in the same grant. These include:

To limit the use of the property...to conservation purposes in perpetuity, and

That all public access provided for in the terms of the Conservation deed be in accordance with all federal and state policies of non-discrimination in public accommodation.

## **PROPERTY INFORMATION**

Frontage on Merrymeeting Road, Birch Hill Road, with other access from South Shore Road and Brackett Road all located in the town of New Durham, NH.

### **New Durham Tax Maps and Lots**

Map 229, Lot 2	149.0 ac
Map 229, Lot 4	94.6 ac
Map 224, Lot 16	1775.0 ac

**New Durham Tax Map Total: 2018.6 ac**

**Eric Mitchell and Associates Survey acreage: 2027.0 ac**

Note: The boundaries used during the property assessment and for the production of this Forest Stewardship Plan are from tax maps, Survey and GIS maps provided by SELT, and Martin Forestry Consulting, LLC GIS mapping.

## **PLANNING PROCESS**

Martin Forestry Consulting, LLC performed a field assessment of the property during the spring and summer of 2019. No formal timber inventory was conducted because of the nature and intensity of the harvesting by the previous landowner, which continued until late spring 2019. Forest types and other delineations of land cover were completed using aerial imagery ground truthed during the field evaluation. Most major roads and trails used for recreation or timber removal were also walked, with significant features and/or issue areas noted, located by GPS and photographed. A map of the property including physical features and boundary evidence was developed, the finished version of which is included in the Appendix of this plan.

## **HISTORY**

This property is typical of most tracts in this region. The majority of the property was likely cleared for agricultural use by the early settlers. The wet and rocky areas were probably used as pasture land for livestock such as sheep and later on cattle, while the more arable and drier soils were likely used to cultivate hay and other crops. Beginning in the mid 1800's when many changes were occurring in American history, many of the fields of New Hampshire were slowly abandoned. Many inhabitants of New Hampshire left the state to farm the deeper soils of the Midwest. Many families lost the labor needed to run their farms during the Civil War, and whole families left to begin new lives in the cities during the industrial revolution. The least productive land that was furthest from the dwellings was abandoned first. Gradually, as people left or died, additional acreage was abandoned closer and closer to the farm buildings and reverted back to forest.

SELT acquired the property in June of 2019 from Dillon Investments, LLC with help from the Merrymeeting Lakes Association and Moose Mountains Regional Greenways. Prior to Dillon Investments, LLC owning the property, it was slated for a housing development which was never begun. Moose Mountain Regional Greenways holds a conservation easement on the property. The conservation easement allows for sustainable forestry and agriculture, but limits residential or commercial development to two exclusion areas, CE Exclusion Area A and CE Exclusion Area B. CE Exclusion Area A is located at the end of Birch Hill Road and includes the cabin which preexists SELT ownership; Exclusion Area B is located off Merrymeeting Road near the intersection of Merrymeeting and Brackett Roads, and includes the entirety of log landing #11. Extensive logging was done across the entire property under the ownership of Dillon Investments, LLC, excluding only those areas where terrain made it impossible.

During the field cruise, five cellar holes were found on the property, three of which had cemeteries in close proximity. Most of the cellar holes had barn foundations with them, which along with the stone walls found throughout the property indicate that agriculture has played a very large part in the history of the property. Stone piles found near most of the cellar holes indicate that fields near home sites were likely plowed, hayed, and utilized

for livestock pasture at one time.

## **ACCESS**

Forest management harvesting activities require a system of "skid" trails, a "log landing" or "yard", and driveway access to a main road. Recent timber harvesting on the BRCF used 11 landings and at least 5 access ways from public roads onto the property. These landings and access points are noted on the Base Map. The property also contains over 13 miles of existing access roads and skid trails linking much of the property to the series of landings, and eventually to main highways in the area. Many segments of the road system, and many wet area crossings, need corrective or restorative actions to improve road stability, control erosion, and manage water. There is excessive pooling on road surfaces, blocked drainage structures, retained pole fords needing removal, impacted vernal pools, and three required wetland mitigation projects involving bridge construction. Within the projects included in this plan there will be new trail and road construction needs. All efforts should be made to use only existing landing areas. There are also some recommendations for the 'putting to bed' of road segments or landings not required through this planning period.

While the construction of new skidder trails and access roads helps minimize operational transportation expenses, they can impact important ecological and cultural resources. Therefore, these practices should be carefully planned and sited to reduce any impacts to these resources and to enhance or maintain wildlife habitat connectivity.

Due to the size of this property, and the complexity of access due to wetlands, riparian areas, and cultural features, the area has been broken into 4 management units (MU). Each MU has at least one large landing area, direct access to town roads and can be managed independently of, and simultaneously with, the others. The objective is to reduce road and trail use conflicts while allowing maximum access for planned activities. Each MU is described in more detail later in this plan.

Gravel borrow pits for use on trails and roads were also documented on the Birch Ridge property. Several were located by the snowmobile club, which used onsite gravel to help restore the snowmobile trail corridor in the fall of 2019. The majority of the borrow pits are located along the main snowmobile trail NH Corridor #22. Most pit sites are quite small and importing gravel will likely be necessary for some projects. For more information, please refer to baseline documentation report and/or geology map in the *Appendix* for the location of borrow pits on the property.

## **WILDLIFE RESOURCES**

General recommendations taken from the Wildlife Habitat Management Recommendations for Birch Ridge Community Forest written by Charles Bridges and Lee

Alexander include: "...conducting forest stewardship practices related to enhancing nut and fruit production, favoring softwood regeneration, protecting wetland sites, maintaining early successional and young forest habitat sites, providing dead & down woody material, retaining cavity trees, re-seeding woods roads and log landings with a conservation mix of grasses and forbs, and expanding/maintaining the open area near the cabin site." The entire report quoted above is included with this plan.

The Birch Ridge Community Forest Ecological Inventory completed by Moosewood Ecological LLC includes 10 general recommendations for management opportunities based on organizational goals and inventoried natural resource data. A synopsis of these recommendations follows.

Assess log landings and other open areas for use as turtle nesting sites, re-seed some areas with bunch grasses and pollen and nectar producing wildflowers.

Develop stewardship plans that promote wildlife diversity and focuses on species of greatest conservation concern.

Maintain the field at the end of Birch Hill Road and increase its size if feasible.

Maintain approximately 5 to 10% of the property in early successional and shrub land habitats. Distribute these opportunities throughout the property using patch cuts no less than 2 acres in size. Maintain these areas with a brontosaurus or by hand and complete inventories of wildlife active within and around them.

Develop an ecological reserve system that promotes late successional habitats, while protecting wetland areas, unique natural communities and rare species habitats. The suggested area of these reserves is 10-50% of the property area.

Develop an ecological monitoring system inventorying birds, turtles, rare plant species and vernal pools.

Document all vernal pools using accepted methodologies.

Map, manage and monitor invasive species (plants, animals and insects)

Eliminate trails within wetlands, excepting properly designed used and monitored snowmobile trails and trails with properly installed stream crossings.

Conduct further studies of talus woodlands and rocky ridges.

A full copy of this report is available for scientific purposes from the SELT.

## **RARE, THREATENED, OR ENDANGERED SPECIES**

The only record of rare, threatened or endangered species located on the property is for the wood turtle, a State species of special concern. The record of the sighting along South Shore road dates from 2010. Records for eight other species (1 invertebrate, 5 vertebrates, and 2 plants) were noted on the NH Natural Heritage Bureau report all dating from 2009 to 2017. The full report is included in the Appendix of this plan.

## **INVASIVE/NUISANCE SPECIES**

One nuisance plant species was observed on the property during the field assessment. Eastern hay scented fern (*Dennstaedtia punctilobula*) was found north of the lodge site



near landing #5. Hay scented fern is fast growing and forms a dense rhizome layer that stifles the establishment of tree regeneration. The current patch is quite small, but because of the amount of soil disturbance in the area it has the potential to spread. Mowing and hand removal are the best controls for this species. The search for invasive or nuisance plants, animals, and insects should be ongoing and made a part of the annual property monitoring. This is particularly important regarding insects causing widespread loss of trees within New Hampshire. Ash trees and hemlock trees should be closely inspected whenever venturing onto the property. Both the Emerald Ash Borer and the Hemlock Woolly Adelgid are known to be spreading through this part of the State.

## **CARBON SEQUESTRATION**

Carbon sequestration is an important ecosystem service provided by forests. Ecosystem services are the benefits society receives from natural systems. Carbon sequestration, a forest's ability to absorb carbon, is particularly important given record-high levels of carbon dioxide (CO<sub>2</sub>) in Earth's atmosphere.

This parcel is predominantly made up of regeneration and saplings with smaller patches of more mature pole and sawtimber sized trees many of which are located in buffer areas along water courses and wetlands. Currently the land is not storing large amounts of carbon, but there is a great potential in the growing stock to do so. Maintaining land in a forested state and managing it accordingly has the potential to sequester and store vast amounts of carbon dioxide.

In some cases, carbon sequestration from forested areas can be sold as carbon credit to offset pollution elsewhere. Sections of New Hampshire have begun to participate in the carbon market, and valuing carbon sequestration on this property may become a viable option. Terms of the easement associated with commercial activities on the property should be checked before pursuing carbon valuation and entering the commercial carbon market.

## **WATER RESOURCES**

This property contains an extensive network of water features including freshwater wetlands, perennial and intermittent streams and vernal pools. According to an inventory completed for the Aquatic Resources Mitigation grant request there are approximately 2.2 miles of intermittent streams, over 1000 linear feet of perennial stream, nearly 18 miles of wetland frontage, and 299 acres of forested buffers on the property.

All water features on the property direct water to either the Salmon Falls River or the Merrimack River. The property also represents 12% of the watershed of Merrymeeting Lake, classed as one of the cleanest lakes in New Hampshire. There is a great need to minimize the movement of sand and silt into the tributaries that feed the lake and that could eventually impact the small populations of salmon and lake trout supported within it.

Stabilizing road surfaces, restoring buffer areas along wetlands, streams and vernal

pools, and investing in the removal/replacement of poorly installed or maintained crossing structures are all practices needed on this property to ensure the continued maintenance of water quality and aquatic habitats.

Recommendations related to forestry activities and the maintenance of water quality can be found in "Best Management Practices for Forestry: Protecting New Hampshire's Water Quality" and/or 'No harvest zones' described in section 4.3 of "Good Forestry for the Granite State: Recommended Voluntary Forest Management Practices for New Hampshire" These recommendations include: Minimizing skid trail stream crossings and utilizing proper crossing structures, installing and maintaining ditches along roads to channel the water into buffer protected stream courses, logging on frozen or snow-covered ground to minimize ground disturbance and possible soil erosion (but sometimes this may not meet silvicultural needs for seed germination on disturbed soil), constructing skid trails to provide an acceptable buffer or filter zone along streams, wetlands, and vernal pools, waterbarring or smoothing skid trails and landings, seeding critical areas after use to stabilize the surface and prevent erosion.

While referencing the above recommendations, the property's Conservation Easement also contains required buffer specifications applicable to riparian areas including vernal pools, perennial streams and rivers, wetlands, and ponds, potentially impacted by forestry activities within or adjacent to them. These specifications include a 100 foot wide buffer around or along the water feature which can expand to include slopes greater than 35% or soils classed as highly erodible. The first 50 feet of the buffer measured from the water feature shall be a no-cut area, unless permission is granted by the Grantee for specific wildlife habitat improvement purposes, or for other specified natural resource or ecological purposes. In the second 50 feet of the buffer, tree harvesting methods are limited to single tree or small group selection cuts that leave a well distributed uneven-aged stand of trees. No roads or trails are to be constructed in the riparian buffers unless it is shown that the proposed location is less environmentally impacting than any alternative. The number of skid trails and landings shall be kept to a minimum reasonably necessary for tree removal. Roads, skid trails and landings shall be designed and maintained to minimize degradation of water quality and aquatic habitat.

## **SOIL and GEOLOGIC RESOURCES**

Maintaining "soil productivity" and protecting "surficial geologic features" are important forest management objectives. Soil profile depth, structure, and hydrologic interaction are a few contributing factors that affect soil productivity. These factors can be protected using Best Management Practices listed above in the *Water Resources* section and by minimizing the amount of skid trail or access roads open and being used at one time. Minimizing skid trails can also help protect significant geologic features and microtopography on the property. However, many of these features provide their own protection as it can be difficult and/or dangerous to operate machinery through rock outcrops, on steep ground, or across other types of difficult terrain.

Surficial geology, or the layer of material beneath the soil, is primarily glacial till on

this property. These are the upland areas, where soil is in some cases, shallow to bedrock. Wetter, lowland areas are comprised of alluvial (stream) or palustrine (marsh) deposits. Geologic materials on the BRCF are representative of much of the state of New Hampshire.

The soil layer that sits on top of these geologic features is comprised of 7 distinct soil types that are capable of growing a commercially viable crop of trees. Four other soil type classifications represent either standing water or water saturated soils and marshes. Ninety-six percent of the soils on the property are classified as very stony, extremely stony or extremely rocky. A list of these soil types and selected information from the USDA-NRCS Web Soil Survey is found in the Appendix. Each type is broken down by ground slope class, from “A” which are flat to gentle slopes, to “E” which are steep slopes. A soils map is also included in this plan. For forest management, NH Forest Soil Group placement provides useful information estimating tree species suitability and management limitations for each soil type. A description of these soil groups is described below with additional information in the Appendix.

**NH Forest Soil Groups**

**IA:** Deep, loamy soils with favorable moisture and conditions for tree growth.

**IB:** Sandy or loamy soils with adequate moisture for tree growth, but less fertility than Group IA soils.

**IC:** Areas of outwash sand and gravel that are excessively drained. These soils are adequate for softwood growth, but may limit hardwoods.

**IIA:** Similar to group IA and IB soils with limitations due to slope or rocky conditions that may limit management.

**IIB:** Poorly drained soils with low productivity and a high water table.

**NC:** Limited potential for commercial forest products.

**Table 1:** BRCF soils listed in order from most to least prevalent. All soil data was provided by the USDA Web Soil Survey, including Forestland Productivity information to estimate trees to manage.

Soil Type	Forest Soil Group	Trees to Manage for	Site Conditions	Acres
112D, Gloucester Extremely stony fine sandy loam, 8-25% slope	IB	Red oak White pine, Hemlock, Maples	Somewhat excessively well drained	668.1
122D, E Hollis-Gloucester, extremely rocky fine sandy loam, 8-60% Slopes	IIA	Red oak, White oak, White pine, Hemlock	Well to somewhat excessively drained	517.4

111B, C, D, Gloucester Very Stony Fine sandy loam, 3-25% Slopes,	IB	Red oak, White pine, Hemlock, Maples	Somewhat excessively well drained	427.0
548B, Leicester- Ridgebury fine sandy loam, very stony 3- 8% slopes	IIB	Red maple, Hemlock, Yellow birch	Poorly drained	178.1
147 B&C, Acton, Very fine sandy loam 0- 15% Slopes,	IB	Red oak, White pine, White birch	Moderately Well to Well drained	152.4
11 B, Gloucester, Fine sandy loam, 3- 8% Slopes,	I B	Red oak White pine, Hemlock, Maples	Somewhat excessively well drained Farmland of statewide importance**	30.7
212E, Hinckley loamy sand, 15-60% slopes	IIA	Red oak, White pine	Excessively well drained	8.4
Freetown and Swansea Mucky Peat	NC	NA	Very Poorly drained	23.5
Freshwater marsh	NC	NA	Wetland	9.8
49 Whitman, very stony fine sandy loam	NC	NA	Very poorly drained	2.6
Water	NC	NA		1.1

\*\* Soils of local and statewide importance are designated by local governments to determine which soils are best suited for agriculture in the region. For more information see the Appendix.

The trees to grow are recommendations from the NRCS Web Soil Survey and are the most suitable trees for the site. One of the biggest challenges for growing commercially valuable trees such as red oak and white pine is competition from undesirable hardwoods such as beech, moose maple, and red maple. Another obstacle for growing red oak is browse pressure from deer and moose in some areas. Clearcut areas should be monitored to determine the percentage of acceptable regeneration present in the newly forming stand. A target of 40% or better needs to be reached to assure a good crop of harvestable stems in the future. If that percentage is not attained in the stands some method of undesirable stem removal should be employed to reduce their numbers. Using a lightweight and maneuverable brontosaurus would work well in this situation. However, this might not be enough, and other site treatments, perhaps using scarification and seeding may be required. These management techniques can potentially be supplemented by grant funds from either the NHRG or NRCS.

## **CULTURAL RESOURCES and SPECIAL SITES**

The BRCF is rich with cultural resources. The property was home to several families over its history. The remnants of one settlement can be found on the east side of Birch Ridge adjacent to landing #1. At this site there is a large cellar hole, a stone foundation that would have likely been for a carriage house or barn and numerous segments of stone wall. There is also a small cemetery located nearby. A small cellar hole is located to the west of the main snowmobile trail on the north side of Birch Ridge Road. Three other cellar hole sites are located south of Birch Ridge Road. The first contains several cellar holes and is located on either side of the entrance to landing #4. There is another cellar hole near landing #2. The third site is located west of the three way snowmobile junction, just to the northwest of the cabin. All of these sites are located on the base map.

There is also a stone lined in-ground structure that appears not to have been a foundation/cellar hole, but perhaps an ice pond or cistern. This structure is located about 2,000 feet southwest of the of the cellar holes near landing #2.

Much of the property's cultural character comes from stone walls. These walls form part of the property boundary, and inside the property, they delineate use areas like pastures and rangeways. Due to the sloping, rocky landscape it is likely that this property was used to raise sheep, as much of New Hampshire was during the sheep boom of the mid-1800s. However, since some of the soils on this property are considered to be 'farmland of local importance,' it is also possible that the less-steep areas were used to grow hay, forage, and food crops for human consumption.

The blueberry area on the western slope of Birch Ridge is considered to be a special site. With some work reopening the field it can become a productive patch and provide an enjoyable family recreation experience. It is thought that a dug pond near the blueberry patch was an irrigation or fishing pond for some past owner.

A Phase 1 archeological survey was conducted on the entire property. The resulting report is on file at the SELT office. It describes foundations, cemeteries, and quarries in more detail than is included here.

During forestry or recreational activities, it will be necessary to minimize the number of stone wall crossings and avoid damaging the other cultural features noted here.

### **RECREATION**

A recreation resource description and plan was written by SNOWHAWK LLC in 2019 and included with this plan.

### **AESTHETICS**

There is much work needed to enhance the aesthetic appeal of the BRCF now that the timber harvesting has ended. Road edges on main truck roads and skidder trails need to be cleaned of the slash and built up soil and rocks pushed from the travel ways. This will not only improve the appearance of the forest, but will also allow a freer movement of

water from the roads. Bumper trees along roads and other harvest damaged stems could be removed, while those that could become a hazard to users should be cut for public safety.

Scenic vistas are being envisioned along the snowmobile trail on the north and east facing slopes of Birch Ridge. Other sites are available along the 'scenic loop' near the Kendra Lane spur of the snowmobile trail, and still more from the top of Rattlesnake Mountain. Picturesque views of Merrymeeting Lake and well north into the southern White Mountains are available. Birch Ridge, with elevations exceeding 1300 feet and aspects providing nearly a full 360 degree view, provides vistas to the south. Other scenic opportunities will likely be located during the recreation and trails planning effort. Opening the blueberry field on the north slope of Birch Ridge will also provide vistas and increase the opportunity for wildlife viewing. The seeding of some landing areas and trails will provide a ready source of forage for many wildlife species in the forest. This in turn will lead to many opportunities for hikers and other users to see and photograph forest animals.

## **ECOSYSTEM MANAGEMENT/ADJACENT PROPERTIES**

The term "ecosystem management" generally includes the following principles: to maintain native ecosystem types and ecological processes through natural or human means; to maintain viable populations of native flora and fauna and their habitats; to sustain the evolutionary potential of species and ecosystems; to sustain soil productivity and water quality to support the above; and to accommodate human use as part of the ecosystem. From a timber management standpoint, another principle includes the production of forest products in a sustainable manner over the long term. These principles encourage forest managers to look beyond the boundaries of an individual property, to look at the "big picture" of an ecosystem at the landscape level, and to try to coordinate management activities over greater land areas.

There are currently no cross boundary management agreements in place, but the new relationship between the New Hampshire Fish and Game Department and the BRCF landowners created by the conservation easement will allow a more unified approach to management in a very large contiguous block of land with several ownerships. The BRCF could become a facilitator for other private landowners and forest management professionals to begin to communicate with each other on common management goals and interests. This is particularly important with the potential for increased recreation in the Birch Ridge area and the number of private land parcels that lie adjacent to it.

## **BOUNDARIES**

As part of the implementation of a conservation easement, the property was surveyed and all boundaries brushed, blazed and painted with red paint. This project was completed in May 2019 by Eric C. Mitchell and Associates. Maintenance of these lines and corners should be completed every 5 to 10 years. Maintenance would include

repainting line markings, brushing, corner re-marking, and boundary signage replacement where needed.

**FOREST TYPE DESCRIPTIONS**

Most silvicultural management systems (ie Group Selection, Shelterwood) are not applicable on the BRCF through this planning period because of the amount of harvesting that has occurred during the last 10 to 15 years. Very little middle-aged or mature forest exists on the property; instead there are large areas of high graded (all trees of commercial value removed) forests, and silvicultural clearcuts. Smaller areas of uncut wetland and stream buffers meander through the landscape. Additionally, there are six areas of moderately stocked stands of both thinned and unthinned pole-sized trees. In the short term, forestry activity will be limited to those operations that improve the quality of existing growing stock, improve growing conditions in areas where there is a potential to increase high quality species regeneration, provide and maintain scenic vistas, release the existing acreage of blueberries, and keep some proportion of the area in early successional habitat.

Acreage breakdown by forest type and Management Unit

<u>MU</u>	<u>HiGrade</u>	<u>Pole</u>	<u>SilCC</u>	<u>Wet*</u>	<u>Blueberry</u>	<u>Steep</u>	<u>Other**</u>	<u>Total</u>
1	241	96	181	50	33	25	54	680
2	154	127	66	49	0	0	19	415
3	196	0	0	17	0	92	0	305
4	364	72	0	168	0	27	0	631
<b>Total</b>	<b>955</b>	<b>295</b>	<b>247</b>	<b>284</b>	<b>33</b>	<b>144</b>	<b>73</b>	<b>2027</b>

\* The acreages under wet include wetlands and the 50 ft. no-cut buffers around wetlands. They do not include the areas 50-100 ft. from wetlands where forestry is limited to uneven age management.

\*\* Other includes areas along the boundary line that were left uncut, fields, and landings.

**High-graded forest** (HiGrade) makes up roughly 47% of the BRCF acreage. These acres have been cleared of most if not all of the commercially viable stems, while all the non-commercial stems, those 4 inches and smaller at breast height (dbh), have been left on site. These remaining stems are predominantly beech and red maple and only occasionally oak or birch. Over most of these acres these residual stems are not numerous enough to form the base of a future viable stand. However, they are dense enough to inhibit prime early successional species development and should be removed. In areas where this residual is beech and/or red maple patches could be created using a brontosaurus, a tree shear, or chainsaws. Small stems would be



removed opening the entire understory to direct sunlight. Areas of regeneration with scattered saplings that still manage to have more than 40% higher valued stems could be retained

Most of the clearcut or **silvicultural clearcuts** (SilCC) were created during harvesting entries spanning the years of 2014-2016. These areas differ from high graded forests in that all trees were removed from the stand providing a blank slate for future stand development. Without interference from poorer quality stems the stand can immediately begin replacement with early successional species like paper birch, aspen and pin cherry or, in some cases, sprout regenerated red oak. There is little to do in these blocks unless there is little satisfactory regeneration. If that is the case an approach similar to that recommended for the high graded areas could be implemented using a brontosaurus mower. If the regeneration is of satisfactory species and quality, it should be monitored until the stand is approximately 15-25 years old when crop trees could be selected for hand or mechanical release. Crop tree release (CTR) involves selecting future crop trees, usually on a set spacing, that will provide an adequate future stocking level. Competing trees are then removed increasing space, nutrient availability, and sunlight for the crop tree's use.

**Pole-sized stands** (Pole) on the BRCF are located in all the Management Units except #3. These patches have either been partially harvested, usually to remove larger overstory sawtimber trees, or have been left untouched due to the small diameter of stems in the areas. If appropriate, forestry operations in these stands will include crop tree release, timber stand improvement thinnings, brontosaurus created patches to remove clumps of poor quality hardwoods, and hazard tree removals along forest roads and hiking trails.

**Wet area buffers** are required in Best Management Practices and by the conservation easement applicable to the BRCF. One-hundred feet in width they extend from the high water mark of the wet area. The first fifty feet from the wet area is a no-cut zone and the remaining fifty feet can be managed as long as a complete uneven-aged stand of trees remains. This requirement generally means that the 50 foot wide band can be managed using small groups or single tree selection silviculture. It is anticipated that during this planning period (approximately 10 years) most of the work in this buffer will be for the reestablishment of buffer integrity, efforts to improve water flow in areas close to road and trails, and at crossings where heavy harvesting vehicle use has damaged the crossing structure or has in some other way impeded the natural water flow.

The Blueberry area will be discussed in the following section.

**Other** uncut buffer areas were left, mainly for aesthetic purposes along the boundaries. Generally, these areas do not have limitations due to steepness or wetlands. They could



be managed if necessary (i.e. salvaging blowdowns), but will likely be left uncut in the future. The small field adjacent to the cabin and the landings are included in this category as well.

## **Property Management Units Descriptions and Generalized Prescriptions**

The area of the BRCF has been divided into 4 Management Units (MUs). The unit boundaries are based on an analysis of skidding distances and direction, landing site locations, activity priority and the supposed need to reduce user conflicts during operations. Because each MU has a property entrance, a developed landing, and a road network, each could support an operation simultaneously with only a very small amount of contact among units. This would apply whether the operations were commercial or non-commercial, mechanized or hand labor.

### **General Activities common to all Management units**

- Previously harvested areas will need more direct field inventory to determine specific sites for early successional habitat opportunities, regeneration improvement patches (bronto work) and timber stand improvement through thinning and/or crop tree release in the pole stands.
- Inspect all entrances to the property and determine the need for closure structures to limit ATV or other seasonal use.
- Inventory roads and trails to determine priority reconstruction or closure needs; designate the primary management access routes with segment specific improvements needed to provide for pickup truck access, plan for the relocation of key road segments from within, or away from wetland buffers and vernal pools, develop a separate Transportation plan to budget time and money for these tasks coordinating with the local user groups and clubs.
- Gravel pit locations will need closure plans.
- Vista clearing sites will need to be specifically located and determinations made on the most economical or advantageous means of accomplishment (volunteer vs paid, hand vs mechanical, etc.)
- Hazard trees along roads and trails, bumper trees and stumps, slash and rock berms should be removed as part of road improvements.
- To reduce the amount of Beech over the property, cutting and brontosaurus work should be done in May and June as it greatly reduces the vigor of Beech and limits its ability to re-sprout.

### **Management Unit #1**

#### **Description**

Management Unit #1, located in the northeastern portion of the property, includes Birch Ridge, the blueberry area, several hiking trails along with segments of the main snowmobile corridor, a snowmobile scenic loop, and opportunities for developing spectacular views of Merrymeeting Lake, the White Mountains and to the south. It is also the site of an old farmstead with cemetery, cellar hole, barn foundation and stonewall segments. Near the forest entrance on Birch Ridge Road is an area excluded

from the easement that contains a small camp structure called the Lodge. Use of this facility will be controlled and monitored by SELT. It seems logical that much of the activity in this MU will be related to public recreational use, so that may well be the priority use within this area.

There are two main soil types in MU#1, Gloucester and Hollis-Gloucester. There is also a smaller area of Leicester-Ridgebury located to the east of Birch Ridge along the property bound. The Hollis-Gloucester is a contiguous block encompassing Birch Ridge and its approaches from the west and south. The remainder of the MU is Gloucester. None of these soils are considered prime farmland, but most are capable of growing quality red oak and/or white pine where slopes are not too steep or the soil too shallow or rocky. Birch Ridge has two very steep areas; one along and below the east side of the ridge crest, and the other on the southwest flank of the ridge near Birch Hill Road. Both areas are sensitive talus/rocky habitat. No forestry related activities are planned within these areas.

**Stand Areas included in this MU**

<u>MU</u>	<u>HiGrade</u>	<u>Pole</u>	<u>SilCC</u>	<u>Wet</u>	<u>Blueberry</u>	<u>Steep</u>	<u>Other*</u>	<u>Total</u>
1	241	96	181	50	33	25	54	680

Stand Area Type: High-graded forest

Description of Activity:

Retain existing small pockets of aspen and pole sized white pine and enlarge them where possible. Regenerate roughly 25 acres in selected areas that are predominantly made up of beech and/or other poor quality hardwoods, for vista and early successional habitat creation. Relocate these sites every 5 to 10 years.

Closeout has been done on landing sites #L1, L3 and L5 for future use by smoothing, seeding, and mulching. Mow these same sites every 2 years beginning in 2022. Drainage of these areas has been improved to prevent erosion and protect the surface for future use.

Protection of the old cellar hole complex on the east side of Birch Ridge is important and it could be incorporated it into an interpretive area for hikers and snowmobilers to enjoy.

Stand Area Type: Pole sized forest

Description of Activity:

There are two areas of pole sized forest in Management Unit #1. One is on the southern flank of Birch Ridge and the other is located north of the blueberry area and the bordering snowmobile trail.

There are opportunities for timber stand improvement and trail side vista development in the northern pole stand across the snowmobile trail from the blueberry area. These openings could be created using a brontosaurus, tree shear or by hand crews with saws. They would be sited to provide a view, but would also be located in

areas of poor quality hardwoods, thereby providing a chance for improved regeneration and early successional species development. Treatment acreage would be roughly 15 acres per year for the foreseeable future.

In the pole area on the south flank of Birch Ridge there are timber stand improvement opportunities in areas of mixed species. Crop tree release using single tree or small group selection methods applied with hand crews or small impact brontosaurus/tree shear would be useful in this area as would be an occasional larger patch to breakup or remove solid areas of beech.

Hazard tree removal and some vista creation along the trails to and over the summit of Birch Ridge will enhance the recreational experience of day hikers and/or snowmobilers.

Stand Area Type: Clearcut forest

Description of Activity:

This area of past harvesting generally occupies a swath that runs parallel to South Shore Road. It is highly visible from the lake and from the opposite shore. The regeneration is a mix of desirable and undesirable species and has fully repopulated the site. In areas north and west of the main access road and landing brontosaurus work could be done in the next three to seven years to maintain early successional habitat and to remove undesirable regeneration. The work would be in 10-20 acre blocks that run up and down the slopes for view maintenance and accessibility of equipment. Areas of aspen, red oak and/or white pine could be considered for crop tree release towards the end of the planning period. Small scale removal of inhibiting stems will improve the overall quality of the future stand, but shouldn't upset the visual aesthetics of the stand as seen from the lake or beyond.

Stand Area Type: Blueberry area

Description of Activity:

This 33 acre 'patch' of blueberries was once productive enough to provide for local pick your own outings. The area has become overtopped with black and gray birch, red maple, pine, hemlock and oak. There are wildlife benefits, as well as human benefits, in bringing this area back to the open field conditions that previously existed.

To accomplish this re-opening without adversely impacting the blueberry bushes will require additional planning. Some suggestions have included allowing the public to remove firewood from the area, or to have a fuelwood timber sale, but these seem difficult to control or overly impactful. Small bronto operations could work, as would hand felling/a small tree shear with chipping the resulting brush in place. NRCS EQIP funds could be sought to assist with the cost of this treatment.

Once freed from the woody stems, the area could be maintained with prescribed fire supported by SELT staff, State, and Local fire agencies who might be convinced of the educational benefits of any planned prescribed burning operation. If the use of fire is not possible, continued control of encroaching woody stems should be attempted with hand tools or a small brontosaurus.

## **Management Unit #2**

### **Description**

This MU is located west and south of MU#1. It includes a series of drainages and vernal pools that cross the narrow 'waist' of the BRCF near its center. Two of the required ARM grant crossing structures are located in this area on the main truck road and snowmobile corridor. Soils in MU #2 are predominantly Gloucester with scattered smaller areas of Acton and Hollis-Gloucester near the wetter areas.

There are 5 landings located within MU #2. Two are along Birch Ridge Road (#L2 and #L4), the third is #L6, located along South Shore Road, and there are two along the snowmobile trail /main truck road, at #L7 and #L8. Landing #2 is located in an area that could be converted to trailhead parking for activities potentially planned for Birch Ridge, including a full access trail that would provide access to the cellar holes and flatter land lying along the southwest side of Birch Ridge Road. Landing areas #L4 and #L6 will be abandoned after seeding with no further activities planned for them.

The two remaining landing areas, #L7 and #L8, will be needed in the future and have been closed out with smoothing, seeding and mulching. Mowing after August 1st every 2 years is then recommended to maintain them with a grass cover. Between these last two landings are the locations of two ARM grant crossings as shown on the base map. The large wetland area that bisects the property in this area will be greatly improved by the installation of these two crossing structures.

MU#2 includes one of the two exclusion areas from the MMRG Conservation Easement. This area surrounds the cabin site and can be developed for purposes related to the management of the property and to the goals of the SELT.

### **Stand Areas included in this MU**

<u>MU</u>	<u>HiGrade</u>	<u>Pole</u>	<u>SilCC</u>	<u>Wet</u>	<u>Blueberry</u>	<u>Steep</u>	<u>Other*</u>	<u>Total</u>
2	154	127	66	49	0	0	19	415

Stand Area Type: High graded

Description of Activity:

The area of this cutting is scattered over multiple patches of the MU. In most cases this forest should be left through this planning period to begin its differentiation into stand type areas. As in MU #1, work could be done to remove the concentrations of poor quality beech and hardwoods, treated areas would be roughly 10 acres in size and would be sited to benefit wildlife using nearby hemlock areas as winter cover. Sites would be moved overtime to maintain early successional habitat in this MU, with treatments every 2-5 years.

There is a need, however, for some activity in and adjacent to the old field located just to the north and west of the snowmobile trail junction. Some bronto work is

recommended to remove encroaching softwoods growing on the stone walls adjacent to the field, and to mow the field periodically to maintain it in a grassy condition.

**Stand Area Type: Pole**

**Description of Activity:**

Three areas of pole sized trees are located in the MU. All appear to be a mix of clearcuts and old shelterwood harvest areas dating from the mid 1990's through the mid 2000's. Portions have a mixed poor quality overstory of oak and pine and a patchy understory of beech and other hardwoods, while other areas are mostly pole-sized trees with a better mix of desirable species. These three areas are located on either side of the wetland complex that bisects the property at its thinnest point. Recommendations in these stands is to remove most of the poor overstory by girdling the trees which will create standing snags, and bronto/shear the patches of beech in the understory. Areas of the understory that contain a better mix of oak, birch, maple, and pine can be treated by thinning and crop tree release of higher values stems. Full buffer widths should be maintained or re-implemented where needed along the wetlands and boundaries.

The largest of the pole stands is located along the property boundary southwest of landing site #2. It includes the stone lined structure (of unknown purpose) shown in several pictures in the appendix. This area had the oak overstory removed while owned by Dillon and the area came back to beech with scattered birches and white pine. As in other areas dominated by beech, a brontosaurus/tree shear treatment will reset the area giving birch, oak, maple and pine a better chance. Pockets of white pine, in the stand and along the edge of the adjacent high graded area, should be scarified during the fall of a good white pine seed year in the hopes of expanding the softwood component of the forest. This may need to be combined with brontosaurus work to reduce the hardwood component in the area. The thinning/crop tree release work would cover roughly 15 acres per year for the foreseeable future.

**Stand Area Type: Clearcut**

**Description of Activity:**

Similar to the area in MU #1 this old clearcut area runs in a wide swath parallel to South Shore Road. The stand area is fully stocked with regeneration that consists of beech, red oak and red maple, birch, moose maple, and small patches of softwood. During the field walkthrough much of the red oak regeneration is being heavily browsed by deer. Prescriptions are also similar; crop tree release work where appropriate, similar sized wildlife openings (+/- 10 ac annually) using a brontosaurus to maintain or enlarge existing patches of early successional species and maintaining the aesthetics of the slope as seen from the lake and opposite shore.

**Stand Area Type: Wetbuffer**

**Description of Activity:**

The best work to be accomplished in the wetland areas of MU #2 is the conversion of culverts to bridges on the truck road between landing #7 and landing #8. The

crossings are part of the ARM grant requirements. There are two sections of the truck road/snowmobile trail that begins near the cabin and terminates at landing #L8 that could be relocated to improve drainage, minimize erosion, and to provide a more effective buffer to adjacent vernal pools and drainages.

**Management Unit #3**

**Description**

MU#3 includes all the north and northwest portions of both Rattlesnake Mountain and Mt. Eleanor. Most of the non-commercial forestland on the property is located within this management unit due to the steep slopes associated with these two features. Both these mountain tops contain rocky-ridge natural community examples and should be designated as ecological reserves.

One of the key access points to the forest is located in this MU. There are three access points into the forest within this MU. Two are landings located along Merrymeeting Road ( #L10 and #L11) and the third is the town owned parking area for Merrymeeting Lake. Use of this lot for access into the forest is only for town of New Durham residents and is not promoted by the town of New Durham. Landing site #L11 was recently cleared for use by large log harvesting equipment and has been smoothed in preparation for closure. Its large size and location within one of the two Conservation Easement exclusion areas make it an ideal candidate for a developed public parking area. Any construction, signage, gates or barriers could be used without the worry of violating terms of the easement.

Due to the small size and the steep slopes of Landing #L10 it is not likely to be used for future large scale commercial harvests, so the recommendation is to abandon it to the forest.

This management unit was not impacted by the clearcutting in the mid 2010’s, but was part of the recent high grade harvesting which covered nearly 64% of the MU’s area.

Both Mt. Eleanor and Rattlesnake Mountain are underlain by Hollis-Gloucester steep, extremely rocky soils. The center of the MU along the drainage and main access trail is Acton and Leicester-Ridgebury soils. The surrounding areas are Gloucester.

**Stand Areas included in this MU**

<u>MU</u>	<u>HiGrade</u>	<u>Pole</u>	<u>SilCC</u>	<u>Wet</u>	<u>Blueberry</u>	<u>Steep</u>	<u>Other*</u>	<u>Total</u>
3	196	0	0	17	0	92	0	305

Stand Area Type: High graded & wetland buffer

Description of Activity:

Within this planning period the priority work in MU#3 should concentrate on repair and improvements to the system of skid trails and snowmobile trails that provide access

to Mt. Eleanor and Rattlesnake. Harvesting extended well up both mountains and the trails left behind need to be properly closed and restored. Water bars were not placed on some slopes and in other places they were poorly constructed and are ineffective. Seeding and mulching needs to be completed particularly on the steeper slopes and drainage improved along the ditches.

Reestablishment of effective buffers along the feeder stream to the Merrymeeting River is also a priority. This work will include replacing the poor quality waterbars on the skidder trails into the mountain slopes with effective ones, removing old poled fords at crossings along the stream and improving drainage from the snowmobile trail system. Trail closure devices can be installed on the main snowmobile trail near the town beach parking lot. There is an active gravel pit of about .25 acres at the top of the hill just southeast of the town lot. As soon as it is no longer used it should be closed, smoothed and the site reclaimed.

Forestry work within the high-graded could involve four or five patch cuts per year that focus on removing the poor quality beech left by the previous owner, giving early successional species a chance to get established. These patches would range in size from four to five acres and would be evenly distributed across the stand. As the trees are not able to be commercially harvested the patches could be treated with a brontosaurus or cut and left to rot in piles as wildlife habitat. Areas not treated with patch cuts can be left until the stand composition begins to delineate itself within 15 to 20 years. Once a more thorough inventory is completed, areas needing TSI or additional patches for habitat can be located. A more intense inventory of the ecological resources existing on the two mountains should be conducted as soon as possible. If designated as ecological reserves, there may be more stringent standards applied to trails and restoration activities.

Once the design of any public parking facility is done for Landing #L11 closure work on the remainder of the site can be completed. This will include smoothing and seeding with winter rye and conservation mix if needed, and then mowing every few years to maintain the site for future use in support of management activities.

## **Management Unit #4**

### **Description**

Management Unit #4 is located in the southwestern portion of the property. It includes, and is bisected by, the large wetland complex north of Coldrain Pond. This Management Unit also borders the NH Fish & Game property on the west.

The area was impacted by the timber harvesting 20 or more years ago and was completely covered by the high grading operation of the last several years.

The woods in this MU have a higher percentage of softwoods which provide better cover for wildlife than in most other portions of the property. Having softwoods in close proximity to the large wetland complex increases the value of this forest to local wildlife populations. Another beneficial habitat feature is the topographic isolation of the area. Steep slopes, open water and wide areas of wetland reduce human presence. While there are TSI and vista creation opportunities, they can be explored at a later time. The



apparent priority within this MU is a combination of wetland protection and wildlife habitat enhancement.

Most of the recent harvest activity occurred on areas of Gloucester soils, which underlie about half the area of the MU. Most of the wet areas are either Acton or Leicester-Ridgebury soils. The ridge overlooking Coldrain Pond is Hollis-Gloucester extremely rocky soils, while the far southern tip of the property is very poorly drained Freetown and Swansea mucky peat, and Whitman series soils.

### **Stand Areas included in this MU**

<u>MU</u>	<u>HiGrade</u>	<u>Pole</u>	<u>SilCC</u>	<u>Wet</u>	<u>Blueberry</u>	<u>Steep</u>	<u>Other*</u>	<u>Total</u>
4	364	72	0	168	0	27	0	631

Stand Area Type: High graded forest & wetland buffer areas

Description of Activity:

There is a need to restore the drainage and water buffering areas damaged or impacted by the recent harvesting operations. Skidder trails extend up to and around the steep ridge overlooking Coldrain Pond. While great views of the pond and land to the south can be developed there is higher priority work needed to control runoff and restore the surface of these trails.

One of the ARM required improvements is located along the truck access road that leads to Brackett Road. The location is noted on the Property base map.

All accessible areas of the MU have been high-graded in the most recent large scale timber harvesting operation. High-graded forest heavy to beech regeneration and saplings covers 58% of the MU. It is recommended that patches of this area, predominantly to the north and northwest of landing #L9, be fully regenerated using a brontosaurus, tree shear or drop and lop treatment. Patches in this area should be four to five acres in size and each year there should be six to eight patches performed in this stand. This will help lead to the development of early successional vegetation and speed the development of a new mixed-hardwood stand.

Stand Area Type: Pole

Description of Activity:

This is a low quality stand that is populated with white pine in varying combinations with red oak, black birch, beech and red maple. TSI work within this stand could provide some benefit to the quality of the stand, but doesn't appear to be a high priority because of access to the stand and the rehabilitation work needed on the forest trails. Although, that situation can be revisited in the next planning period. Further wildlife and ecological inventory in the wetland areas of MU#4 are recommended to determine if they should be designated as part of the ecological reserve system of the property.

Access to this area of pole-sized timber is difficult due to a series of wetland courses extending from the center of the MU to the northern shore of Coldrain Pond. Multiple

crossings were created during the last harvesting that cut through wetland buffers and now are in need of buffer restoration work. All harvest roads in the pole stand link to landing area #L9.

This landing area has been bladed off, but needs to be smoothed, seeded and mulched to bring it into a grassy state. Mowing every few years will maintain this state until the landing site is used again. Landing #L9 provides the closest access to a public road for any management activity planned in MU#4.

## **ESTIMATED TOTAL TIMBER VOLUMES AND VALUES**

No estimate is given for timber volumes and values in this plan.

### **Potential Cost share opportunities**

Existing access roads are in need of shaping, ditching, and the installation of cross drainage culverts. In some places the installation of properly sized stream culverts may also be needed to prevent road washouts.

Many of the main skid trails will need to be water barred and reconditioned with an excavator, NRCS EQIP funding could be sought (EQIP 655, Repair, Steep >35%) so that roads may be used again.

To complete these practices, seeding and mulching cost share will be needed on the roads, skidder trails, and landings, and for any temporary stream crossings or culverts installed or removed along forest trails and access roads. NRCS EQIP funding for Conservation Cover (EQIP 327, Introduced, Cool-Season), Mulching (EQIP 484, Straw/Hay), and Structure for Water Control (EQIP 587, Culvert <30" CMP) can be applied for.

To protect forest trails, NRCS cost share could be sought to install multiple gates on the property where access roads connect to landings to prevent vehicle access (NRCS EQIP 472, Access Control).

In the area adjacent to the cabin, NRCS EQIP cost share could be sought for brush management (EQIP 314, Heavy Mechanical) to re-establish the field. Areas could then be re-treated every two to three years using bush hogging (EQIP 647, Mowing).

Areas that designated to be maintained in an early successional habitat type could be treated by using a brontosaurus every 4-6 years. (EQIP 647, Excavator Mounted Mower-Difficult).

NRCS EQIP cost share can be sought to aid in invasive treatment (EQIP 315, Herbaceous Weed Control).

In pole sized stands of trees with existing crop trees, timber stand improvement could be performed using chainsaws (EQIP 666 Forest Stand Improvement-Pre-commercial thinning-hand tools). This would release crop trees, giving them the advantage over competitors.

In the high graded stands made up predominantly of poor quality beech saplings and

poles Early Successional Habitat creation with light mechanized treatment EQIP 647 is recommended to begin regenerating the stand using a tree shear, brontosaurus, or hand crews to clear cut the designated areas. Once clear cut, soil scarification (EQIP 490, Tree/Shrub Site Preparation) could be performed to expose mineral soils to prepare a seed bed for desirable regeneration.

In the blueberry area a heavy mechanical high intensity cut (EQIP 647, Early Successional Habitat Development/Management) is recommended to remove the poor quality trees that are overtopping and shading out the blueberries. Once this has been done and it is in a maintenance phase, it may qualify for a Prescribed Burning Plan funded through NRCS (EQIP 112).

## MANAGEMENT ACTIVITY TIME SCHEDULE

### 2020-2024

- Smooth, seed, and mulch remaining recently used landings (#'s 9 & 11\*) to stabilize soils and minimize erosion.
- Mow landing sites every 2 years beginning in 2022 to maintain in a grassy state.
- Install Gates at access points
- Reclaim the blueberry field in MU#1
- Clear around stone walls in the vicinity of the lodge field, brontosaurus mow view and bush hog field.
- Create a series of openings in the older silvicultural clearcut areas west of landing #5 in MU 1, in MU 2, and along the snowmobile trail on the western and northern slope of Birch Ridge both to provide scenic vistas and early successional habitat.
- Plan and complete the development of a full access trail system and parking facility in or near Landing #2 along Birch Ridge Road.
- \*Plan for a public parking facility using landing #L11, located in the CE exclusion area on Brackett Road/Merrymeeting Lake Road.
- Complete replacement of crossing structures per ARM grant requirements; MU #2 and #4.

- Regeneration survey through much of high-graded area to determine areas needing operations to improve stocking quality, and for delineation and possible expansion of early successional habitat patches; MU #1 thru MU #4.
- Begin transportation planning effort while completing high priority water management work on the snowmobile corridor and highly erodible skid trails.
- Organize improvements to and expansion of hiking trails around Birch Ridge.
- Implement as appropriate the Recreational Plan recommendations.
- Clear/mow vista sites on selected trails to maintain views and promote early successional habitats. Adjust bounds of existing vistas as appropriate.
- Implement as appropriate the Wildlife Habitat Plan recommendations including annual turtle and other wildlife inventories.
- Implement as appropriate the development of an ecological reserve system based on recommendations from the Moosewood Ecological LLC report.
- Periodically review the agreements governing the snowmobile trail club responsibilities and use.
- Annually monitor the property in accordance to Land Trust standards and terms of the Conservation Easement and ARM grant requirements if any.

#### **2024-2029**

- Continue creation of vista areas on Birch Ridge.
- Continue mowing of landing areas and the field.
- Continue implementation of specific silvicultural recommendations
- Continue implementation of Recreational and Wildlife Habitat recommendations
- Develop priorities to be used in the development of the next ten year plan.

\*\* The above are suggested recommendations. The property will be monitored and then reassessed in 10 years to update prescriptions and evaluate future management options. Management planning must be completed within 10 years or less of the planned activity date. Timber resources will need to be reassessed in a more comprehensive manner, so that more site specific management recommendations can be developed as the stand types become delineated over time

# APPENDIX

## LOGGING EQUIPMENT AND HARVEST METHODS



# Logging Equipment and Harvesting Methods



## CABLE SKIDDER

Used for both *cable logging* AND *whole tree chipping*. Key differences:

**Cable Logging:** Trees are cut by hand with a chainsaw and carried to landing by skidder.

**Whole Tree:** Trees are cut and put into hitches by a fellerbuncher and carried to landing by skidder. Less commonly used than a grapple skidder in whole tree chipping.

## FELLERBUNCHER

Used for *whole tree chipping*

**Whole Tree:** High-speed head cuts trees. Two sets of arms on the cutting head can accumulate and hold trees to organize into hitches for the skidder to pull to the landing.



## GRAPPLE SKIDDER

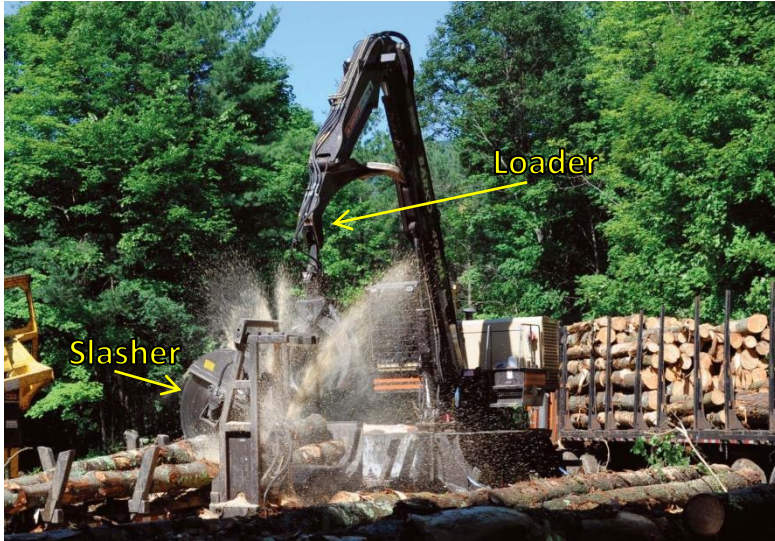
Used for *whole tree chipping*

**Whole Tree:** Grapple skidder grabs hitches to be brought from the woods where the fellerbuncher laid them down to the landing where the loader/slasher sorts the hitch into different products. This piece of equipment is also used for bringing brush back to the woods to fill in wet holes and sorting slashed wood in the landing.

Photos retrieved from:

1. [https://www.google.com/search?q=cable+skidder&source=Inms&tbn=isch&sa=X&ved=0ahUKEwiEpfvQ6ajRAhVByFQKHbubCUIQ\\_AUICSgC&biw=1536&bih=743#imgrc=0GG45...%3A](https://www.google.com/search?q=cable+skidder&source=Inms&tbn=isch&sa=X&ved=0ahUKEwiEpfvQ6ajRAhVByFQKHbubCUIQ_AUICSgC&biw=1536&bih=743#imgrc=0GG45...%3A)
2. [https://www.google.com/search?q=feller+buncher&source=Inms&tbn=isch&sa=X&ved=0ahUKEwjksuQ6qjRAhUE5YMKHZ6WASUQ\\_AUICSgC&biw=1536&bih=743#imgrc=ZfmSt\\_JD\\_cl8M%3A](https://www.google.com/search?q=feller+buncher&source=Inms&tbn=isch&sa=X&ved=0ahUKEwjksuQ6qjRAhUE5YMKHZ6WASUQ_AUICSgC&biw=1536&bih=743#imgrc=ZfmSt_JD_cl8M%3A)
3. [https://www.google.com/search?q=grapple+skidder&source=Inms&tbn=isch&sa=X&ved=0ahUKEwiDyKH846jRAhV14IMKHyz6DqzQ\\_AUICgB&biw=1536&bih=743#imgrc=fn913z761\\_3zpM%3A](https://www.google.com/search?q=grapple+skidder&source=Inms&tbn=isch&sa=X&ved=0ahUKEwiDyKH846jRAhV14IMKHyz6DqzQ_AUICgB&biw=1536&bih=743#imgrc=fn913z761_3zpM%3A)





## LOADER AND SLASHER

Used for *whole tree chipping*

**Whole Tree:** This machine works from the landing. Loader pulls hitches apart and sorts wood by product. The slasher is used to cut logs, pulp, and chips out of the hitches. Loader grapple is also used to feed wood through a chipper, which is then blown into a chip truck, and also used to load trailers.

## CUT-TO-LENGTH HARVESTER

Used for *Cut-to-Length (CTL)*

**CTL:** This machine cuts the trees, lays them down, cuts the log/pulp out of them, and strips the limbs into the skid trail. The logs and pulp are left in bundles along the edges of the trail for the forwarder to pick up. The brush is driven over by both the harvester and the forwarder, minimizing soil disturbance and compaction.



## FORWARDER

Used for *Cut-to-Length (CTL)*

**CTL:** Trees are cut and brush is removed by a harvester. Brush is laid out into skid trails. The forwarder loads and carries saw logs and pulp to the landing. The forwarder runs over brush placed in trails.

Photos retrieved from:

4. [https://www.google.com/search?q=forwarder&source=Inms&tbm=isch&sa=X&ved=0ahUKEwjYhMjG7KjRAhXpy1QKHcUuDDYQ\\_AUICgB&biw=1536&bih=743#tbn=isch&q=slasher+whole+tree+chipping&imggr=kVtx05KqfuwNzM%3A](https://www.google.com/search?q=forwarder&source=Inms&tbm=isch&sa=X&ved=0ahUKEwjYhMjG7KjRAhXpy1QKHcUuDDYQ_AUICgB&biw=1536&bih=743#tbn=isch&q=slasher+whole+tree+chipping&imggr=kVtx05KqfuwNzM%3A)
5. [https://www.google.com/search?q=cut+to+length+harvester&source=Inms&tbm=isch&sa=X&ved=0ahUKEwJc5sHv5ajRAhUL8IMKHc7ODNcQ\\_AUICgD&biw=1536&bih=743#imggr=eg2GVVz-HuG\\_RM%3A](https://www.google.com/search?q=cut+to+length+harvester&source=Inms&tbm=isch&sa=X&ved=0ahUKEwJc5sHv5ajRAhUL8IMKHc7ODNcQ_AUICgD&biw=1536&bih=743#imggr=eg2GVVz-HuG_RM%3A)
6. [https://www.google.com/search?q=forwarder&source=Inms&tbm=isch&sa=X&ved=0ahUKEwjYhMjG7KjRAhXpy1QKHcUuDDYQ\\_AUICgB&biw=1536&bih=743#imggr=tygWVYbr0L\\_OyM%3A](https://www.google.com/search?q=forwarder&source=Inms&tbm=isch&sa=X&ved=0ahUKEwjYhMjG7KjRAhXpy1QKHcUuDDYQ_AUICgB&biw=1536&bih=743#imggr=tygWVYbr0L_OyM%3A)



## **RARE, THREATENED, AND ENDANGERED SPECIES:**

- 1. NH Natural Heritage Bureau Report**
- 2. Moosewood Ecological Inventory**

Not included due to sensitive information

## SOIL TYPE & GROUP DESCRIPTIONS

## Forestland Productivity

This table can help forestland owners or managers plan the use of soils for wood crops. It shows the potential productivity of the soils for wood crops.

*Potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Trees to manage* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service, National Forestry Manual.

## Report—Forestland Productivity

Forestland Productivity--Strafford County, New Hampshire				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			<i>Cu ft/ac/yr</i>	
AdB—Acton very stony fine sandy loam, 0 to 8 percent slopes				
Acton	Eastern white pine	60	100.00	Eastern white pine, European larch, Red pine, White spruce
	Northern red oak	70	57.00	
	Paper birch	70	86.00	
	Red maple	60	43.00	
	Red pine	65	114.00	
	Sugar maple	55	29.00	
	White spruce	55	129.00	

Forestland Productivity--Strafford County, New Hampshire				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			<i>Cu ft/ac/yr</i>	
AdC—Acton very stony fine sandy loam, 8 to 15 percent slopes				
Acton	Eastern white pine	60	100.00	Eastern white pine, European larch, Red pine, White spruce
	Northern red oak	70	57.00	
	Paper birch	70	86.00	
	Red maple	60	43.00	
	Red pine	65	114.00	
	Sugar maple	55	29.00	
	White spruce	55	129.00	
Fa—Fresh water marsh				
Fresh water marsh	—	—	—	—
GIB—Gloucester fine sandy loam, 3 to 8 percent slopes				
Gloucester	Eastern white pine	61	100.00	Eastern white pine, European larch, Red pine
	Northern red oak	60	43.00	
	Red pine	49	57.00	
	Sugar maple	53	29.00	
GsB—Gloucester very stony fine sandy loam, 3 to 8 percent slopes				
Gloucester	Eastern white pine	61	100.00	Eastern white pine, European larch, Red pine
	Northern red oak	60	43.00	
	Red pine	49	57.00	
GsC—Gloucester very stony fine sandy loam, 8 to 15 percent slopes				
Gloucester	Eastern white pine	61	100.00	Eastern white pine, European larch, Red pine
	Northern red oak	60	43.00	
	Red pine	49	57.00	
GsD—Gloucester very stony fine sandy loam, 15 to 25 percent slopes				
Gloucester	Eastern white pine	61	100.00	Eastern white pine, European larch, Red pine
	Northern red oak	60	43.00	
	Red pine	49	57.00	

Forestland Productivity--Strafford County, New Hampshire				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			<i>Cu ft/ac/yr</i>	
GtD—Gloucester extremely stony fine sandy loam, 8 to 25 percent slopes				
Gloucester	Eastern white pine	61	100.00	Eastern white pine, European larch, Red pine
	Northern red oak	60	43.00	
	Red pine	49	57.00	
HbE—Hinckley loamy sand, 15 to 60 percent slopes				
Hinckley	Eastern white pine	61	100.00	Black oak, Eastern white pine, Pitch pine
	Northern red oak	49	29.00	
	Paper birch	60	54.00	
	Pitch pine	60	—	
	Red pine	54	92.00	
	Red spruce	39	86.00	
	Sugar maple	59	30.00	
	White spruce	52	114.00	
HID—Hollis-Gloucester extremely rocky fine sandy loams, 8 to 25 percent slopes				
Hollis	Eastern white pine	55	86.00	Eastern white pine
	Northern red oak	47	29.00	
	Sugar maple	56	29.00	
Gloucester	Eastern white pine	61	100.00	Eastern white pine, European larch, Red pine
	Northern red oak	60	43.00	
	Red pine	49	57.00	
HIE—Hollis-Gloucester extremely rocky fine sandy loams, 25 to 60 percent slopes				
Hollis	Eastern white pine	55	86.00	Eastern white pine
	Northern red oak	47	29.00	
	Sugar maple	56	29.00	
Gloucester	Eastern white pine	61	100.00	Eastern white pine, European larch, Red pine
	Northern red oak	60	43.00	
	Red pine	49	57.00	

Forestland Productivity--Strafford County, New Hampshire				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			<i>Cu ft/ac/yr</i>	
LrB—Leicester-Ridgebury fine sandy loams, 3 to 8 percent slopes, very stony				
Leicester, very stony	Eastern white pine	69	129.00	Eastern hemlock, Eastern white pine, Green ash, Red maple, Tuliptree, White spruce
	Northern red oak	56	43.00	
	Red maple	70	43.00	
	Yellow birch	—	—	
Ridgebury, very stony	Eastern white pine	63	114.00	American elm, Blackgum, Eastern white pine, Green ash, Pin oak, Red maple, Swamp white oak, White spruce, Yellow birch
	Northern red oak	58	43.00	
	Red maple	62	—	
	Red spruce	47	100.00	
	Sugar maple	52	29.00	
	White ash	60	—	
Mp—Freetown and Swansea mucky peats, 0 to 2 percent slopes				
Freetown	Balsam fir	39	72.00	—
	Black spruce	15	29.00	
	Tamarack	—	0.00	
Swansea	Balsam fir	—	0.00	—
	Black ash	—	0.00	
	Black spruce	25	29.00	
	Speckled alder	—	0.00	
	Tamarack	—	0.00	
	Yellow birch	—	0.00	
W—Water				
Water (less than 40 acres)	—	—	—	—
Wa—Whitman very stony fine sandy loam				
Whitman	Eastern white pine	56	100.00	—
	Red maple	55	29.00	
	Red spruce	44	86.00	

### Data Source Information

Soil Survey Area: Strafford County, New Hampshire  
 Survey Area Data: Version 18, Sep 5, 2018



United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Strafford County, New Hampshire

## Birch Ridge - New Durham





# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# **Soil Information for All Uses**

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## **Suitabilities and Limitations for Use**

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

## **Land Classifications**

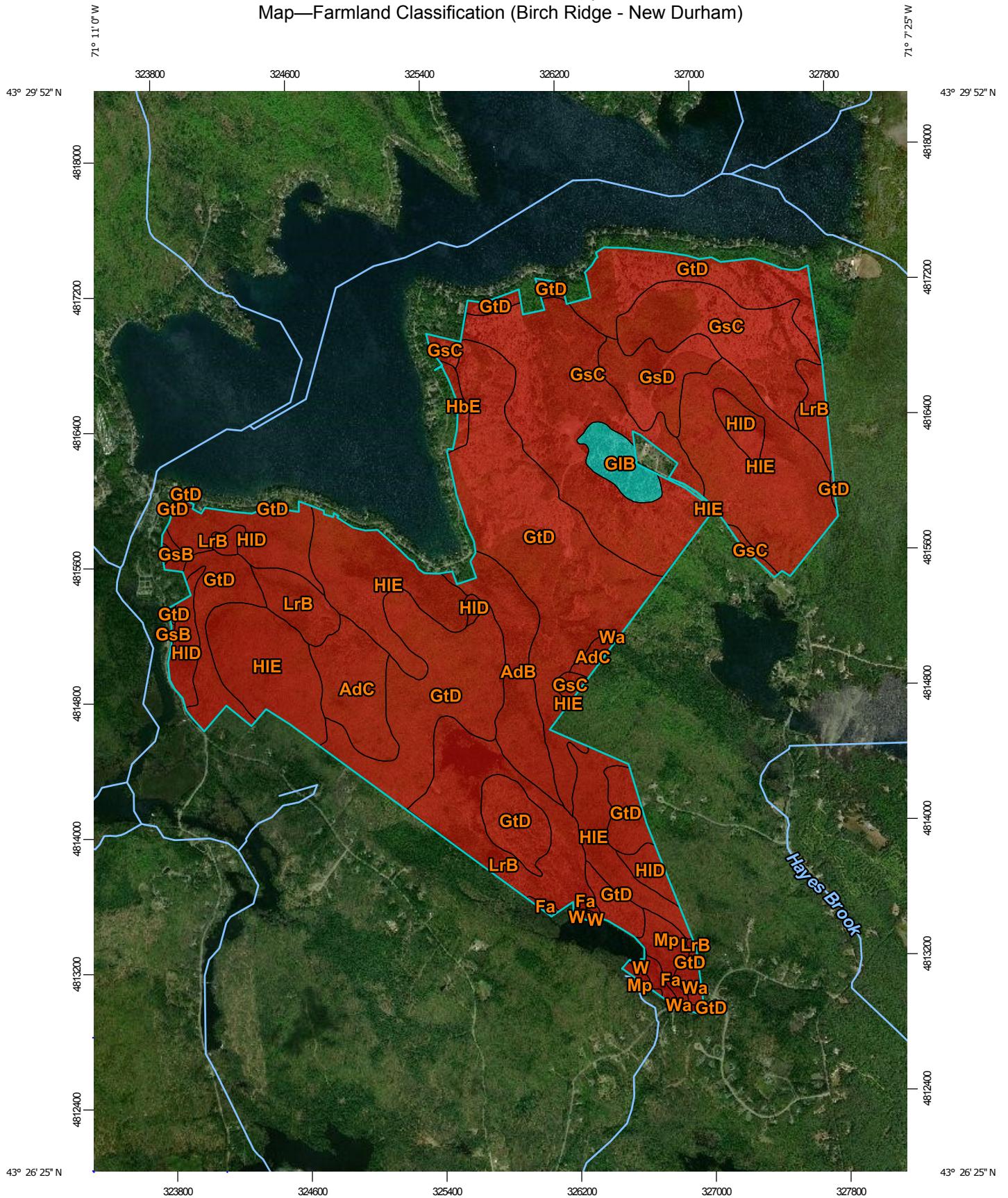
Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

## **Farmland Classification (Birch Ridge - New Durham)**

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

# Custom Soil Resource Report

## Map—Farmland Classification (Birch Ridge - New Durham)



Map Scale: 1:31,100 if printed on A portrait (8.5" x 11") sheet.










Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84







## MAP INFORMATION

-  Streams and Canals
- Transportation**
  -  Rails
  -  Interstate Highways
  -  US Routes
  -  Major Roads
  -  Local Roads
- Background**
  -  Aerial Photography

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: Strafford County, New Hampshire  
Survey Area Data: Version 18, Sep 5, 2018

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

Date(s) aerial images were photographed: Aug 28, 2015—May 15, 2017

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.

**Table—Farmland Classification (Birch Ridge - New Durham)**

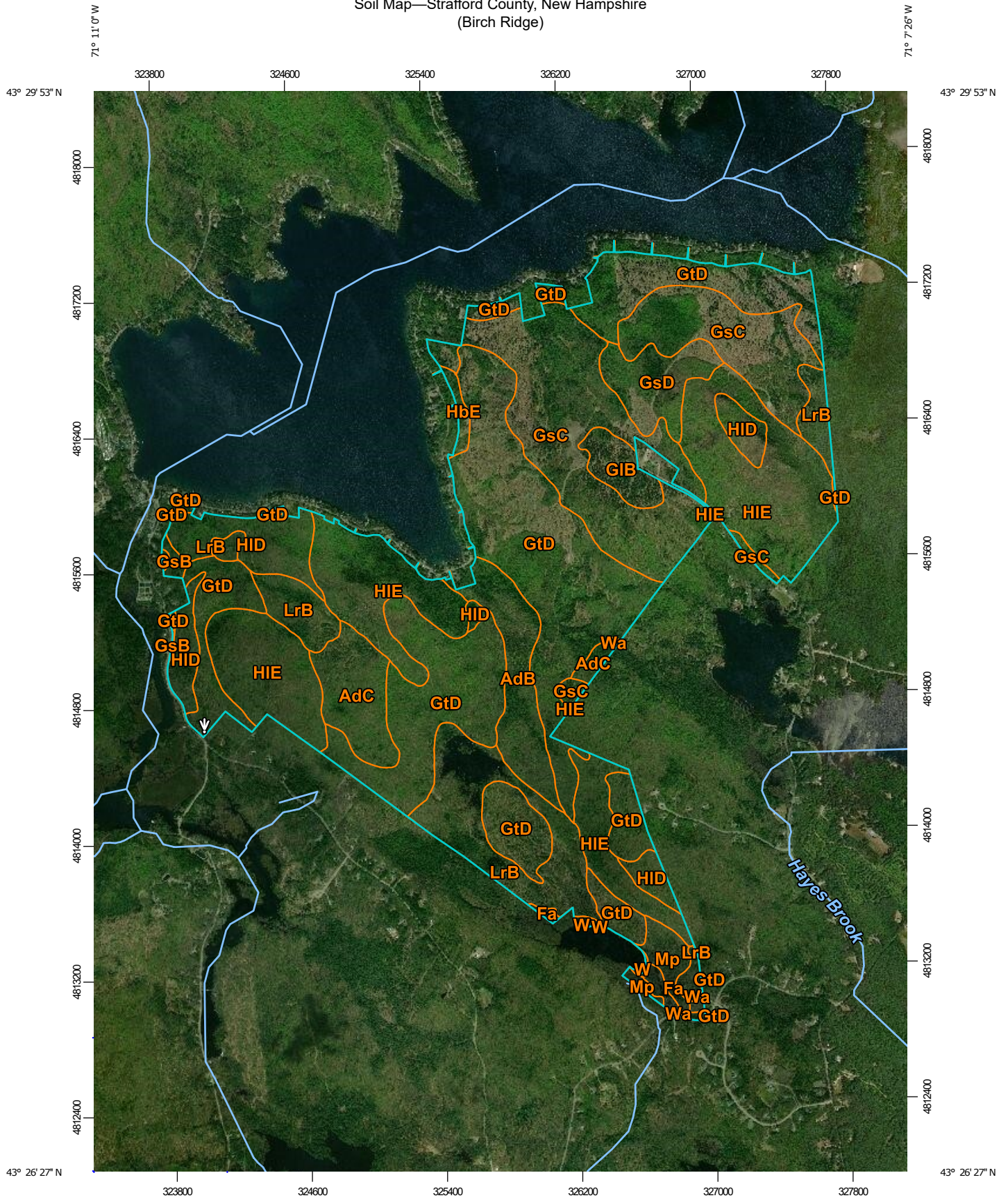
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdB	Acton very stony fine sandy loam, 0 to 8 percent slopes	Not prime farmland	79.0	3.9%
AdC	Acton very stony fine sandy loam, 8 to 15 percent slopes	Not prime farmland	73.5	3.6%
Fa	Fresh water marsh	Not prime farmland	9.8	0.5%
GIB	Gloucester fine sandy loam, 3 to 8 percent slopes	Farmland of statewide importance	30.5	1.5%
GsB	Gloucester very stony fine sandy loam, 3 to 8 percent slopes	Not prime farmland	5.7	0.3%
GsC	Gloucester very stony fine sandy loam, 8 to 15 percent slopes	Not prime farmland	363.5	18.0%
GsD	Gloucester very stony fine sandy loam, 15 to 25 percent slopes	Not prime farmland	57.9	2.9%
GtD	Gloucester extremely stony fine sandy loam, 8 to 25 percent slopes	Not prime farmland	666.9	33.0%
HbE	Hinckley loamy sand, 15 to 60 percent slopes	Not prime farmland	8.2	0.4%
HID	Hollis-Gloucester extremely rocky fine sandy loams, 8 to 25 percent slopes	Not prime farmland	115.6	5.7%
HIE	Hollis-Gloucester extremely rocky fine sandy loams, 25 to 60 percent slopes	Not prime farmland	401.5	19.9%
LrB	Leicester-Ridgebury fine sandy loams, 3 to 8 percent slopes, very stony	Not prime farmland	179.9	8.9%
Mp	Freetown and Swansea mucky peats, 0 to 2 percent slopes	Not prime farmland	22.9	1.1%
W	Water	Not prime farmland	1.0	0.1%
Wa	Whitman very stony fine sandy loam	Not prime farmland	2.7	0.1%
<b>Totals for Area of Interest</b>			<b>2,018.8</b>	<b>100.0%</b>

**Rating Options—Farmland Classification (Birch Ridge - New Durham)**

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower

Soil Map—Strafford County, New Hampshire  
(Birch Ridge)



Map Scale: 1:31,000 if printed on A portrait (8.5" x 11") sheet.









































Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84





## MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soils	 Stony Spot
 Soil Map Unit Polygons	 Very Stony Spot
 Soil Map Unit Lines	 Wet Spot
 Soil Map Unit Points	 Other
 Special Point Features	 Special Line Features
 Blowout	 Streams and Canals
 Borrow Pit	 Rails
 Clay Spot	 Interstate Highways
 Closed Depression	 US Routes
 Gravel Pit	 Major Roads
 Gravelly Spot	 Local Roads
 Landfill	 Aerial Photography
 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	

## 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)

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## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AdB	Acton very stony fine sandy loam, 0 to 8 percent slopes	79.3	3.9%
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Fa	Fresh water marsh	9.8	0.5%
GIB	Gloucester fine sandy loam, 3 to 8 percent slopes	30.7	1.5%
GsB	Gloucester very stony fine sandy loam, 3 to 8 percent slopes	5.6	0.3%
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Mp	Freetown and Swansea mucky peats, 0 to 2 percent slopes	23.5	1.2%
W	Water	1.1	0.1%
Wa	Whitman very stony fine sandy loam	2.6	0.1%
<b>Totals for Area of Interest</b>		<b>2,019.1</b>	<b>100.0%</b>

## GLOSSARY

## GLOSSARY

**ACCEPTABLE GROWING STOCK (AGS):** Trees with desirable qualities that would potentially be grown to their economic or biological maturity.

**ACCESS:** The place or ability to enter a woodlot from an existing public road.

**AGE CLASS:** The age of groups of trees used to describe the characteristics of that group, i.e. 10 or 20 year age class.

**BASAL AREA (BA):** The cross-sectional area of a tree at 4½ feet above the ground, usually measured in square feet. A measure of the density or stocking of a stand is often expressed as square feet of basal area per acre.

**BEST MANAGEMENT PRACTICES (BMPs):** The practice or practices used to control soil erosion or sedimentation on truck roads, skid trails and log landings.

**BLAZE:** An axe mark on a tree denoting a boundary line.

**BIODIVERSITY:** The variety and variability of living organisms.

**BIOMASS:** Commonly refers to the entire mass of living tree material above stump height.

**BOARD FEET (BF):** A measure of wood by volume. One board foot is the volume of wood equal to a piece 12 inches long by 12 inches wide by one inch thick. Many “log rules” are available for converting raw material to board foot units. Log rules are closely linked with the local forest industries and vary with geographical areas. The “International ¼ inch Log Rule” is commonly used in most areas of the Northeast. Board feet per acre (BF/A) is a measure of tree density in a forest stand.

**BOLTWOOD:** Wood which is used for turning stock and for the eventual manufacture of countless small items, such as buttons, golf tees, dowels and wooden toys. Boltwood mills buy the raw material in four-foot lengths (bolts) and/or log length form.

**BROWSE:** Leaves, buds and woody stems used by mammals such as deer and moose for food.

**CANOPY:** The more or less continuous cover of branches and foliage formed by the crowns of adjacent trees.

**CAPITAL GAINS:** Increase in value over time of an asset. For tax purposes, it is the sale price of an eligible asset less its cost.

**CORD:** The standard cord of wood is an imaginary rack, or stack of wood, measuring 4 feet by 4 feet by 8 feet and containing 128 cubic feet of wood, bark and voids. Tables are available for estimating the number of cords represented by standing trees. Cords per acre (CDS/A) is a measure of density in a forest stand.

**CROP TREE:** Crop trees are trees that are left unharvested due to desirable qualities or have the potential to produce a particular benefit, i.e. a red oak tree left to produce acorns for wildlife food or timber production.



**CROWN:** The part of the tree or woody plant bearing live branches.

**CROWN CLOSURE:** The percent of the canopy overlying the forest floor.

**DBH (Diameter at Breast Height):** The average diameter of a standing tree, measured outside the bark, at a point 4½ feet above the ground.

**DIAMETER CLASS:** Intervals of tree size used to describe stand characteristics; i.e. 8” or 10” diameter class.

**DEFECT:** Internal rot, knots, or other defects in a live tree. The extent of unseen defect can be estimated from the history of a stand and from evidence of external damage from ice, wind, fire, insects, logging operations, etc.

**DEPLETION ALLOWANCE:** A tax benefit derived from “depleting” timber harvested as defined by the Internal Revenue Service.

**FIREWOOD:** Similar to pulpwood in that it is wood, not fit for higher uses such as sawlogs and veneer but it is used for heat production rather paper production.

**FLAGGING:** The practice of hanging plastic ribbon as temporary markers in the woods for such things as boundary location and skid trail layout.

**FOREST TYPE LINE:** A boundary between two different stands of trees.

**GROWTH:** The amount of fiber added to a tree over a period of time. Usually expressed in cords per acre per year or board feet per acre per year.

**HARDWOOD:** Hardwood trees are generally of the broad leaved species, also known as “deciduous” trees. Economically important hardwood species include maples, birches, ashes, and oaks.

**INACCESSIBLE:** Describes land which cannot be logged at the present time because there is no economical way to harvest the timber.

**INVASIVE:** Non-native or exotic plants, animals and insects that are introduced into and can thrive in areas beyond their natural habitat. They are often adaptable, aggressive and capable of high reproduction, to the detriment of native species.

**INTOLERANCE:** A species inability to thrive in shade.

**LOGGING COSTS:** Include cost of cutting and yarding, trucking, internal road construction, and agent’s fees.

**MANAGEMENT PLAN:** A document which analyzes the forest on a woodlot and makes suggestions for future activities thereon.

**MATURE:** Describes a tree which is at its peak as far as biological or economic conditions are concerned.

**MBF:** Thousand board feet (see “board feet”).

**MEAN STAND DIAMETER (MSD):** The average diameter of a group of trees measured at diameter breast height (DBH).

**MERCHANTABLE HEIGHT:** The height of a tree where the merchantable portion of it ends. Usually at about 4"- 6" in diameter.

**MIXED WOOD:** Describes a stand condition where both softwood and hardwood are present in significant amounts.

**MULTIPLE USE:** Concurrent use of the forest resources for more than one goal such as timber production, wildlife habitat, watershed management, etc.

**NON-COMMERCIAL:** A stand which is not able to be operated economically either due to terrain or size and value of the timber present.

**OPEN AREA:** Unforested land, typically hayfield, built up areas, or overgrown fields.

**OPERABLE:** Before a stand of timber can be logged (operated) on a commercial basis, it must have some minimum volume of timber. Just as markets vary from one geographical area to another, so does the minimum volume required to operate a stand profitably.

**OVERMATURE:** A condition in which a tree or stand is past its peak of either economic value or biological growth.

**OVERSTORY:** The upper crown canopy of a forest, usually referring to the largest trees.

**POINT SAMPLING:** Statistical approach determining volumes in a forest. Commonly done with a prism at points randomly selected on a grid network spread out all over the property.

**PRISM:** In forestry, a prism is a calibrated wedge of glass which deflects light rays at a specific offset angle. In conducting a timber cruise, trees seen through the prism from fixed points are measured and are easily converted to "per acre" figures.

**PULPWOOD:** Wood or trees used to make pulp, from which paper products are manufactured. Trees of poor form and/or quality (rough and rotten), and of small size, are commonly tallied as pulpwood during at timber cruise.

**RELEASE:** Freeing the tops of young trees from competing vegetation.

**RESIDUAL TREES:** Trees left to grow in the stand following a silvicultural treatment.

**SAWLOG:** The portion of wood cut from a tree which will yield timbers, lumber, railroad ties and other products which can be sawn with conventional sawmill equipment.

**SCARIFICATION:** Exposing soil for regeneration by direct seeding or natural seed-fall.

**SELECTIVE HARVESTING:** The process of choosing some trees to cut over others based on such criteria as species, age, quality, location, health, etc., with the owner's long term goals for management in mind.

**SILVICULTURE:** The practice of growing trees.

**SITE INDEX:** A measure of the ability of an area to grow timber.

**SIZE CLASS:** Stands fit into size classes based on the size of trees which occupy them.

**Sawlog** - A live tree which measures over 10 inches in diameter 4½ feet from the ground.

**Pole** - A live tree which measures between 4 and 10 inches in diameter 4½ feet from the ground.

**Sapling** - A live tree taller than 4½ feet but less than 4 inches in diameter 4½ feet from the ground.

**Seedling** - A live tree less than 4½ feet tall.

**SOFTWOOD:** A class of tree species retaining their needles year round, also known as Conifers such as pine, hemlock, and spruce.

**SOIL SUITABILITY:** The general quality of the soil to provide a good medium for the growth of timber products.

**SOIL TYPE:** A general description of depth and water content of soil.

**STAND:** A group or area of trees or forest having similar characteristics and requiring similar management practices.

**STEMS:** A term used to describe individual trees such as in the phrase "stems per acre."

**STOCKING:** The density of a forest stand, often quantified as trees, basal area or volume per acre.

**Overstocked** - A stand condition where there are too many trees present to maximize growth and yield.

**Adequately Stocked** - A favorable stand condition where growth and yield are at or near optimum levels.

**Understocked** - A stand condition where growth and yield is lessened because all growing space is not adequately utilized.

**STUMPAGE VALUE:** The value of the standing tree. It consists of the mill price (M) paid for the logs, less the total logging costs (L) for cutting the timber and trucking the wood to the mill. Stumpage value is crucial to the forest owner; it represents his profit on timber sales to the mill, and may be determined by using the formula:  $S = M - L$ .

**TIE AND PALLET:** Logs that are too rough, short, small or crooked to be marketed as high quality sawlogs, but which can be sawn into railroad ties or pallet stock.

**TIMBER CRUISE:** A “cruise,” or timber appraisal, is an inspection of a forest tract, conducted in order to determine the species composition, volume and value of timber of the tract. Other considerations during a cruise include site characteristics, reproduction and growth capacities of the species on the tract, operability, and the availability of markets.

**TIMBER LIQUIDATION VALUE:** The timber liquidation value (TLV) of a forest is the value of all the standing trees in operable stands. The value depends upon many variables, including logging costs and delivered mill prices, and may change from month to month.

**TIMBER STAND IMPROVEMENT (TSI):** Treatments that improve the composition, condition and growth of a timber stand, often performed non-commercially (at an expense).

**TOLERANCE:** A species ability to thrive in shade.

**TREES PER ACRE (TPA):** The number of trees or stems per acre, a measure of stand density.

**TRUCKING:** Moving logs or other wood products from the landing area to the mill. One of the costs of logging.

**UNDERSTORY:** All vegetation growing under an overstory.

**UNACCEPTABLE GROWING STOCK (UGS):** Trees of poor quality or mature/overmature trees that would potentially be removed from a forest stand to provide more growing room for better quality and younger trees to grow.

**VENEER:** Veneer logs are turned on a lathe to produce thin sheets of wood to be used in the production of veneer, plywood and paneling. Veneer logs are usually the highest quality logs produced in a logging operation.

**VERNAL POOL:** A temporary body of water that forms in shallow depressions in the spring and does not have a permanent outlet. They are important for the propagation of amphibians such as frogs and salamanders.

**VOLUME:** A quantitative measure of the amount of wood in a tree, stand, or woodlot usually expressed in board feet, cords, tons, or cubic feet.

**WETLAND:** Area of property which has surface water or high water table and is not able to economically grow trees.

**WHOLE TREE CHIPS:** Wood fiber produced when the remains of a tree are ground up after logs and pulp have been removed, often referred to as biomass.

**YARDING:** The transport of logs or whole trees from the stump to yard, where wood is sorted. Yarding is usually done with rubber-tired “skidders,” with tractors or with horses.

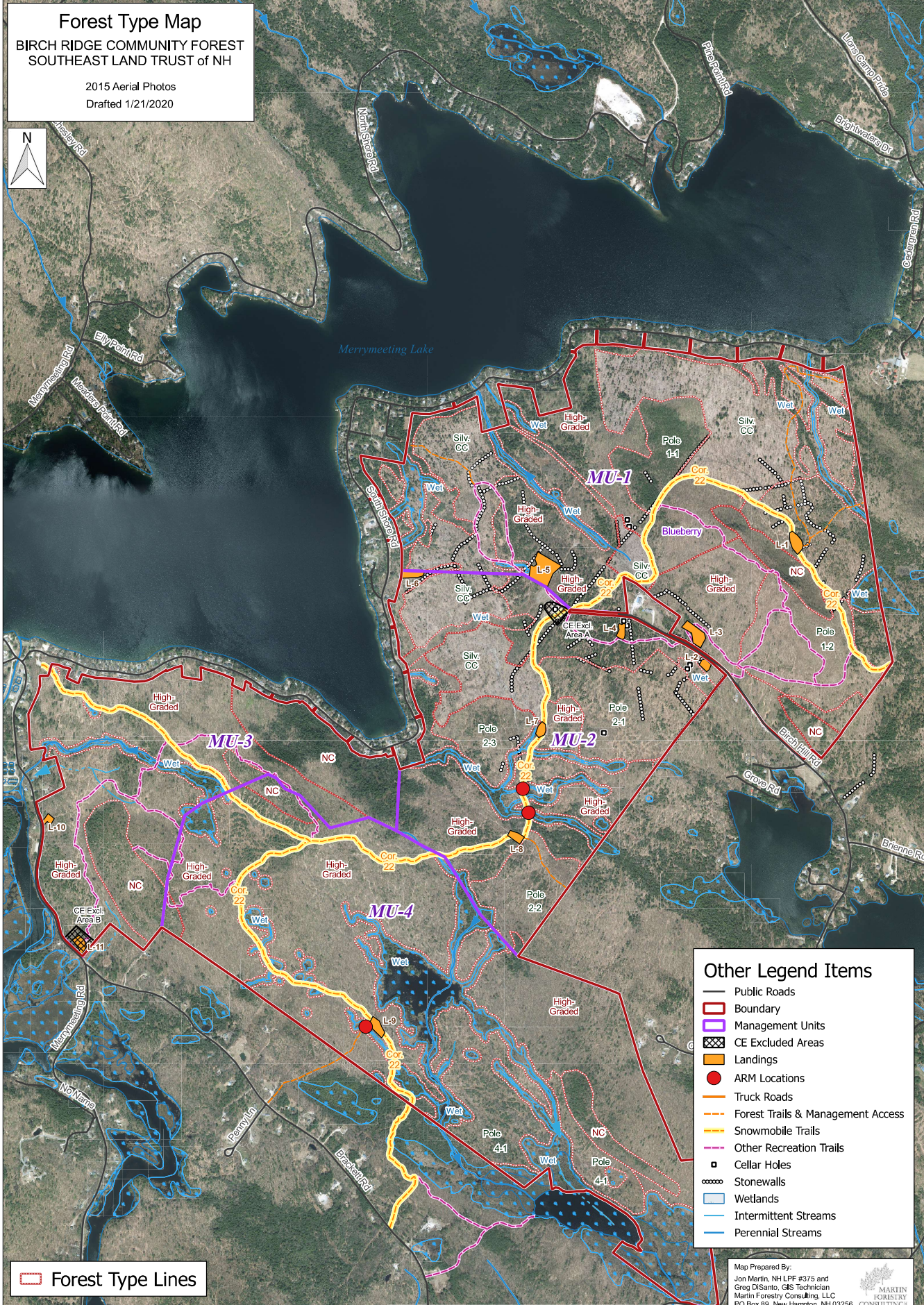
## MAPS



# Forest Type Map

BIRCH RIDGE COMMUNITY FOREST  
SOUTHEAST LAND TRUST of NH

2015 Aerial Photos  
Drafted 1/21/2020



## Forest Type Lines

Forest Type Acreages								
MU	High-graded	Pole-sized	Silv. CC	Wet buffer	Blue-berry	NC-Steep	Other Buffer	Total
1	241	96	181	50	33	25	54	680
2	154	127	66	49	0	0	19	415
3	196	0	0	17	0	92	0	305
4	364	72	0	168	0	27	0	631
<b>Total</b>	<b>955</b>	<b>295</b>	<b>247</b>	<b>284</b>	<b>33</b>	<b>144</b>	<b>73</b>	<b>2027</b>

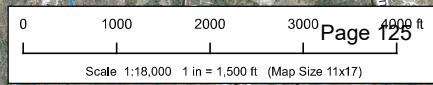
## Other Legend Items

- Public Roads
- Boundary
- Management Units
- CE Excluded Areas
- Landings
- ARM Locations
- Truck Roads
- Forest Trails & Management Access
- Snowmobile Trails
- Other Recreation Trails
- Cellar Holes
- Stonewalls
- Wetlands
- Intermittent Streams
- Perennial Streams

Map Prepared By:  
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Greg DiSanto, GIS Technician  
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(603) 744-0484



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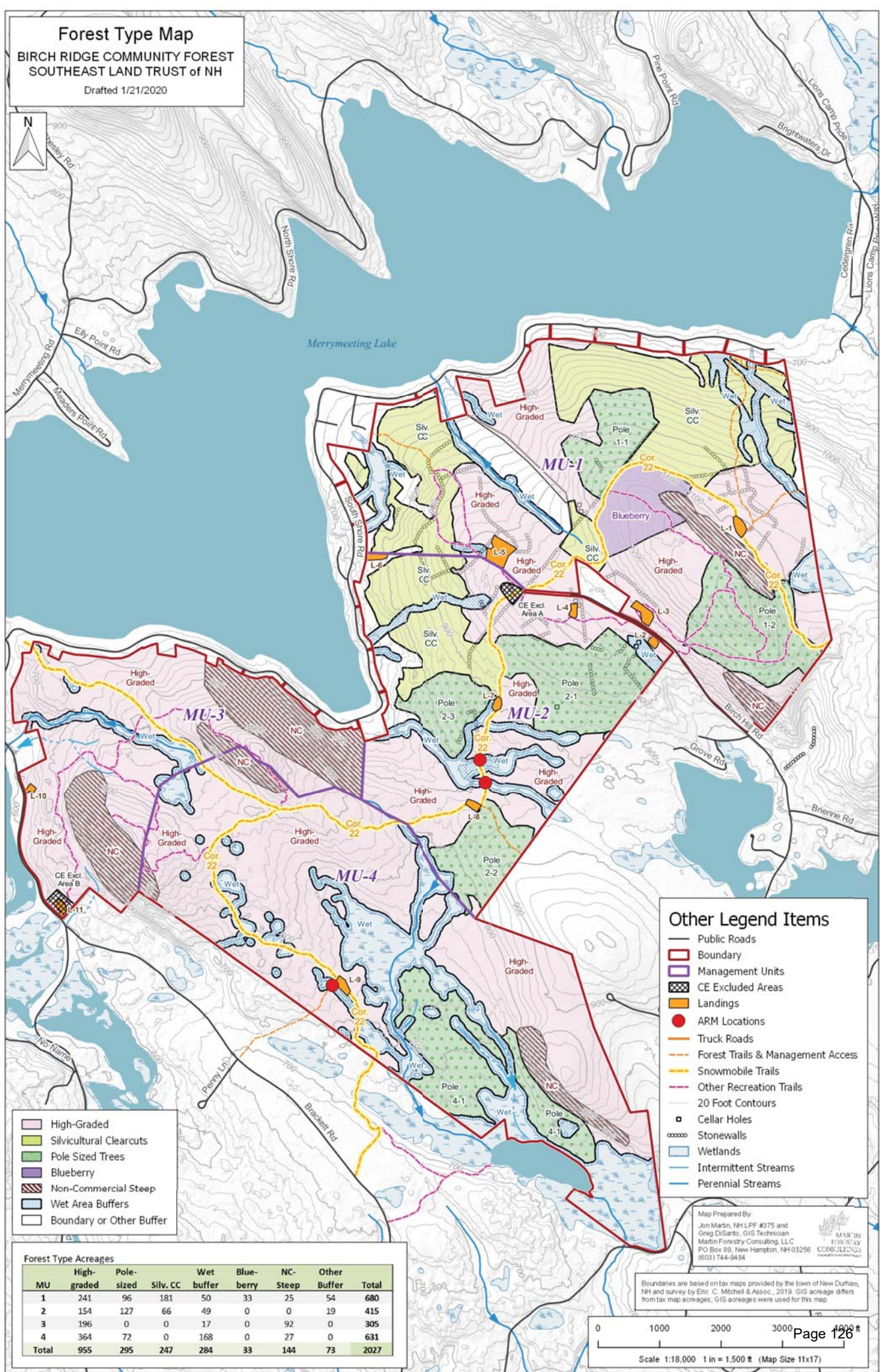




# Forest Type Map

BIRCH RIDGE COMMUNITY FOREST  
SOUTHEAST LAND TRUST of NH

Drafted 1/21/2020



[Pink Box]	High-Graded
[Light Green Box]	Silvicultural Clearcuts
[Green Box]	Pole Sized Trees
[Purple Box]	Blueberry
[Hatched Box]	Non-Commercial Steep
[Blue Box]	Wet Area Buffers
[White Box]	Boundary or Other Buffer

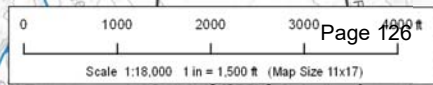
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- 20 Foot Contours
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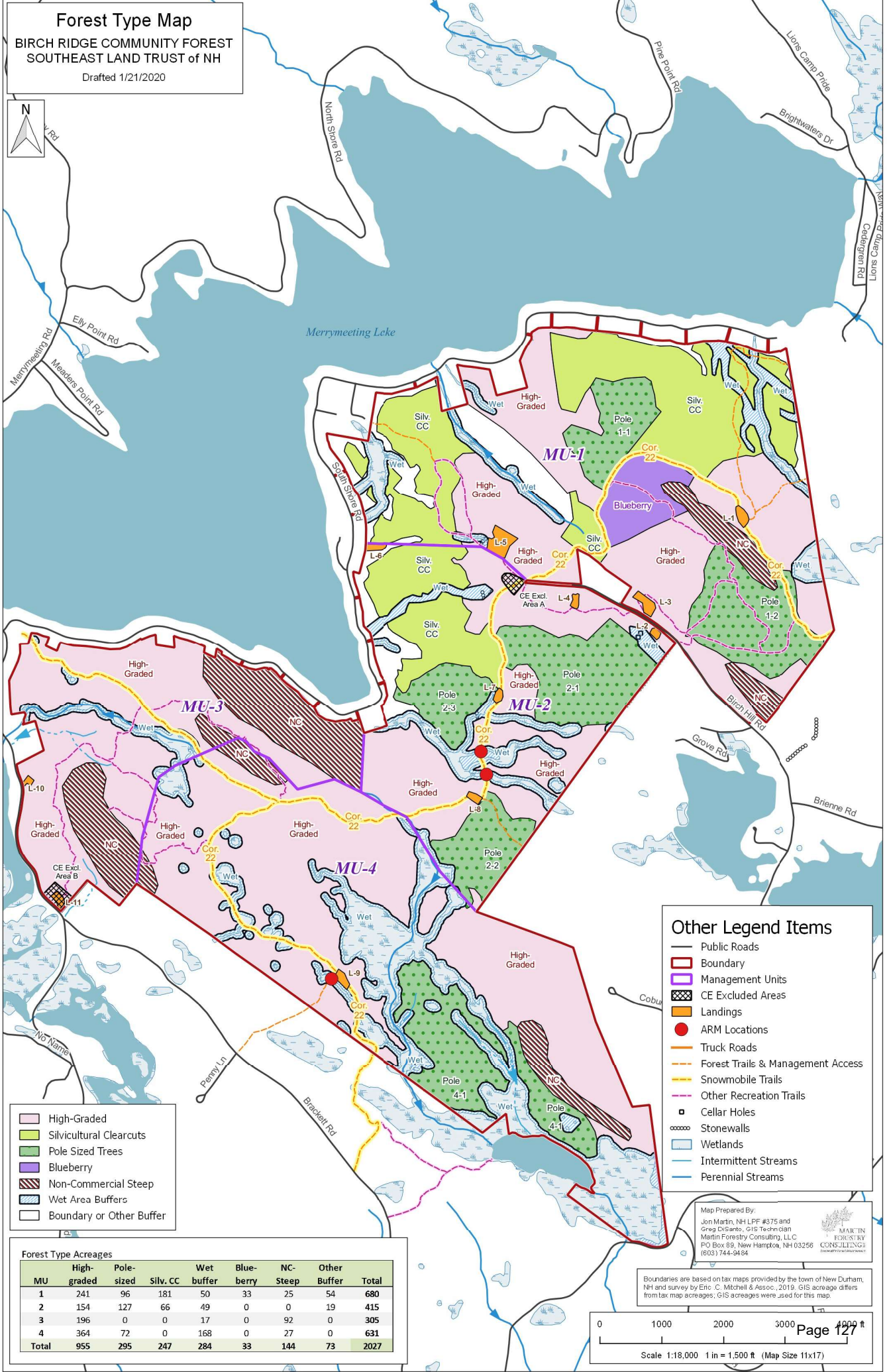




# Forest Type Map

BIRCH RIDGE COMMUNITY FOREST  
SOUTHEAST LAND TRUST of NH

Drafted 1/21/2020



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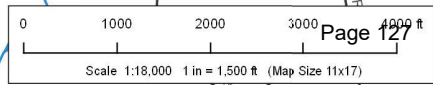
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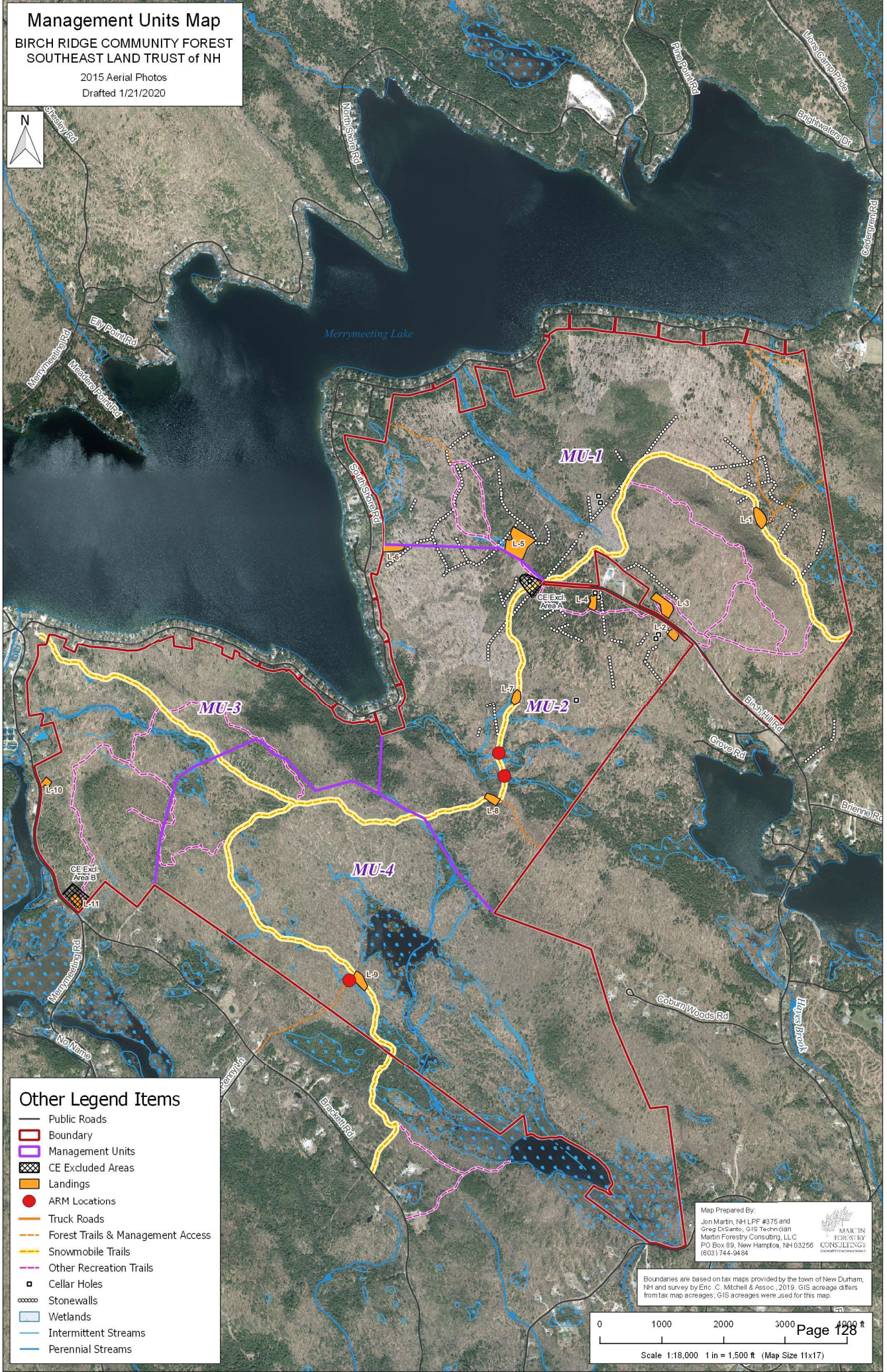
Map Prepared By:  
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**Management Units Map**  
 BIRCH RIDGE COMMUNITY FOREST  
 SOUTHEAST LAND TRUST of NH  
 2015 Aerial Photos  
 Drafted 1/21/2020



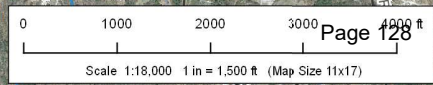
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- ▭ Management Units
- ▭ CE Excl. Areas
- ▭ Landings
- ARM Locations
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- Forest Trails & Management Access
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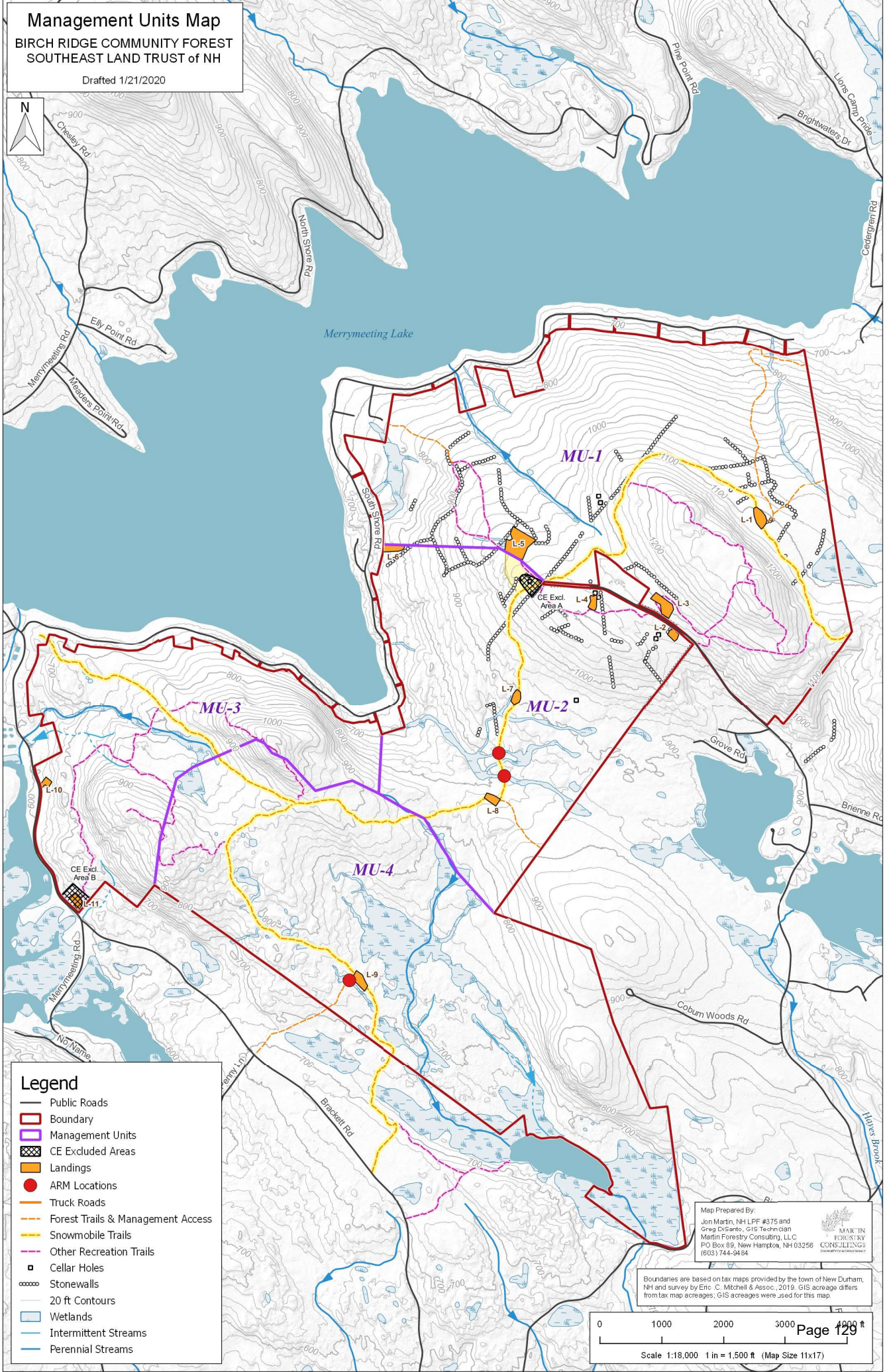


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**Management Units Map**  
**BIRCH RIDGE COMMUNITY FOREST**  
**SOUTHEAST LAND TRUST of NH**  
 Drafted 1/21/2020

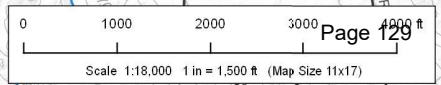


- Legend**
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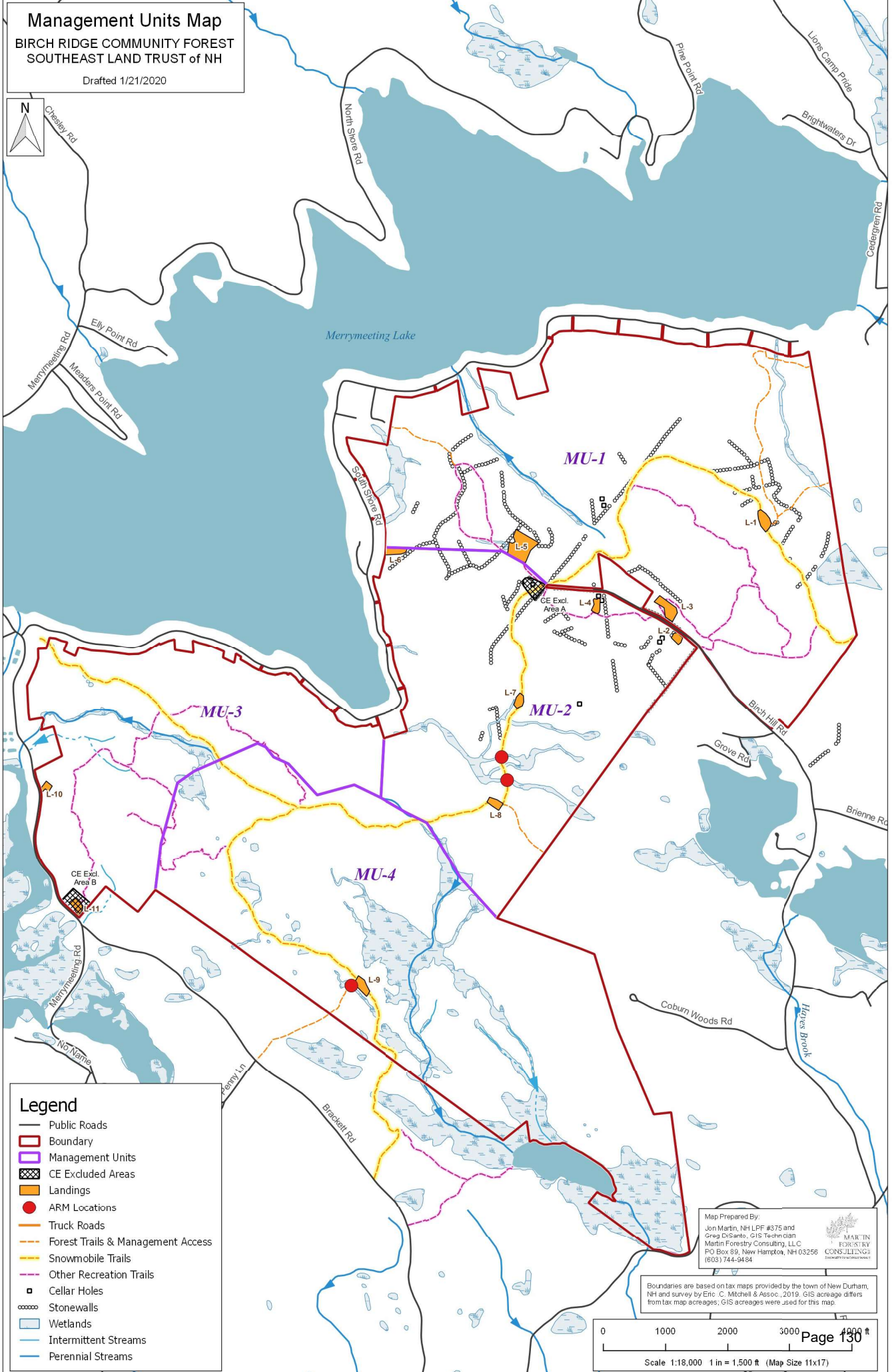


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 SOUTHEAST LAND TRUST of NH  
 Drafted 1/21/2020

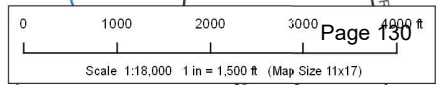


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# Surficial Geology Map

BIRCH RIDGE COMMUNITY FOREST  
SOUTHEAST LAND TRUST of NH

Drafted 4/3/2020



Merrymeeting Lake

- ### Surficial Geology Key
- Qt ..... Glacial Till
  - Qtt ..... Glacial Till, Shallow to Bedrock
  - Qw ..... Wetland
  - Qal ..... Alluvium
  - Qgls ..... Lacustrine Deposit at Marsh Pond
  - Qgu ..... Uncorrelated Deposits
  - af ..... Artificial Fill

Surficial geology digitized from NHGS map:  
Surficial geologic map of the Alton quadrangle, NH  
Goldsmith, Richard  
New Hampshire Department of Environmental Services  
Series and Number: Open-File Reports NH-95-1  
Publication Date: 1995 [revised 2006]

- Boundary
- Water
- Perennial Streams
- Ledge Outcrop
- 20 ft Contours

0 1000 2000 3000 4000 ft

Scale 1:20,000 1 in = 1,667 ft (Map Size 8.5x11)

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## Appendix G Wildlife Habitat Recommendations for BCRF

## APPENDIX G

### Wildlife Habitat Management Recommendations

for

**Birch Ridge Community Forest**

New Durham, NH

**Prepared for the Southeast Land Trust of New Hampshire**

Submitted 22 January 2020 by:

Charles Bridges, M.S., C.W.B.

New Durham, NH

and

Lee Alexander, Ph.D.

Durham, NH

#### Executive Summary

The recommended wildlife habitat management approach is to create and maintain a diversity of vegetative communities that will benefit most native wildlife species. This can be accomplished by facilitating the natural recovery of the post-harvest forest combined with active restoration in specific areas to create desirable habitat conditions. General recommendations include forest stewardship practices to enhance nut and fruit production, favor conifer regeneration, protect wetland sites, maintain early successional and young forest habitats, provide dead and down woody material, retain cavity trees, seed woods roads and log landings, and re-establish the old field near the cabin.

Whenever possible, habitat improvement practices will be conducted in conjunction with forestry activities to ensure operational efficiency and cost savings. However, some habitat management can only be accomplished through a direct expenditure of funds. This will be particularly true during the early years of ownership when commercial forestry opportunities are very limited. It is acknowledged in this plan that funding to accomplish habitat improvements must be secured through grants from appropriate federal, state and private funders.

This plan identifies a Wildlife Habitat Focus Area that includes the beaver pond, associated wetlands, and a large block of young forest. Wildlife habitat priorities are also identified for the initial years of the plan.

Wildlife habitat improvements will be compatible with the objectives of other natural resource management plans and studies, to the extent reasonably practicable. These plans include:

*Forest Stewardship Plan for BRCF* – by Jon Martin (Martin Forestry Consulting)

*Birch Ridge Community Forest Trail Assessment and Feasibility Study* – Lew Shelly (Snowhawk)

*Birch Ridge Community Forest Ecological Inventory* – by Jeff Littleton (Moosewood Ecological)

#### Introduction

The overall wildlife habitat goal for the Birch Ridge Community Forest (BRCF) is to promote a diversity in both composition and age structure of vegetative communities to create and sustain suitable habitats for a full range of naturally occurring wildlife populations, including rare, threatened and endangered species. New Hampshire

is home to over 500 species of mammals, birds, reptiles and amphibians -- collectively called wildlife. The distribution of these species varies across the State depending on habitat conditions that provide the food, cover, water, and space that each species requires to thrive and reproduce. Some species are considered "habitat generalists" that occupy a wide variety of habitats during the course of the year, while others are "habitat specialists" that require a specific habitat type or narrow range of habitat conditions.

In those regions of New Hampshire that are predominately forested, diverse and sustainable wildlife habitats can be created and maintained through the practice of silviculture that involves the application of appropriate forest management. As described in the in the "Forest Stewardship Plan" (prepared by Martin Forestry Consulting), BRCF is 2000+ acres of forest land that is located on the south side of Merrymeeting Lake in New Durham, NH. During the past 50 years, the property has experienced periodic timber harvesting activity. Before being acquired by the Southeast Land Trust of New Hampshire (SELT) in June 2019, the property underwent intensive timber harvesting over almost the entire property. As a result of recent and past management, the property contains a diversity of wildlife habitats, significant wetlands areas, and depleted but productive forest resources. As such, the recommended wildlife habitat management approach is to provide and maintain a diversity of vegetative communities while facilitating the natural recovery of the post-harvest forest. Active restoration in specific areas may be required to create desirable habitat conditions. The Forest Stewardship Plan for BRCF is an appropriate means to accomplish this outcome.

### **Species of Greatest Conservation Need, Threatened or Endangered**

New Hampshire Fish and Game's *Wildlife Action Plan*<sup>1</sup> identifies a list of species of greatest conservation need, that includes threatened and endangered species. The Littleton report cites 21 of these species that have been observed on the BRCF. There are likely more. Information on wildlife observed on the property will continue to be collected and reviewed. If warranted, recommendations will be provided regarding specific wildlife habitat management practices that may benefit the conservation of these species. No threatened or endangered species are known to occur on the BRCF, although some rare turtles have been documented by the NH Natural Heritage Bureau further down in watersheds that flow from the BRCF.

### **General Habitat Recommendations**

The property's long history of periodic forest cutting by previous owners created a diversity of within stand and between stand age structures. As a result, even with the recent heavy cutting that removed most of the mature trees throughout the property, there remains a diversity in vegetative composition and age-structure. While red maple and beech trees currently dominate the forest, oak, pine and birch seedling, sapling and pole-size trees are abundant. With appropriate monitoring and intermediate silvicultural treatments when and where needed, an achievable long-term goal is the development of high-quality hardwood and conifer stands that will provide both economic and wildlife habitat values. In addition to this broad scale recovery and restoration of the BRCF, habitat can be enhanced, and wildlife diversity sustained by focusing management efforts on some specific vegetative community types and within stand features. These are discussed below.

#### Acorn/Nut Production

Acorns from mature red and white oak trees, as well as nuts from American beech, provide important fall foods for many species of wildlife. In good seed years, the availability of these nuts as food on the ground often carries into the winter and at times even the spring season. Mature nut-producing oaks were abundant on the BRCF prior to the recent logging. While oak stems are still found in abundance in some sections of the forest, they are principally seedling, sapling and pole-size trees that do not produce acorns. Stands with significant

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<sup>1</sup>New Hampshire Wildlife Action Plan – Species of Greatest Conservation Need [wildnh.org & takingactionforwildlife.org]



numbers of young oaks should be identified along with actions necessary to promote their growth and development. Intermediate silvicultural treatments may be needed to remove less desirable over-topping trees and release younger red and white oak. For acorn production, oak management should favor long-rotation ages and large-diameter trees with broad canopies. With an estimated 924 acres high-graded and another 308 acres in pole-sized trees, there are numerous opportunities to promote the development of oak stands. Stands should be prioritized, intermediate treatments identified, cost-estimates determined, and funding sought through grants and dedicated stewardship funds.

American beech, abundant in all sizes and ages on the BRCF, is another important nut producing tree for wildlife. However, beech does not produce good beechnut crops as consistently as oaks produce acorns. But when it occurs, these nuts will readily be consumed by black bear, wild turkey, ruffed grouse, and many other species. The generally low economic value of beech means that many large trees were not cut during the recent harvest, and beech is now the primary nut producer on the BRCF. Stands and pockets of mature beech with good crowns should be identified across the forest. In particular, large beech trees showing evidence of past climbing by black bears should be mapped as key mast trees/stands. Evidence of climbing includes claw marks on the smooth-barked beech trees, as well as broken branches in the crown pulled toward the main stem of the tree (often referred to as bear nests). Key mast stands should be managed to retain large nut producing trees.

#### Conifer Regeneration

Aerial photos from before the recent tree harvesting show a forest dominated by hardwood stands and mixed stands of hardwood and conifers. A much smaller portion of the BRCF were principally conifer stands of white pine or eastern hemlock. On upland sites, almost all mature conifers have been harvested. However, stands of uncut conifers still occur in streambed/riparian areas and on steep slopes. In the coming years, promoting conifer regeneration on suitable soils will diversify tree composition and stand diversity across the forest, and promote habitat for a wider range of wildlife. Again, intermediate treatments may be necessary to enhance growth, quality and both economic and habitat value in these stands.

#### Wetlands

The BRCF is estimated to have 125 acres of wetlands, including approximately 31 vernal pools, a 15+/- acre beaver pond, 2,300 feet of frontage on Coldrain Pond, and over 1,028 linear feet of perennial streams. These types of wetland areas provide significant habitat in their own right, and increase the overall vegetative and wildlife diversity across the BRCF.

The conservation easement over the BRCF held by Moose Mountain Regional Greenway (MMRG) includes riparian buffer zones designed to protect wetland and stream water quality and wildlife habitats from the potential impacts of forestry, recreation and other activities. Adding the buffer zones to mapped wetlands yields an area of ~300 acres that is subject to restrictions. The easement restrictions require a minimum buffer of 100 feet from each side of a water body that shall be expanded as necessary to encompass all vegetative communities with slopes greater than 35% or soils classified as highly erodible that are adjacent to the water body (conservation easement section 2.A.iii.b.). The first 50 feet of the riparian buffer is a no disturbance zone, while harvesting in the remainder of the buffer shall be limited to single tree or small group selection cuts. There is a wavier provision for approving wildlife habitat improvements or to achieve specific natural resource or ecological goals. Additional restrictions apply to construction of new roads, trails or log landings in the riparian buffer, while allowing for their maintenance where they currently occur or their relocation to reduce negative environmental impacts.

The conservation easement restrictions should be considered a minimum for protecting water quality and wildlife habitat in and around the wetland areas. Individual wetlands on the BRCF should be evaluated to determine if more restrictive guidelines are needed (see Mark West reports). Additional considerations are

outlined in *Good Forestry in the Granite State*, and this document should be referred to prior to tree cutting near wetlands.

Overall, the recent logging operation did a fairly good job of protecting wetlands by buffering them with uncut zones. However, there are locations where skid trails along old wood roads are quite close to vernal pools. In addition, several "poled-ford" stream crossings are in need of restoration. These locations need to be assessed and appropriate actions determined to protect both wildlife habitat values and water quality.

#### Early Successional/Young Forest Habitat

An estimated 80% of wildlife species residing in central New Hampshire use young forest, early successional habitats at some stage during their life cycles. Many of these species have experienced population declines in recent decades as New Hampshire's forests have matured. These declining populations include some rather well-known species, such as ruffed grouse, whip-poor-will and snowshoe hare as well as some lesser known wildlife, such as chestnut-sided warblers, American woodcock and eastern towhee. Some have declined to the point of being identified as State and/or Federal "species of conservation concern".

A potential benefit of the recent heavy tree *cutting* at the BRCF is that young forest habitat is now abundant. As such, wildlife species that are associated with these habitats are likely to increase on the BRCF. However, early successional habitat changes rapidly as forest vegetation reclaims harvested areas. After 15-20 years -- as seedling and sapling size trees grow into dense stands of pole-size trees -- wildlife of early successional habitats decline significantly. The challenge for habitat managers in sustaining these wildlife species is to implement management practices that continually maintain portions of the property in a young forest condition. This can be achieved through periodic forest management that regenerates blocks that are large enough, (at least 3 - 5 acres) to create early successional communities. When done adjacent to other blocks that are cut at 15+/- year intervals, a shifting mosaic of different age forest stands can be created that continuously provides the habitat structure required by wildlife of early successional forests. The best trees to promote through this management regime are species of aspen and birch. These trees grow relatively quickly and provide the food and cover resources preferred by young forest wildlife.

The BRCF currently presents both opportunities and constraints to implementing early successional forest management. The opportunities result from recent intensive tree harvesting, as well as past cutting, that has created an abundance of young forest stands. Forest survey data estimates that within the 2,027 acre forest are 257+/- acres of clear-cuts and 308+/- acres of pole-size stands. The clear-cuts are principally in two large blocks in the northeastern section of the property. Pole-size trees are primarily in five large stands along the property's long southeast boundary. Recent clearcuts represent current early successional habitats, while pole stands represent habitats in transition whose management could be modified to create adjacent stands of varying ages in a shifting mosaic as described above.

However, the constraints to large-scale early successional forest management at the BRCF are also significant. Due to the absence of marketable timber that can be harvested commercially, operations to establish blocks of early successional habitat become a cost. The recent heavy harvesting at the BRCF has left a forest unlikely to generate revenue from tree cutting for many decades. As such, conducting early successional habitat management will be dependent on receiving grants to accomplish the work. In addition, most of the tree regeneration in sapling and pole size stands is dominated by beech and red maple, species that do not provide optimal food or cover habitat conditions for early successional wildlife.

Fortunately, due to regional declines in early successional wildlife populations, several grant programs have been developed to assist landowners in creating and sustaining habitats for young forest wildlife. Early successional habitat management at the BRCF will be contingent upon securing grants to provide operational

funding. Potential grants are available from federal, state and private sources including the Natural Resources Conservation Service, the NH Fish and Game Department, and the Wildlife Management Institute.

The Wildlife Habitat Focus Area at the southern end of the BRCF includes a 65+/- acre young forest stand that will be targeted for sustainable early successional habitat management. Other clear-cuts and pole-stands at the BRCF are being evaluated to determine additional locations for sustainable early successional habitat management. As part of this evaluation, pockets of aspen and birch will be identified, and their condition assessed. Areas with moist, rich soils are also preferred locations for early successional habitat management. Once this assessment is completed, short and long-term management objectives for early successional habitats will be proposed.

#### Dead & Down Woody Material

The recent logging activity has created an abundance of dead and down woody material. This ranges from large diameter bolts discarded at the log landings to small limbs scattered throughout the property where trees were felled. Dead and down material adds cover and food resources that are particularly important to small mammals, reptiles, amphibians and some birds, as well as many types of invertebrates, fungi and lower plants. Eventually, decay processes break down this material and release its stored nutrients, enhancing soil productivity.

Where logging slash is particularly abundant or concentrated the movements of larger mammals may be impeded. However, a potential benefit for tree regeneration may result if thick slash restricts deer and moose access to stump sprouts and seedlings.

There are numerous piles of logging debris along the edges of many of the skid trails, log landings, and at pulled pole-ford stream crossings. Where these piles are extensive, attempts should be made to push and scatter logging slash back into the woods. Some of the stream crossings along main skid trails where pole-fords were removed has resulted in large piles of slash adjacent to the stream. These areas should be restored to facilitate wildlife, and human, movement to and across the streams.

#### Cavity trees

More than 30 species of birds and 20 species of mammals in the northeast raise their young or seek shelter in cavities in trees. Many of these species occur on the BRCF. Some of the cavities are excavated by the animals themselves, mostly in broken topped trees, while others form through natural processes of decay after an injury to the tree's protective bark layer. Standing dead or broken top trees should be retained across the BRCF, unless they present a possible hazard to the users of roads and trails on the forest. Tree species that are particularly important for both excavated and natural cavity formation are aspen, birch, maple and beech.

#### Woods Roads

Woods roads and main skid trails should be seeded with a conservation mix appropriate to the site that contains grasses, clover and other forbs. Areas exhibiting or prone to erosion are priorities for treatment. In addition to soil stabilization, herbaceous growth along roads and trails provides both food and cover resources for wild turkey, white-tailed deer, ruffed grouse and other wildlife that travel along these corridors.

#### Log Landings

Permanent non-forest areas (e.g., openings and clearings) contribute to both horizontal and vertical vegetative diversity within large contiguous forest blocks. When maintained in grasses, forbs and shrubs, these areas provide a variety of food and cover resources for many woodland species that live in the larger surrounding forest. In addition, when these openings are large enough, they also attract wildlife -- especially songbirds -- to the area that are not found in the adjoining forest.

Most of the log landings on the BRCF are suitable for management as permanent non-forest openings. Not only will this provide immediate and long-term benefits to wildlife, but the areas will also continue to be available for future use as landings when forest conditions warrant timber harvesting. Most of the landings on the BRCF were left in reasonable condition after logging. They are relatively level and cleared of large woody debris. However, in order for these sites to be maintained as openings, they should be raked and smoothed to loosen compacted soil and facilitate regular mowing. Generally, landings will naturally re-vegetate with grasses, brambles and forbs. Landings can be seeded with a conservation mix where natural re-vegetation seems slow to take hold or where soil stabilization is a concern. Any seeding mix should contain a high percentage of white and red clovers (10% - 15%), inoculated to improve nitrogen fixation. Other legumes can also be included in areas where the sustainability of clover is uncertain. Liming, and perhaps fertilizing, may be needed with rates determined by soil tests. Mulch as needed to prevent soil erosion and retain moisture. After vegetation has been established in log landings, the openings can be maintained by mowing or periodic controlled burning.

Some wildlife species need openings with little to no vegetation (e.g., bare soil) to satisfy some of their life requirements. Examples include singing grounds for American woodcock and nesting areas for turtles. Existing landings should be evaluated for these activities prior to finalizing seeding plans. The largest landings should also be evaluated for their suitability for establishing fruit bearing trees and shrubs around the edges. Tree plantings may include apples, hawthorns, dogwoods and mountain ash.

#### Old Field Habitat

The area around and down-slope from the cabin is an old field that is now rapidly reverting to forest (see cabin area old field below). The rapid growth of white pine and hardwoods has eliminated much of the view of Merrymeeting Lake from the cabin. This ~5 acre site also represents the only significant area on the 2,027 acre BRCF that currently provides a grass/forb habitat. To maintain this habitat type and re-establish the view to the lake, a "brontosaurus" mower should be used to remove the encroaching woody vegetation. However, prior to conducting this type of treatment, any apple trees and other fruit bearing trees and shrubs should be identified and retained. After treatment, the planting of fruiting trees and shrubs around the edges of this area should be considered.

#### **Wildlife Habitat Focus Area**

The portion of the BRCF surrounding the beaver pond and south to the wetlands beyond Coldrain Pond is a region of such habitat diversity that it should be considered a wildlife focus area. This area includes the 15+/- acre beaver pond, as well as the somewhat dispersed stream channels that flow into the pond from the north and east. A major stream corridor with extensive wetlands flows from the beaver pond south to Coldrain Pond, with additional wetlands surrounding much of Coldrain. The stream and associated wetlands exit Coldrain to the south. The portion of Coldrain Pond not fronting the BRCF is protected by either a conservation easement on private land or ownership by NH Fish & Game. (See beaver impoundment and early successional forest sections below)

The recent logging activity did a reasonably good job of surrounding the wetlands with uncut buffers. Large mast producing oaks and mature hemlock and white pine are distributed throughout the buffer zones. Water flowing into and out of the beaver pond is running clear.

Between the two ponds is a large pole-size block that is a dense diverse mix of hardwood and softwood tree species, 20+/- years old with scattered older trees. The recent logging cut several skid trails through the stand to remove selected larger stems. A long skid trail running down the east side of this stand accessed larger trees between Coldrain Pond and the very steep wooded slope to the east. The steep slope was not harvested.

The mix of tree ages and species, along with the mix of wetlands and uplands, create an area of high structural diversity and niches for many different wildlife species. Of all the pole size stands on the BRCF, the one between the beaver pond and Coldrain Pond is the highest priority to target for early successional habitat management.

### **Wildlife Habitat Management Priorities**

Listed below are the wildlife habitat priorities for the initial years of this plan, 2020 – 2021. A few are on-the-ground management actions, while others are continued monitoring and planning to identify funding and future operations:

1. Reclaim the former old field habitat down-slope of the cabin. (See cabin grass/forb old field below)
2. Restore the blueberry fields at the north end of Birch Ridge. Funding needs to be identified and planning needs to be completed for this operation. The specific location and acreage of the project requires site evaluation after the winter, and the project will likely require several years to complete.
3. Monitor the vegetative response in the log landings. Identify additional seeding needed to establish herbaceous forage for wildlife.
4. Identify opportunities and constraints to accessing the wildlife focus area south of the beaver pond for early successional habitat management. Pursue grant funding to develop adequate access. (See early successional forest below)
5. Explore early successional habitat management funding opportunities. Identify the most likely grant programs and begin operational planning. Submit grant applications as supported by the landowner and citizens steering committee.
6. Examine the large clearcuts (in management units 1 and 2) to identify appropriate areas to target for sustainable early successional habitat.

### **Cabin Area Grass/Forb Old Field Habitat**

The area in front of and down-slope from the cabin is an old field habitat that is now rapidly reverting to forest. As shown in the 2010 and 2015 aerial photos, the rapid growth of white pine and hardwoods has eliminated much of the view of Merrymeeting Lake from the cabin. This 5+ acre site represents the only significant grass/forb habitat opening on the 2,027-acre BRCF. It can be managed as a permanent opening in coordination with the large adjoining log landing.



2010 1-ft. orthophoto [Source: NH Stone Wall Mapper]





5-acre wildlife habitat management area. [Source: 2018 Google Earth imagery]

#### Management Recommendations for 2020

1. Designate the area as a dual-purpose wildlife old field habitat and scenic view site.
2. Maintain the current grass/forb area by mowing with a “brush-hog” (~ 2 acres).
3. Identify and mark for retention any wild apple trees and other fruit bearing trees and shrubs.
4. Remove the encroaching woody vegetation (pole-size hardwood and pines) using a “brontosaurus mower” (~3 acres).
5. Install 3-4 nesting boxes specifically designed for bluebirds, tree swallows, and other cavity nesters.

#### **Beaver Impoundment – Wildlife Habitat Focus Area**

This beaver impoundment and its associated inflows and outflows is the most significant wetland habitat within the entire BRCF. Created by beavers constructing a series of dams in the southern portion of the wetland, the standing water currently covers 15+ acres. Fed by a series of spring seeps and seasonal streams on the northern perimeter, the shallow-water area is ideal habitat for many species of reptiles, amphibians, songbirds, and waterfowl.

#### Management Recommendations for 2020

1. Designate this beaver impoundment (shown below) as part of the dedicated Wildlife Habitat Focus Area.
2. Record the date, time, and location of wildlife species observed during all four seasons.
3. Install/maintain 3-4 wood duck/hooded merganser nesting boxes.
4. Determine a suitable location for a wildlife observation platform.





Beaver Impoundment Area – Wildlife Habitat Management Unit [Source: 2018 Google Earth imagery]

### **Early Successional Forest - Wildlife Habitat Focus Area**

The long-term management approach for sustaining early successional forest habitat at this 65+/- acre site is to establish twelve 5+/- acre blocks that are periodically cut in order to sustain age class diversity between the blocks. A key objective is to regenerate the oldest of the 5 acre blocks every 15+/- years (cut three blocks for a total of 15 acres). In doing so, it is hoped that aspen and birch will pioneer into the regenerating stands and become the prevalent tree species.

#### Management Recommendations for 2020

1. Access to the area is via a logging truck road (off Bracket Road) that was used during timber harvesting operations prior to the acquisition of BRCF. SELT has a right-of-way to use this logging road for property management. Unauthorized use of the road can be prevented by SELT installing a gate at the entrance, with the approval of the landowner.
2. The **red circle** indicates the location of a crucial stream crossing. Seek ARM funding to install a culvert or bridge. This will need to be accomplished in order to gain vehicle/equipment access to the wildlife focus area.
3. Investigate the opportunity to submit a grant proposal to NRCS, NH Fish & Game, and others for funding early successional habitat management.



### **Additional Habitat Analysis and Management**

Field analysis of forest conditions is a necessary and ongoing component in the wildlife habitat management decision making process. In addition, work plans are subject to review by the BRCF citizens committee, input from an interested public, and decisions regarding property use and management by SELT, the property owner.

As part of this continuing BRCF management planning program, the items below should be reviewed in more detail to integrate wildlife habitat recommendations with both field conditions and related plans.

A report was submitted by Jeff Littleton (Moosewood Ecological LLC) to SELT describing an ecological inventory that was conducted on the BRCF during July 2018 - February 2019.<sup>2</sup> The purpose of the inventory was to collect data on wildlife diversity, rare plants, wildlife habitats, and natural communities. Specific objectives included:

1. Record all wildlife observations and locations of wildlife of greatest conservation concern.
2. Map locations and document population size of rare plants.
3. Map ecologically significant wildlife habitats.
4. Map significant natural communities and identify candidates for possible exemplary status.

A *Forest Stewardship Plan* was submitted to SELT by Jon Martin (Martin Forestry Consulting, LCC).<sup>3</sup> This report provided detailed descriptions of the main forest types found on the property and divided the BRCF into four

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<sup>2</sup>Jeffrey Littleton, *Birch Ridge Community Forest Ecological Inventory* (Draft), February 2019, 47 pages with appendices.

<sup>3</sup>Jon Martin, *Forest Stewardship Plan for the Birch Ridge Community Forest* (Draft), August 2019, 33 pages.

management units for operations planning. The forest Types (as designated on the BRCF Forest Type map) are high-graded, silvicultural clear-cut, pole stand, blueberry, non-commercial steep, and wet area buffers.

*A Birch Ridge Community Forest Trail Assessment and Feasibility Study* was submitted to SELT by Lew Shelly (Snowhawk LCC).<sup>4</sup> This report assessed existing trails as well as proposed potential new routes within BRCF. The assessment included descriptions of existing trail conditions, levels of damage from timber harvesting activity, and potential of recreational activity for 19 proposed trail routes.

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<sup>4</sup>Lew Shelly, *Birch Ridge Community Forest Trail Assessment and Feasibility Study*, August 2019, 53 pages.

## **Appendix H BRCF Trail Assessment and Feasibility Study**



## APPENDIX H



**Birch Ridge Community Forest**  
**Trail Assessment and Feasibility Study**  
**for**  
**Southeast Land Trust**







## Introduction

The acquisition and permanent protection of the Birch Ridge Community Forest offers opportunities for improved access to the general public for a variety of recreational experiences typically found in a New Hampshire forest. This forest has seen a great deal of change from recent logging activity but promises to rebound with careful management and care. With good access points and the proximity to the town of New Durham, Merrymeeting Lake, and the larger lakes region of New Hampshire, the Birch Ridge Community Forest will be able to provide many with a variety of recreational opportunities in the near future and beyond.

Beginning in the spring of 2019 Snowhawk LLC was hired by Southeast Land Trust to assess existing trails and explore the potential for new routes. This began with drives through this 2,027 acre forest along the main trail corridors that have been primarily used and maintained for snowmobile access and more recently for the forestry operations that took place under the ownership of Dillon Investments, LLC group. The Powdermill Snowmobile Club provided invaluable guidance and transport for these trips. Further reconnaissance was done on foot to explore the potential of what other areas would be beneficial for enlarging the present network of trails. It took 18 miles of hiking and over 25 miles of riding an ATV to gather and analyze the information included in this document, and still there were portions of the property that were not reviewed. The decision to refrain from exploring outside the scope of this research was based on information gathered from maps and aerial photos that indicated difficult or wet terrain that would not be conducive to good trail design. Other reports and studies were also reviewed that showed the value for regeneration and future forestry as well as wildlife habitat. The cost of building additional trails and maintenance of existing trails was also factored in when considering the size and location of the trail network. The possibilities and potential is seemingly endless on a property of this size but this analysis should be a reasonable assessment of realistic goals with an eye towards best management practices and long term maintenance.

This report was not designed or intended to be a trail construction log. There are so many small variables to consider when laying out the final location of a trail route and like an empty canvas, the trail designer (artist) may see a slight variation to the general locations that were mapped for this report. Therefore, the recommendation is to use this as a consideration of which routes make the most sense with an eye towards the needs and desires of future users. As previously mentioned design and construction costs will always be a part of the equation but equally important is the long-term maintenance of what is built and the capacity to do so.

This is an investigation into the trail conditions, level of damage from the recent timber harvest, potential of recreation types, access points and parking, and most importantly safety and sustainability. The general consensus is that the damage from the recent logging has created challenges in repairing and restoring the main corridors. At the same time, the timber

operations have opened corridors for additional access and several types of recreation. Though much of the work will likely need to be done by experienced contractors and machinery, there are a few sites that would provide excellent hand-built trails that could be done by both professional contractors and/or volunteers. The continued support and stewardship of the Southeast Land Trust (SELT), and their project partners - Moose Mountain Regional Greenways, The Merrymeeting Lake Association, the Town of New Durham, Powdermill Snowmobile Club, as well as the many interested local volunteers, will be key to the success for trails on the Birch Ridge Community Forest.

This document will divide the property into two regions (shown as Region 1 and Region 2) and summarize the assessments and conditions for each individual track along with a map for each one. Field mapping was done using an iPhone and Gaia GPS. For ease of reporting and saving the GPS data, nineteen individual tracks were created. The completed mapping work will show these nineteen individual tracks, many of which are connected as one continuous track or have access to another track. For consistency these tracks will be referred to as trails for the remainder of this report.



This shows a typical view of the Gaia map as it was created and used in the field for each trail that was hiked. Gaia GPS is a simple app system that is commonly used but there are limitations to what can be done for a final document. It often requires making several trips back and forth to explore the terrain before determining the optimum route for a trail. The routes shown here may not be in the exact location for final construction. Given the post-logging open landscape, any trail routes requiring new construction may vary by a few feet to as much as 100' in a few locations. These are discussed in the narrative for each individual trail.

Please note that the colors used to identify each trail on this map do not correspond to the colors used on the other maps that follow.

All other maps included here were generated using the GIS program ESRI ArcMap 10.7.

The maps in this report are available with waypoints, photos, and other info for users of Gaia GPS are not being shared publicly. This information is also available as a presentation using Gaia online.

## General Overview

The maps used in this document are numbered 1 through 19 and have been assigned names that may be currently used but in most cases were assigned a name that was related to their location or a feature. The numbering system used the two main corridors as number 1 and 2, then starting at the north end and moving south. Trails 17-19 were included but do not remain on BRCF land. Trail 17 would require a portion of the trail being built on land owned by Camp Pride and Trail 18 would require a portion of the trail being built on the adjacent NH Fish and Game Coldrain Pond property. Trail 19 already exists and is located on the NH Fish and Game Coldrain Pond property but has parking and good potential for access to BRCF on the southern end of Corridor 22.

There are two distinct areas with a significant concentration of trails. Therefore this document divides the forest into two regions for ease of following the maps and related narratives. One region (labeled Region 1) sits on the northeastern corner of the forest. The second region (labeled Region 2) is located on the western side with a few additional trails in the southernmost corner.

Corridor 22, the main trail (actually a road) almost bisects the forest from the southern corner and up around the back side of Birch Ridge, for which the forest is now named. Both it and the Lake Trail have been used for snowmobile use in the winter and by UTV or ATV for trail maintenance work. They surely have seen hiking and other uses in the past. They provide the best access to the interior of the property at this time, but some of the new skid roads have shown some promise for future access.

The following maps show the following:

- Overview – USGS topo
- Overview – Aerial (2015)
- Region 1 – Trails #1-10 and #17. Also shown are the Lodge and a roadside landing.
- Region 2 – Trails #11-16 and #18-19. Also shown are three existing parking areas and a roadside landing.

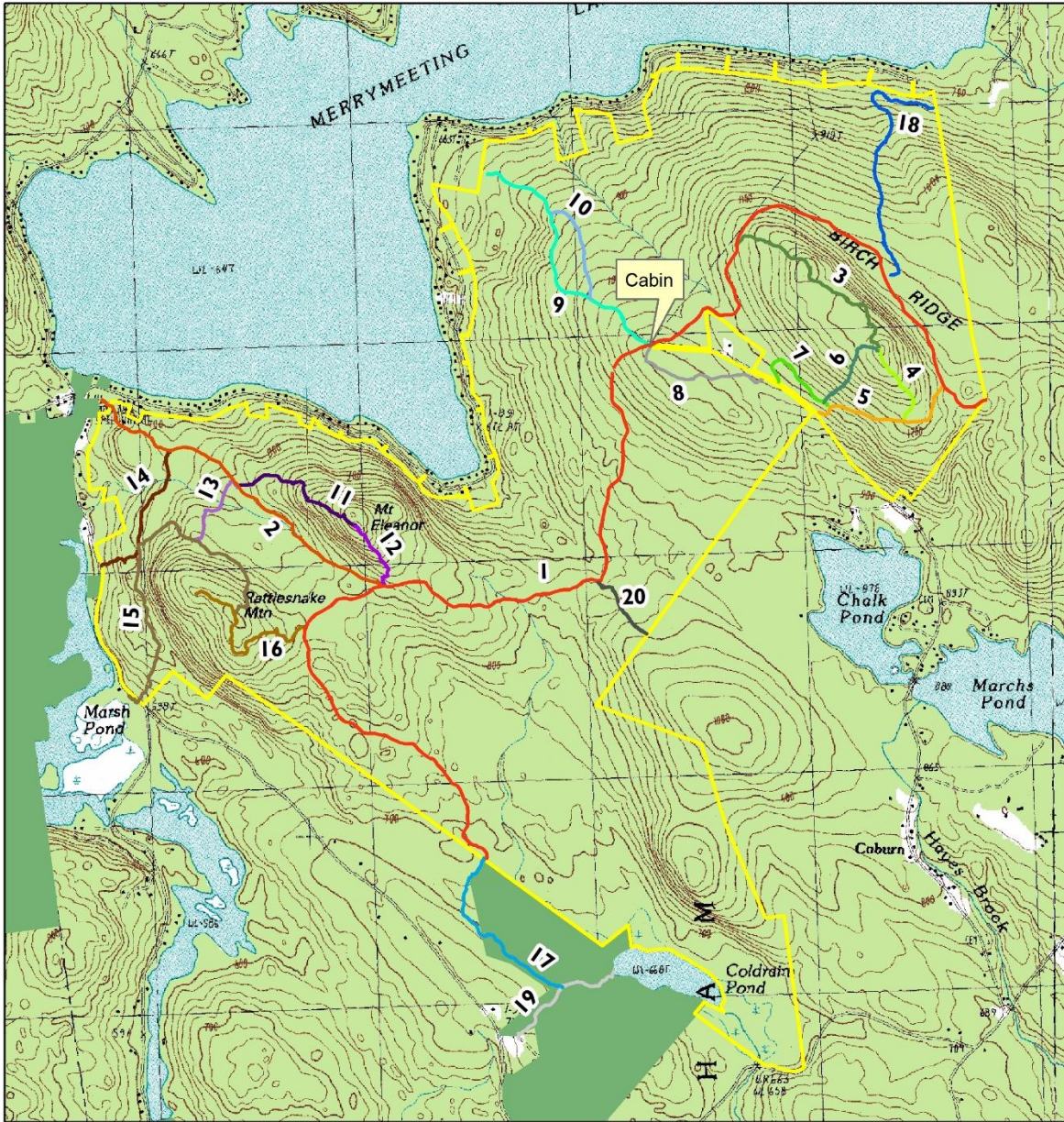
All maps show the boundaries of the BRCF property in yellow.

All distances shown are approximate and based GPS data and the actual route traveled.

Trail names and numbers are both used in the narratives. An effort was made to keep it simple but with all of the various trails, roads, intersections, etc. it may be helpful to refer back to the larger overview or region maps when reviewing individual trails (tracks). Colors have been selected to highlight the separate tracks. Red was used for the main corridors (Corridor 22 and Lake Trail) as they are beneficial for locating the general position of each trail.

The maps and information gathered, including waypoints and photos, can be shared with users of Gaia GPS but it will not be shared as “public” with all users of Gaia. It can also be displayed as a presentation showing the same maps, waypoints, photos, and other information.





### Birch Ridge Community Forest Trails - overview map

— Accessible Trail	— Connector to Coldrain Pond	— Mt. Eleanor South	□ Property Boundaries
— Birch Ridge Connector	— Corridor 22	— Rattlesnake Access	■ Public or Protected Land
— Birch Ridge Southern	— Fall Line Trail	— Rattlesnake Main Trail	
— Birch Ridge Trail	— Lake Trail	— Rattlesnake Mt. Ridge	
— C22 to Birch Hill Road	— Lake to Lodge Trail	— Rattlesnake to Eleanor	1:24,000 
— Coldrain Pond Trail	— Lake to Lodge Trail 2	— Sunrise Trail	
— Connector to Camp Pride	— Mt. Eleanor North		

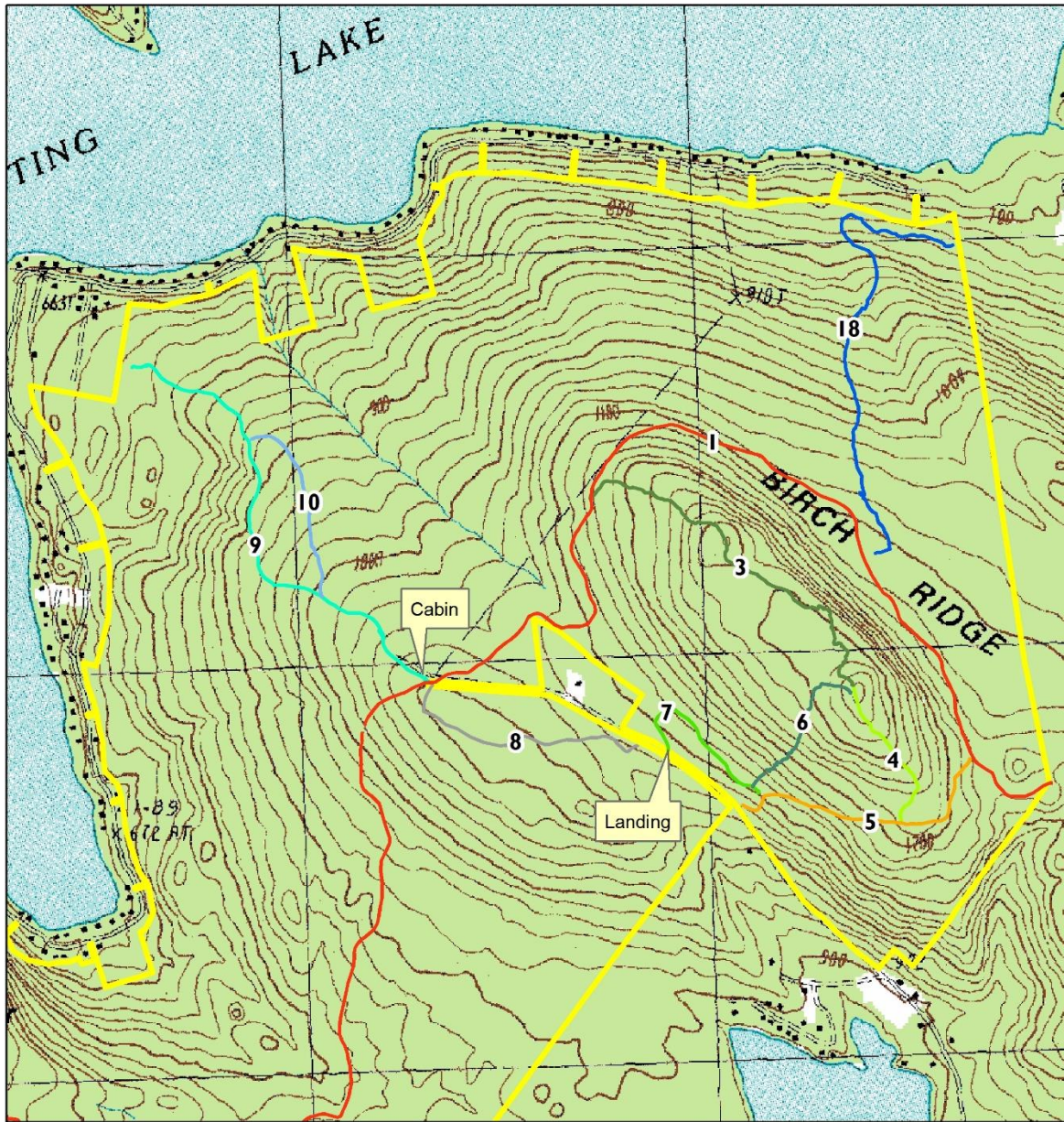




### Birch Ridge Community Forest Trails - overview map





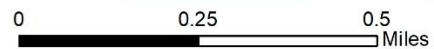


## Birch Ridge Community Forest Trails - Region One

- |                          |                           |                            |
|--------------------------|---------------------------|----------------------------|
| — Accessible Trail       | — Connector to Camp Pride | ▭ Property Boundaries      |
| — Birch Ridge Connector  | — Corridor 22             | ▭ Public or Protected Land |
| — Birch Ridge Southern   | — Fall Line Trail         |                            |
| — Birch Ridge Trail      | — Lake to Lodge Trail     |                            |
| — C22 to Birch Hill Road | — Lake to Lodge Trail 2   |                            |



1:13,000



## **Region 1**

Region 1 is accessed from Birch Hill Rd. which is a class six road subject to gates and bars. It currently requires passing by an unlocked cable that is usually kept closed. There is a small privately owned camp on the left side a short distance up the hill and a large home on private property at the end of the road on the right. The latter is surrounded by BRCF. A roadside log landing on BRCF property is also located on the right just before coming to this house.

There is a building known as the Lodge that sits just inside the BRCF property that sits in an open area with fine views to the north. On a clear day it's possible to see into the White Mountains and the Sandwich Range as well as down to Merrymeeting Lake if the foliage doesn't impede the view.

Much of this region has been heavily logged and there are several skid roads and a few landings in the interior of the area. Corridor 22 traverses the property from the boundary to the north and east of Birch Ridge before passing by the Lodge and continuing to the interior of BRCF. Another well-developed access trail (known by locals as Scenic Loop) has been used by snowmobiles, ATVs and hikers. It drops from the Lodge to the lake and is known for the scenic view to the lake and northern hills. Corridor 22 (Trail 1) is passable with ATV/UTV but could be difficult for other vehicle access and in the future will be limited to work related vehicles only. Needless to say there are a number of locations that will require work to improve this.

SELT requested to seek for locations that have the potential for an accessible trail on BRCF. The area that sits on the left side of the road when approaching the lodge seems to be one of the best locations for such a trail. The terrain and views offer the right combination for this (see Trail 8).

There are old roads that offer access to points on Birch Ridge and excellent potential for a new trail along the ridge itself where it will connect to these existing roads.

Given all that is has to offer, this could be one of the most heavily used sections of the forest in the future and it deserves the attention needed for the enjoyment of all that will benefit.





## Birch Ridge Community Forest Trails - Region Two

- |                              |                          |                            |
|------------------------------|--------------------------|----------------------------|
| — Accessible Trail           | — Mt. Eleanor South      | ▭ Property Boundaries      |
| — Coldrain Pond Trail        | — Rattlesnake Access     | ▭ Public or Protected Land |
| — Connector to Coldrain Pond | — Rattlesnake Main Trail |                            |
| — Corridor 22                | — Rattlesnake Mt. Ridge  |                            |
| — Lake Trail                 | — Rattlesnake to Eleanor |                            |
| — Mt. Eleanor North          | — Sunrise Trail          |                            |



1:15,500

0 0.25 0.5 Miles

## Region 2

Region 2 is accessed most easily from the parking area across from the town beach on Merrymeeting Lake. The Lake Trail (Trail 2) begins there on the climb up to Corridor 22. Another possible access point is now available from the log landing at the corner of Brackett Rd. and Merrymeeting Rd. This location does not have a dedicated parking area at this time and requires following the long skid road that departs from the landing. This is not a formal trail and though it is not blazed or marked, it is easy enough to follow around the northern tip of Rattlesnake Mt. Another access point to consider is the existing parking area for Merrymeeting Marsh located across Merrymeeting Rd. from the BRCF property. Though cost effective when considering future parking, this requires crossing Merrymeeting Rd. which could be a safety concern. Also, any trail leading from there to the main skid road and the west side of Rattlesnake Mt. would require some route finding to stay on grade. This is entirely possible with some careful scouting and planning albeit at further expense.

Corridor 22 continues south from Region 1 and gets rougher as it continues to the property boundary. It will require the most work on this side of BRCF. The Lake Trail has seen some repair work since the end of the logging but it will require even more as it was heavily damaged in a few short sections.

Rattlesnake Mt and Mt. Eleanor are two highlights of this region as they are open on top with views that are worthy of seeing. There is a need to develop more formal routes to access these summits but it is likely that they have been hiked in the past and that the logging removed most signs of any previous trails. There is great potential to create a loop that would depart from the Lake Trail and/or Corridor 22 and travel over both summit ridges.

The small ridge behind Coldrain Pond may have some appeal as a destination but access is very limited. One needs to cross the pond with access from NH Fish and Game property and wetlands surround the pond and extend northwest in the direction of Corridor 22 where the most reasonable access would depart from on BRCF property. This area was not extensively searched so there may well be a route or two that would suffice but it would take sufficient effort and cost to build. Some may appreciate the value in having some areas left to bushwhacking or as wildlife habitat separated from trails. Any other access to this area would require crossing private land from the east.

As with Region 1, this region has much to offer, and could be one of the more popular hiking areas given the access and views mentioned. It is worthy of expanding on the trail network already in place.

The trails shown on the maps are numbered, color coded, and titled to correspond with the individual narratives as follows:

<u>Trail #</u>	<u>Title</u>	<u>Distance (miles)</u>
1	Corridor 22	4.18
2	Lake Trail	1.02
3	Birch Ridge Trail	0.62
4	Birch Ridge Southern Trail	0.26
5	C22 to Birch Hill Rd	0.43
6	Fall Line Trail	0.25
7	Birch Ridge Connector Trail	0.27
8	Accessible Trail	0.4
9	Lodge to Lake Trail	0.8
10	Lodge to Lake Trail 2	0.3
11	Mt. Eleanor Trail North	0.43
12	Mt. Eleanor Trail South	0.24
13	Rattlesnake to Eleanor Connector Trail	0.26
14	Rattlesnake Access Trail	0.45
15	Rattlesnake Main Trail	1.1
16	Rattlesnake Mt. Ridge	0.56
17	Connector to Camp Pride	0.76
18	Connector to Coldrain Pond	0.56
19	Coldrain Pond Trail (NH F&G)	0.4
20	Sunrise Trail	0.21



### **Trail #1 - Corridor 22 (4.18 mi.)**

Corridor 22 (C22) is the main artery of the 2027 acre BRCF property and bisects it from one end to the other. It's part of the State of NH snowmobile system that is the main east-west route south of Lake Winnepesaukee that connects New Hampshire to central Maine. It has been regularly maintained by the Powdermill Snowmobile Club, a very active local group that has spent a great deal of time and money as stewards of the trail.

C22 is more of a road than just a trail and needs to be maintained as such for how it is used in the future. There are some very nice stretches that serve the user well with good grading and drainage, even grassy sections that are pleasant for most any use. This tends to be more on the northern end from the Lodge and around Birch Ridge. Some of this is due to rehab and maintenance work done in recent years for the snowmobile trail. However, due to the aggressive timber harvest that has taken place, serious work is needed to reconstruct sections that have been damaged. There are several signs of erosion, pools of standing water, rocky outcroppings, and generally poor grading. In some areas there is a great deal of leftover debris from the timber harvest, especially near the landings and on the southern end of the property where the final bit of work may have been done during the harvest. It's very obvious where the property ends and Corridor 22 improves as it exits BRCF land.

There is much to consider when thinking about using C22 as a trail. It can be used in its current condition for many activities. Certainly passive recreation such as hiking and winter activities such as skiing and snowshoeing would be possible. It becomes a little more difficult for biking on some sections but this can be corrected. Plans are to prohibit motorized wheeled vehicles in the future except for maintenance, research, and forestry or timber harvests. It is possible to travel the length of C22 now with an ATV or UTV but it's often a rough ride. It would be really tough to negotiate in a truck and certainly next to impossible with a passenger car. With time and expense, work could be done to make all of Corridor 22 passable by a vehicle like a light truck or more. Beyond the work and maintenance aspect there may also be benefits related to fire or rescue emergencies.

As a well-traveled and maintained snowmobile trail this work will be equally important. Groomers need up to 12' in width and clearance as well as proper grades and a wider turning radius at corners. The general terrain and grading of the trail should be smoothed out and free of protruding rocks to allow for grooming and travel during low snow periods.

Adjacent wetlands and streams need to be factored in as well. There are culverts that may need replacement and some are scheduled to be replaced with bridges. SELT has plans to replace at least three culverts with bridges built according to specifications dictated for the restoration work required for the ARM funding (these will be addressed in the forester's report).

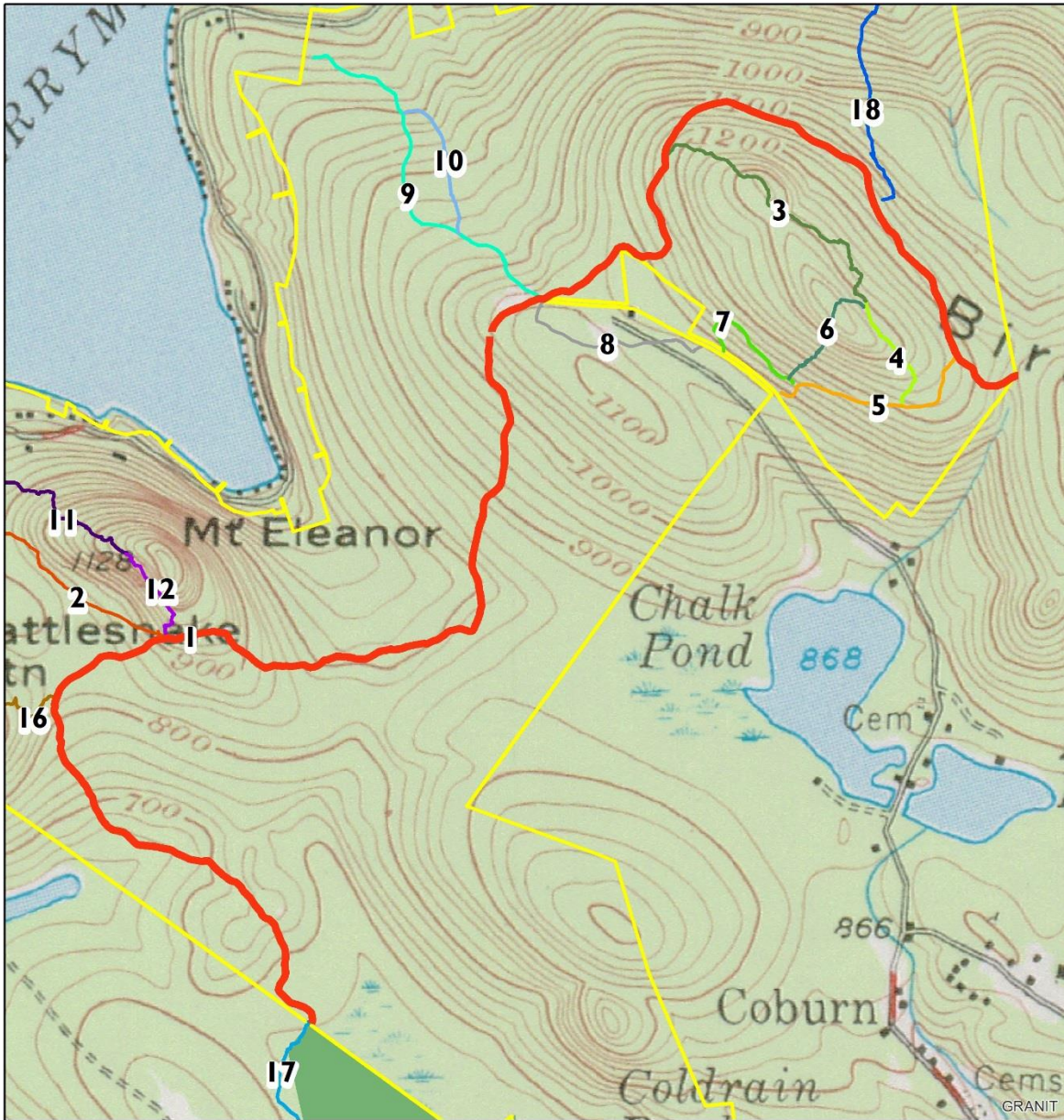
On a positive note, the soils appear to have good drainage for the most part and material may be available nearby, possibly from on-site excavation if permitted. The grades are quite good for most of the route with a few small exceptions, all of which can be managed with short reroutes or simple regrading. The longest of these is just west of the lodge area as the road is already showing signs of erosion. A reroute lower down the slope and to the north has already been discussed as seems to be a sustainable solution to the existing grade.

As stated earlier, this becomes more of a road construction project than trail work. The recommendation is to work with the appropriate contractors that are familiar with proper designs and methods for constructing and maintaining a good forest road. The Powdermill Snowmobile Club and foresters working on BRCF will need to be included in the decision process as each will have information that relates to what their respective needs are.

There will be significant costs associated with the work that is ahead. It is difficult to determine what those costs might be without analyzing and surveying the many sections that need attention. It's possible that the numbers could reach into the tens of thousands of dollars or more to do everything properly. Without the survey and design plans in place, that task should be left to SELT and the appropriate experts that have worked on projects like this.

Recommended uses:

- Snowmobile
- Hiking
- Biking
- Skiing/snowshoeing
- Equestrian
- Work related vehicle access



### Birch Ridge Community Forest Trails - Corridor 22



**Trail #1**

## **Trail #2 – Lake Trail (1.02 mi.)**

The Lake Trail is another of the main trails in BRCF. It connects Corridor 22 to the Town Beach parking lot on Merrymeeting Lake. It is the best access to the northwest corner of the property like Corridor 22. It has served as a multi-use trail and is one of the primary snowmobile routes on BRCF. There is a parking area at the end of the trail across from the beach that is used for locals only during the summer months and is open to the public during the rest of the year. It appears that there is ample space to allow for a small number of trail users to park here as well.

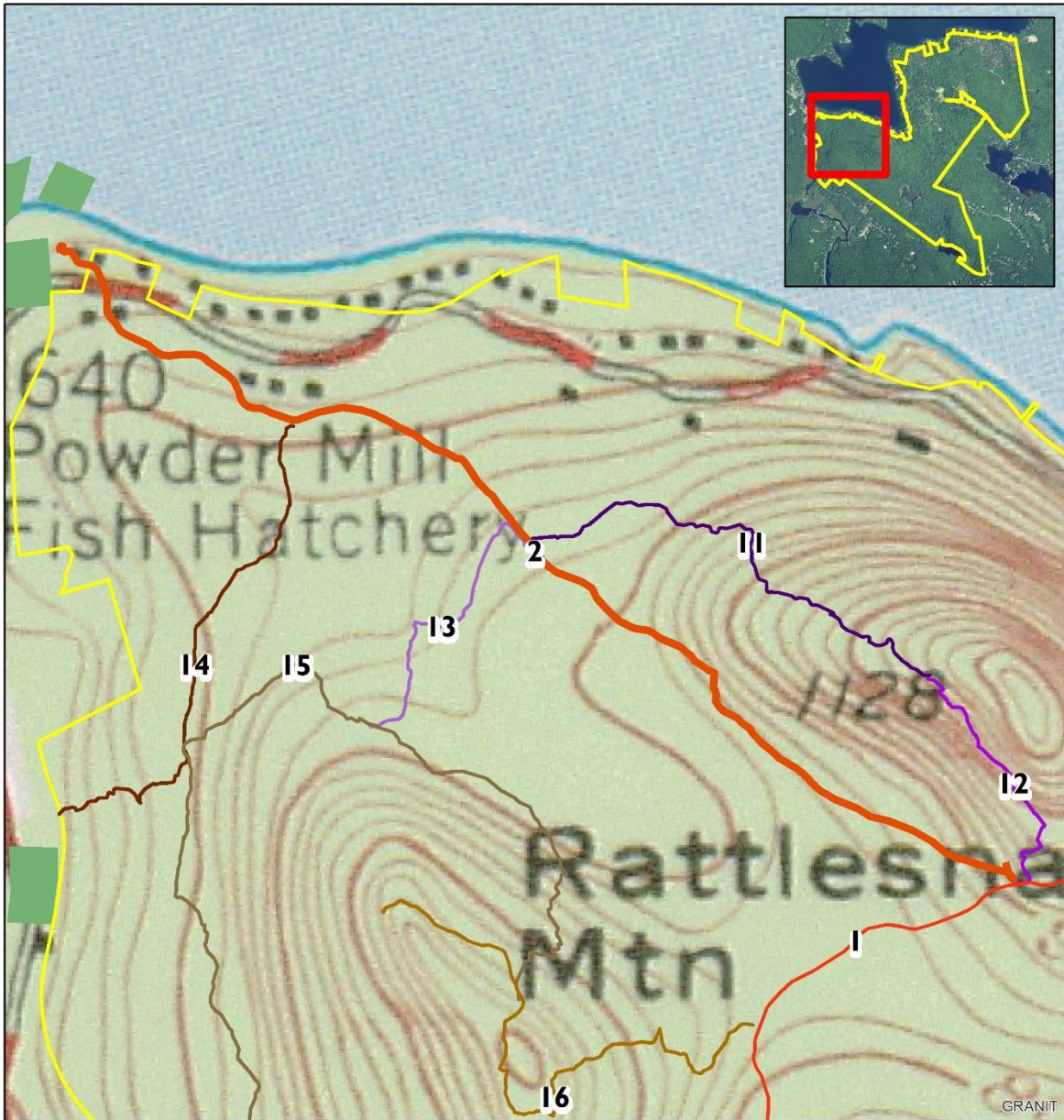
This trail is similar to C22 as it resembles a road more than a trail. It also has all of the same problems that C22 has. Work has recently been done to correct some of the damage that occurred as a result of the timber harvest but it has not been completed. It needs additional work in the areas that were quickly addressed before SELT took over managing the property. This work included a major reroute at the north end of the trail as it climbs up from the parking area and filling in some ledge and eroded sections farther up the hill. It was done by a local volunteer and his equipment to assist the Powdermill Snowmobile Club prior to the change in ownership as they prepare for the winter season.

The same recommendations for repair and reconstruction apply to the Lake Trail as to Corridor 22.

Recommended uses:

- Snowmobile
- Hiking
- Biking
- Skiing/snowshoeing
- Equestrian
- Work related vehicle access





### Birch Ridge Community Forest Trails - Lake Trail



**Trail #2**



### **Trail #3 – Birch Ridge Trail (0.62 mi.)**

Birch Ridge is in the easternmost portion of BRCF. It rises up above the surrounding landscape and has potential for year-round views with some limited cutting of view sheds. It has not seen as much timber activity as the rest of BRCF in very recent years. There are no formal trails on the ridge. There are a few skid roads and smaller trees on the northwestern end of the ridge but the southern end is wooded with a mix of large and small trees. Good blueberries are also found on the northern end.

Access is from Corridor 22 at both ends of the ridge. It is directly off C22 on the northern end and there is access from the south end via an old road. This access road is in fairly good shape other than a few rocky sections that are not a real problem for foot travel or biking. ATV/UTVs and snowmobiles can still access the ridge from this road as well though the grades are a bit steeper in spots (see Trail #4 – Birch Ridge Southern Trail for more information).

Current parking options are not set in stone but there are possibilities at the Lodge or in the landing that sits below the ridge to the west. There is also a spot across the road from the landing that could be considered for parking (also the point where an accessible trail could be located, see Trail #8).

There is excellent potential for a new trail along the ridge. Grades are reasonable and with mostly younger aged trees, clearing should not be difficult. The topography will allow trails to be built with sustainable standards by using the terrain and proper grades. Soils appear to be typical forest organic matter with decent mineral soils beneath so drainage should not be difficult with an appropriate design.

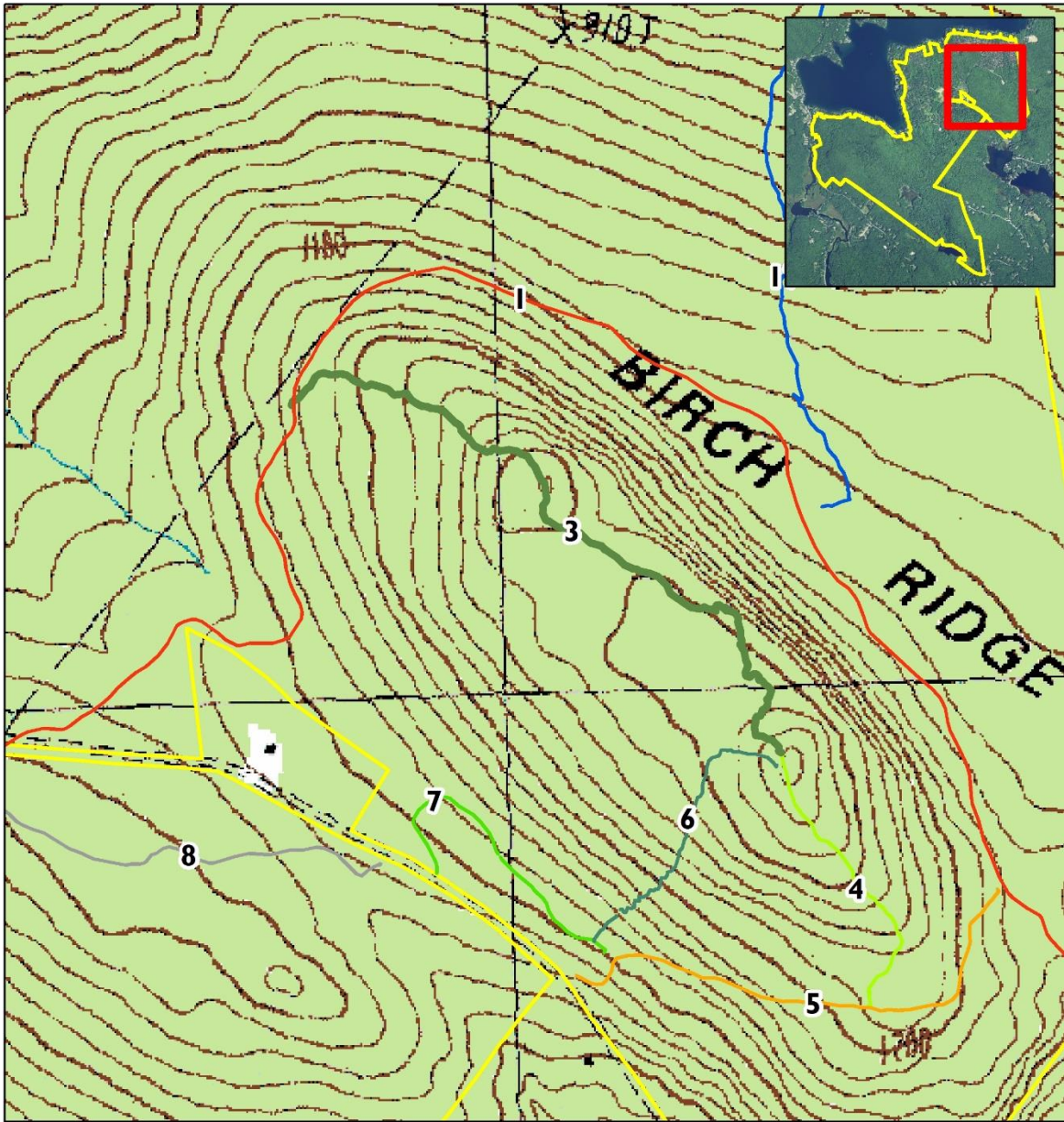
The possibilities for uses range from foot travel and mountain biking to the possibility of a multi-use trail to include snowmobiles. Obviously these are two very different types of trail. Since there are few areas in BRCF that are this accessible with trails designed for passive recreation only, consideration should be given to a ridge trail that is limited to hiking, biking, etc. and there are snowmobile trails in the area already.

The fact that there is a way to loop around Birch Ridge or go up and across the ridge offers several route options for users, all within a relatively short distance.

Construction of this trail would be hand-built or machine built and could be done by a professional trail contractor working with volunteers.

Recommended uses:

- Hiking
- Mountain biking
- Skiing/snowshoeing



### Birch Ridge Community Forest Trails - Birch Ridge Trail



**Trail #3**

#### **Trail #4 – Birch Ridge Southern Trail (0.26 mi.)**

This trail is located along the southernmost end of Birch Ridge and connects Trail #5 to the actual ridge. The junction can be found about halfway across the southern end of Birch Ridge on Trail #5 where it veers northwesterly to the top of the ridge. It forms a portion of the loop around the ridge itself. The trail has seen use from foot traffic and ATV/UTV use as well as some snowmobiles that venture off the main route of Corridor 22.

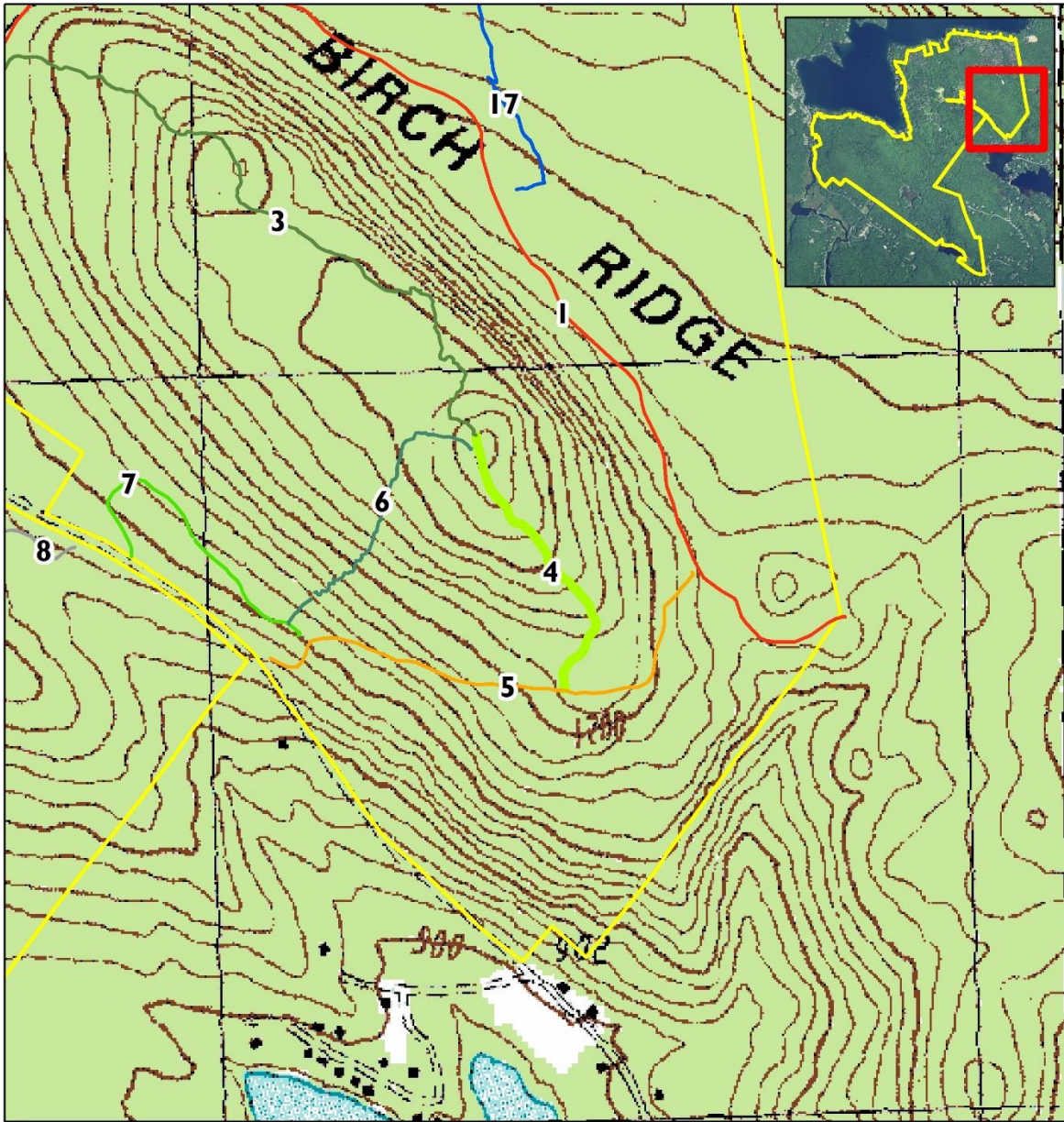
The trail is actually an old road that is in reasonably good condition with a few rocky sections that could be reconstructed if necessary. It is typically 12-15' wide. The grades vary but average out to be 10-15% and a few short pitches that reach 15-20% for short distances. Overall the trail is in good condition and would provide the best access to and from the southern end of Birch Ridge.

This could be used for foot travel and snowmobile use if the decision is to include motorized access to Birch Ridge. As mentioned in the previous comments for the Trail #4 (Birch Ridge Trail), there are few areas in BRCF that are this accessible with trails designed for passive recreation only. Consideration should be given to a ridge trail that is limited to hiking, biking, etc. and this trail would be some of the best access to this non-motorized area. If the ridge becomes designated as non-motorized use only, this trail would become a dead end with only an out-and-back option for snowmobiles.

#### Recommended uses:

- Hiking
- Mountain biking
- Skiing/snowshoeing
- Snowmobiles (with some reconstruction)





### Birch Ridge Community Forest Trails - Birch Ridge Southern



### Trail #4

### **Trail #5 – C22 to Birch Hill Rd. (0.43 mi.)**

This trail is located along the southernmost end of Birch Ridge and connects Corridor 22 to Birch Hill Rd and/or Trail #7 Birch Ridge Connector Trail. It is an old road that is in reasonably good condition with a few steeper grades as it approaches the western end where it descends to Birch Hill Rd. and Trail #7. There are some signs of erosion here that can be mitigated by using grade dips, etc.

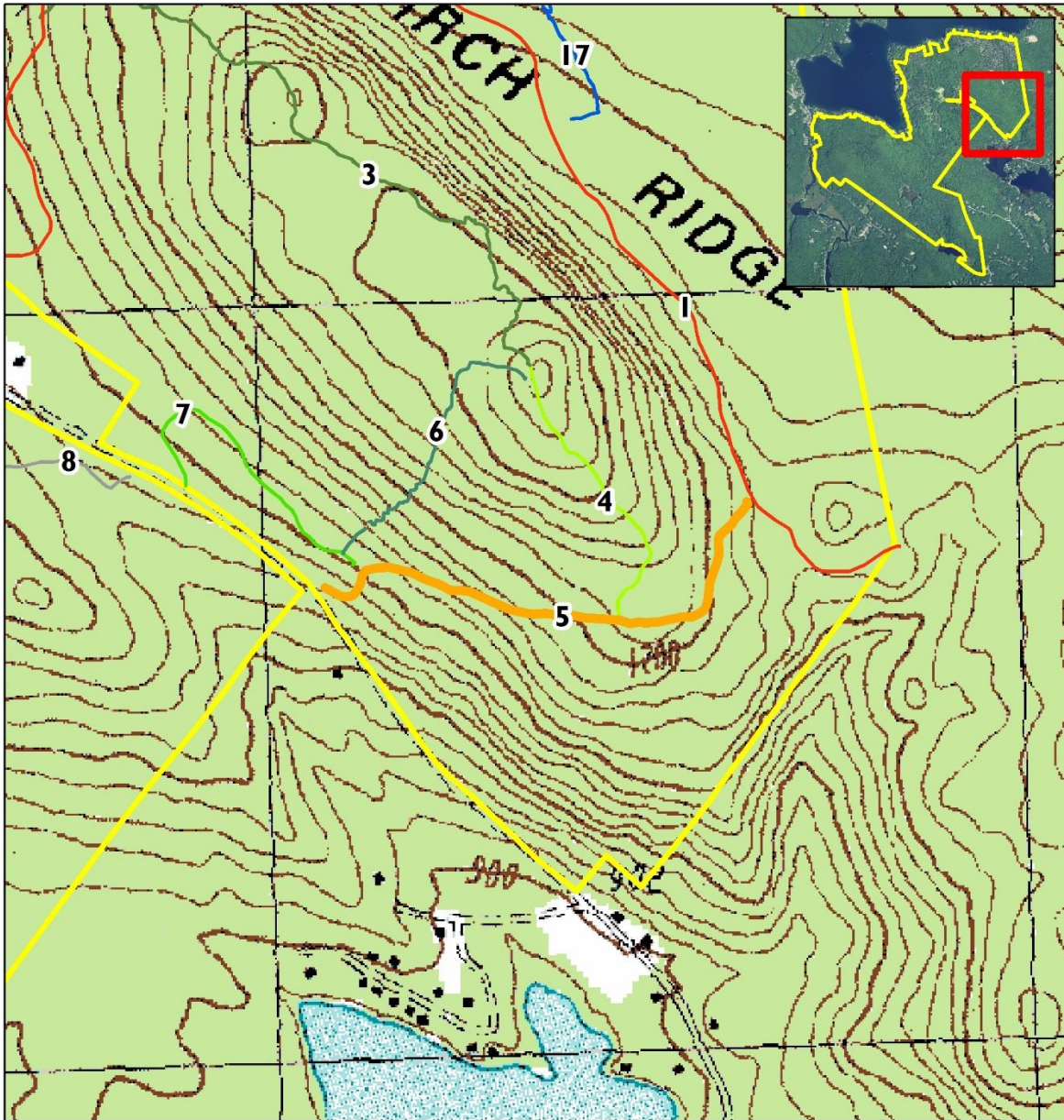
This is the trail that connects to Trail #4 Birch Ridge Southern Trail. The junction can be found about halfway across the southern end of Birch Ridge where it veers north to the top of the ridge. It forms a part of the loop around the ridge itself. The trail has seen use from foot traffic and ATV/UTV use as well as some snowmobiles that venture off the main route of Corridor 22.

To continue the idea of a non-motorized section of BRCF trails, this trail might also be considered for non-motorized use only. It is likely that it will need widening and some reconstruction for snowmobile use. Any work would be best done by machine with some hand work such as brushing.

Recommended uses:

- Hiking
- Mountain biking
- Skiing/snowshoeing
- Equestrian (with some reconstruction)
- Snowmobiles (with some reconstruction)





### Birch Ridge Community Forest Trails - Corridor 22 to Birch Ridge



### Trail #5

### **Trail #6 – Fall Line Trail (Birch Ridge) (0.25 mi.)**

Trail #6 is located on the western slope at the southern end of Birch Ridge. Due to the direct line that it takes to and from the ridge it became known as the Fall Line Trail during the assessment. It is another of the old roads that can be found in the Birch Ridge area but it is unlikely that anyone would ever drive on it with anything other than an ATV or snowmobile.

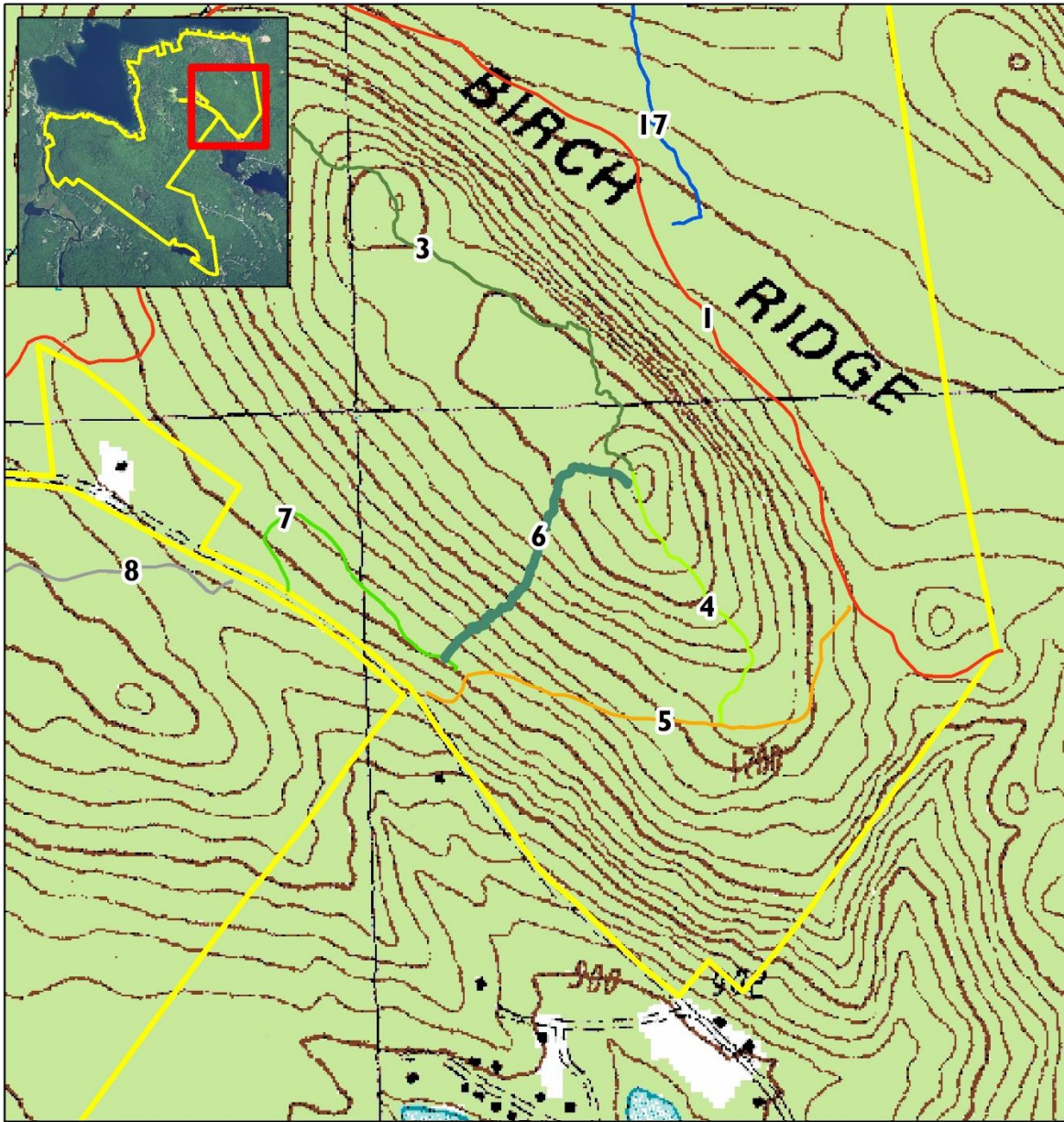
The general condition of the trail is relatively good with only some rocky outcroppings that can still be avoided. Due to the sustained grades of 10-25% (even reaching 30% for short distances), it is recommended that it is monitored for erosion issues. Erosion control measures will likely be needed over time. A large water bar was cut in at the bottom of this trail making access and egress a bit difficult. This could be corrected as needed.

It is suitable for hiking and winter uses like snowshoeing, an uphill ski skin track or a fast downhill run. It could be used as a biking route but probably downhill only but it would require careful construction methods designed for downhill bike trails. Therefore, due to the grade and erosion potential, it is not recommended for wheeled or snowmobile use for the foreseeable future.

Recommended uses:

- Hiking
- Skiing/snowshoeing
- Mountain biking (possibly in the future with design modifications)





### Birch Ridge Community Forest Trails - Fall Line Trail



**Trail #6**

### **Trail #7 - Birch Ridge Connector Trail (0.27 mi.)**

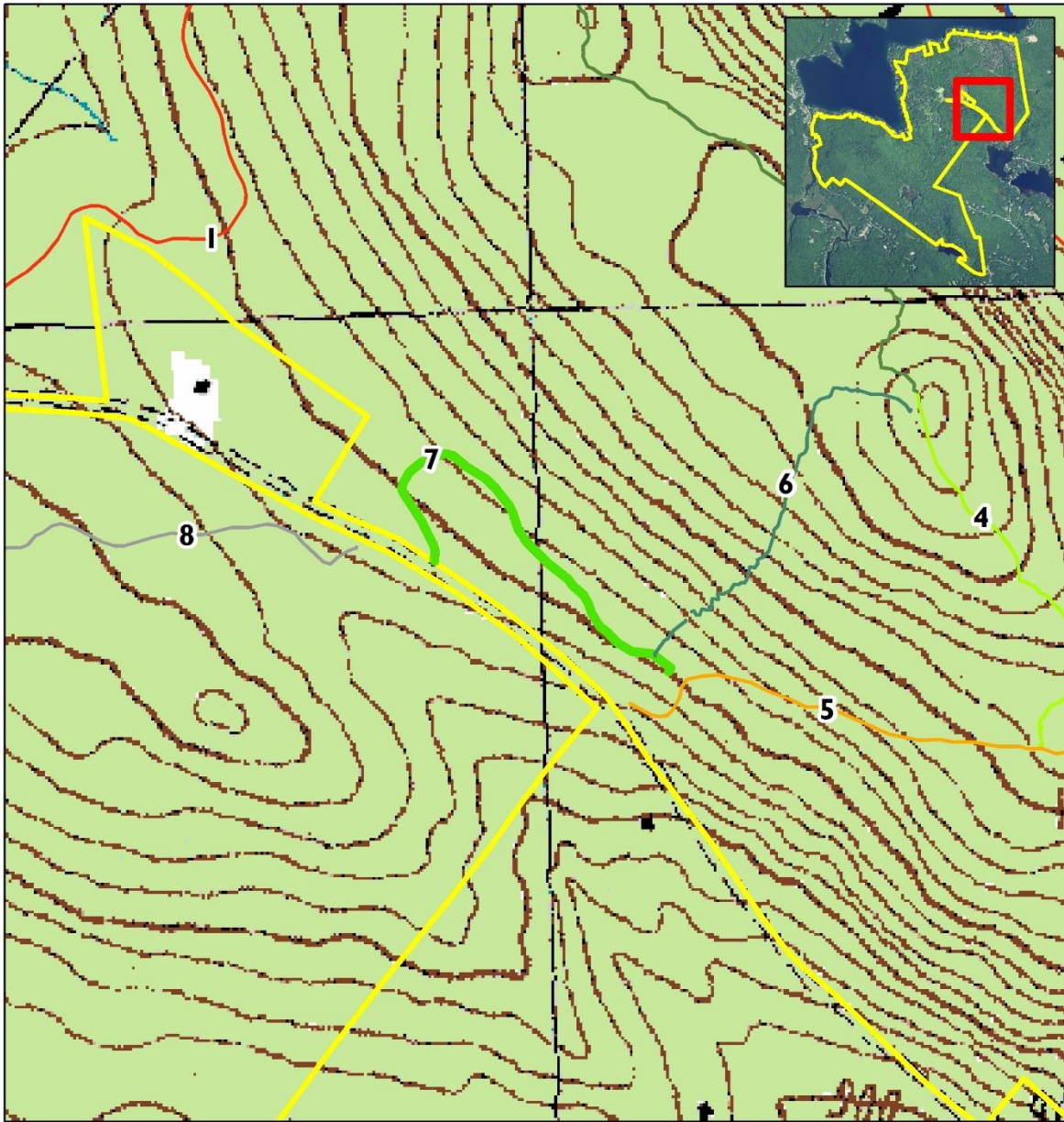
Trails 5 and 6 come together at the southwestern corner of Birch Ridge. Trail #7 connects this junction back to the log landing on Birch Hill Rd. just south of the private property near the end of the road. It was cut as part of the timber harvest and has potential to be utilized as access to the trails on the south end of Birch Ridge. It offers access to a future trail head/parking area without the need to travel on Birch Hill Rd. A portion of the old log landing could be used as a parking area. As an alternative there is also an area across Birch Hill Rd. that could be developed for parking. Either of these would also be parking for the proposed accessible trail (see Trail # 8).

This portion of old skid road traverses the toe of the slope and could be regarded of a variety of uses, both snowmobile and non-motorized. The soils appear to have good drainage the rolling terrain is on easy grades that are suitable for trails. All of it will require some work (mostly machine work) for whatever the use will be.

Recommended uses:

- Hiking
- Mountain biking
- Skiing/snowshoeing
- Equestrian
- Snowmobiles





### Birch Ridge Community Forest Trails - Birch Ridge Connector



**Trail #7**



### **Trail #8 – Accessible Trail (0.40 mi.)**

Accessible trails allow access for those with mobility challenges and are typically designed with wheelchair access in mind but are enjoyed by all users. They can also be designed for those with visually impaired and blind users. Multi-use trails can incorporate the same standards as an accessible trail but also permit uses such as bikes,

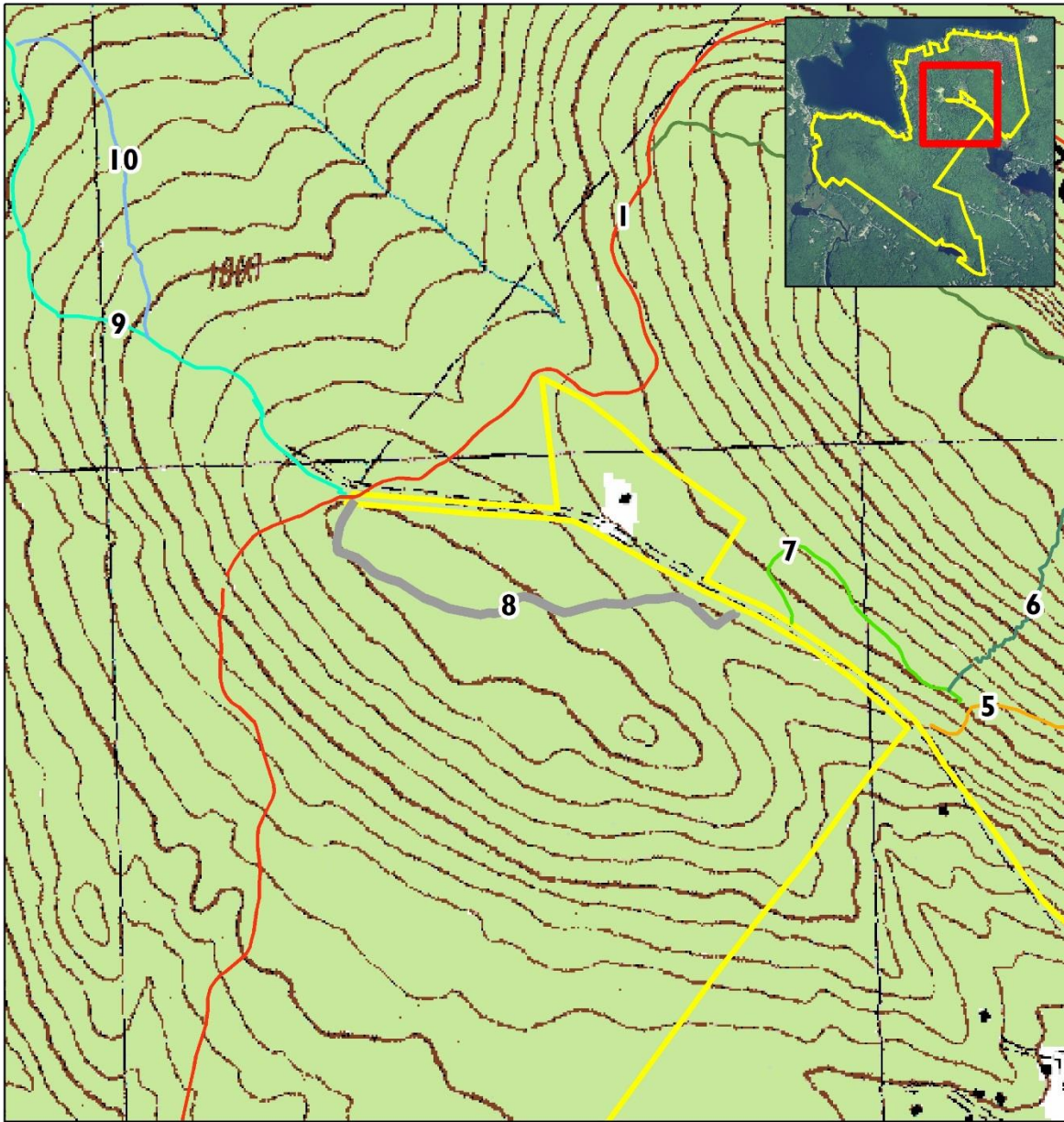
One of the best locations for a trail such as this could be located at the end of Birch Hill Rd. across from the log landing and the area around the lodge. The map shows a simple trail but loop options are certainly possible, especially around the lodge. These trails must follow specific design and construction standards related to grade, slope, soils, and general access to facilities and accessories. This location offers a good chance to meet all of these needs. This location has suitable terrain, good access with parking possibilities, and interesting sites that include view potential for all to enjoy. The trail might also serve as an interpretive trail that contains informational signs that are used to educate the users on the history, geology, forestry practices, flora, fauna, and other information related the property.

Much of what is required for construction is related to grade and slope as well as the material used for the trail surface. The cross grade (or slope) needs to aim for a consistent 2% while the running grade (along the direction of the trail) must be in the 0-12% range with resting intervals spaced more closely as the grade increases above 5%. The materials used for the trail surface crushed stone and fines (or paved) to allow for drainage but packed firmly enough to allow wheeled access (as with a wheelchair) without sinking into the surface.

Trails like this must be built by a knowledgeable contractor that is familiar with accessible/multi-use trail construction. These are built using machinery but often include finish work done by hand so there may be opportunities for volunteers to be involved as well. They can be quite expensive to build and costs can range widely. Further research is being done on this and will be provided to SELT in the near future.

Given the complexity of what goes into designing and building these trails I recommend reading more on sites such as:

- [https://www.fs.fed.us/recreation/programs/accessibility/pubs/pdfpubs/pdf10072014/1223-2806P-AGORT-COL-08-20-13\\_Errata2Fixed\\_300dpi2.pdf](https://www.fs.fed.us/recreation/programs/accessibility/pubs/pdfpubs/pdf10072014/1223-2806P-AGORT-COL-08-20-13_Errata2Fixed_300dpi2.pdf)
- <https://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/a-summary-of-accessibility-standards-for-federal-outdoor-developed-areas/trails>
- <https://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/background/committee-report/trails>



### Birch Ridge Community Forest Trails - Accessible Trail



### Trail #8

### **Trail #9 - Lake to Lodge Trail (.80 mi.)**

Trail #9 has also been referred to as part of the scenic loop (along with Trail #10 that forms the loop) accessed from the lodge. It has also been used as access to/from homes on the south side of Merrymeeting Lake at the end of Kendra Lane and has been used for both motorized and non-motorized access. It meanders through a heavily cut area with views of the lake and to the mountains beyond.

The grades vary but are generally lower angle with a few steeper pitches. Soils and vegetation are mixed and drainage is a concern in a few spots, especially on the lower half of the trail. Any concerns could be addressed by rerouting or erosion control and fill where needed. Less work would be required if it was designated as a non-motorized trail only. As a mountain biking trail, some work would be required to follow grade standards for sustainability due to the steeper pitches.

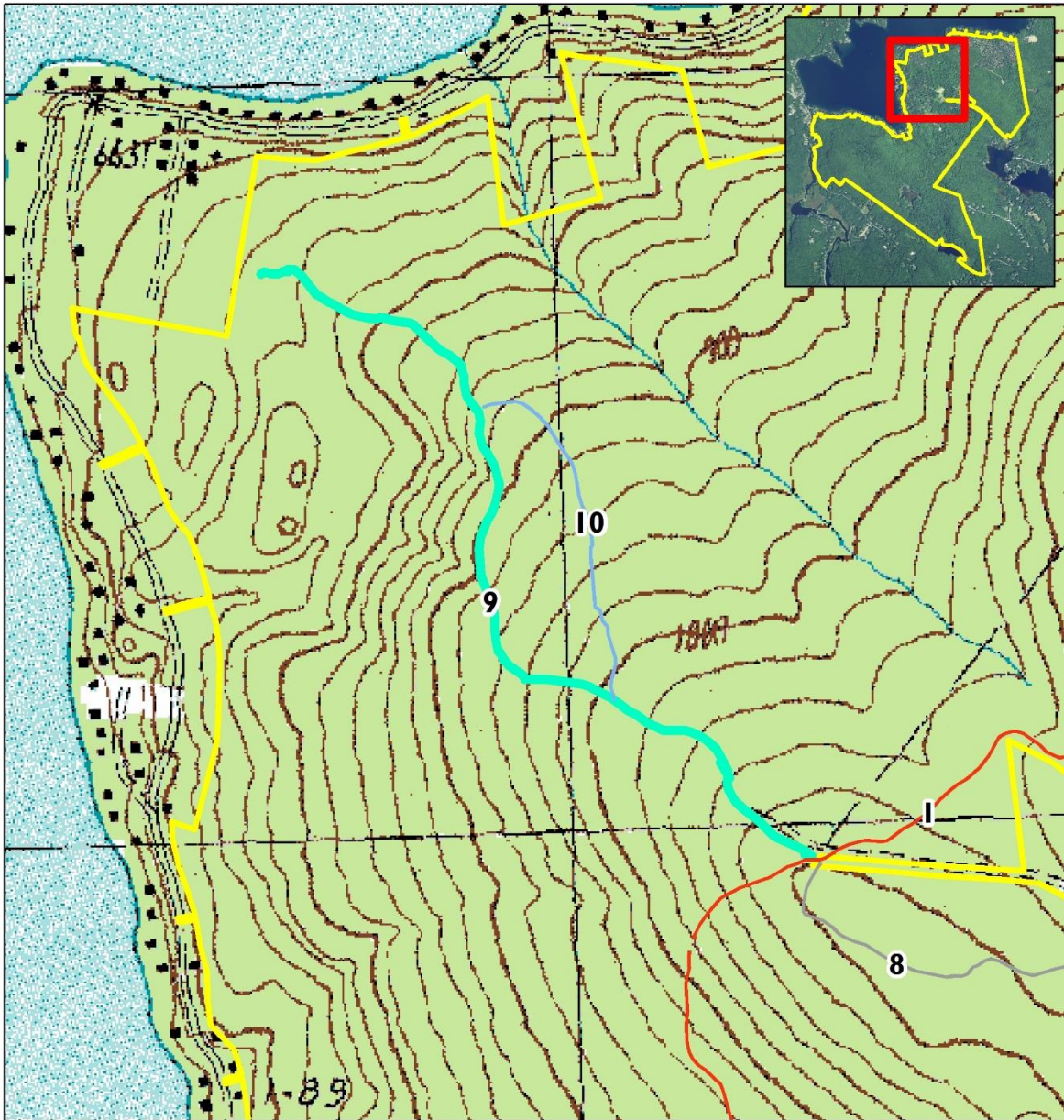
No formal parking area or access point is available at the end of Kendra Lane.

Work would be best done with machinery with additional hand work to finish.

Recommended uses:

- Hiking
- Skiing/snowshoeing
- Mountain biking (with some reconstruction)
- Snowmobiles (with some reconstruction)





### Birch Ridge Community Forest Trails - Lake to Lodge Trail



**Trail #9**

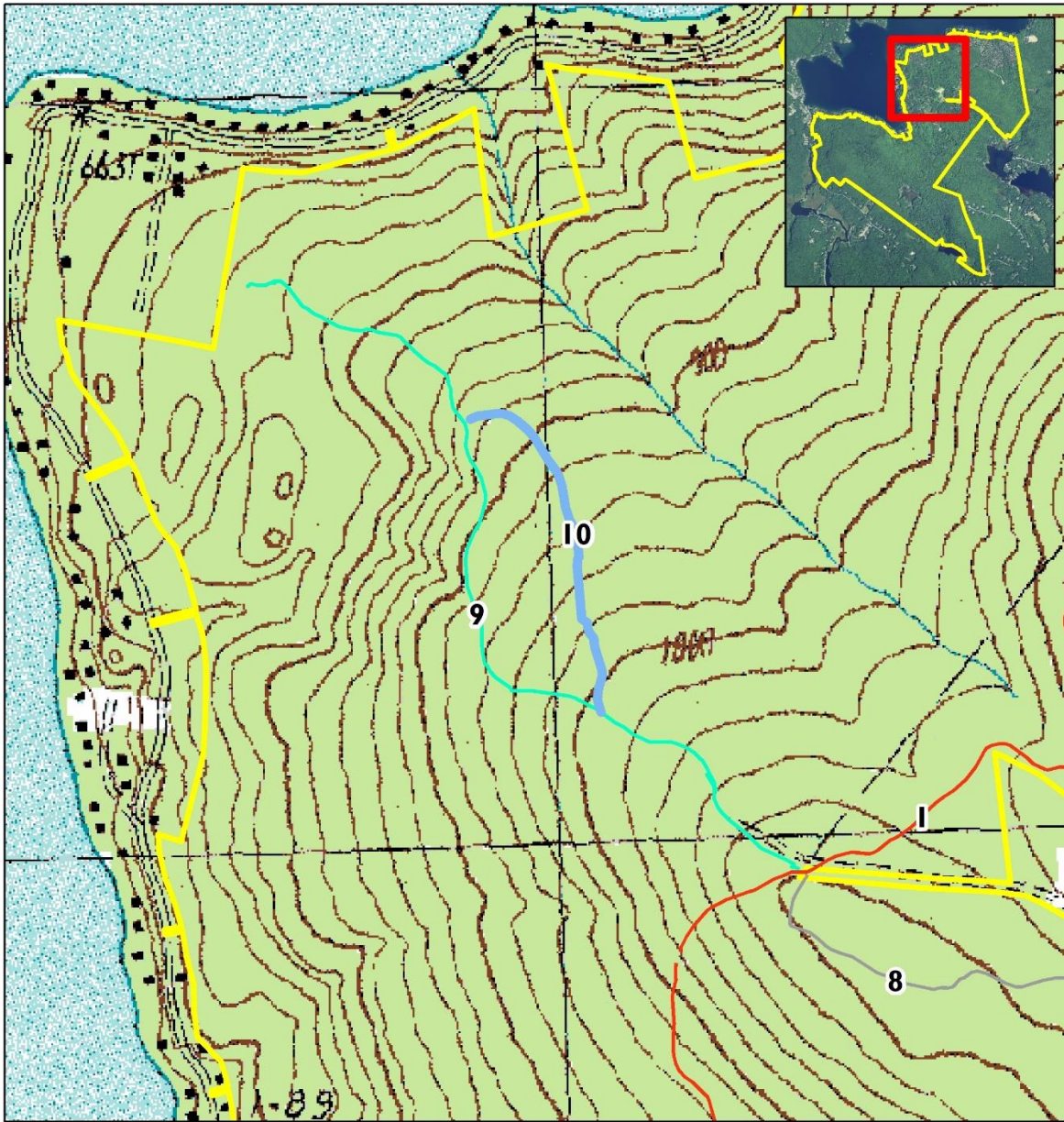
### **Trail #10 – Lake to Lodge Trail 2 (0.30)**

This short section of trail was mapped as a separate track, but technically it is considered a part of the scenic loop formed with Trail #9. The same uses and needs mentioned for Trail #9 apply to this section as well.

Recommended uses:

- Hiking
- Skiing/snowshoeing
- Mountain biking (with some reconstruction)
- Snowmobiles (with some reconstruction)





### Birch Ridge Community Forest Trails - Lake to Lodge Trail Two



**Trail #10**

### **Trail #11 – Mt. Eleanor Trail North (0.43 mi.)**

Mt. Eleanor is located in the northwestern corner of BRCF and has excellent access from the town beach parking area along the Lake Trail. The timber harvest affected the slopes along the north-northwest end of the small peak and left a wide swath/access road to the summit. There is still a mix of younger and more mature trees left in the areas that were cut so it is not completely wide open. The northeastern and southwestern slopes are quite steep and still forested, but are steeper than is ideal for trails.

Currently the easiest way to reach the summit is using the cut swath. The grade varies and can reach 25% in some spots but a trail could be cut at lesser grades by using climbing turns and switchbacks where needed. Using terrain features and proper design measures would allow for a sustainable trail to the top. Soils appear to be stable with good drainage and would be appropriate for constructing a new trail. This trail could easily continue over the summit and down the southeast side (see Trail #12) where it would intersect with the junction of Corridor 22 and the Lake Trail. This could also become part of the loop trail to the ridge of Rattlesnake Mt.

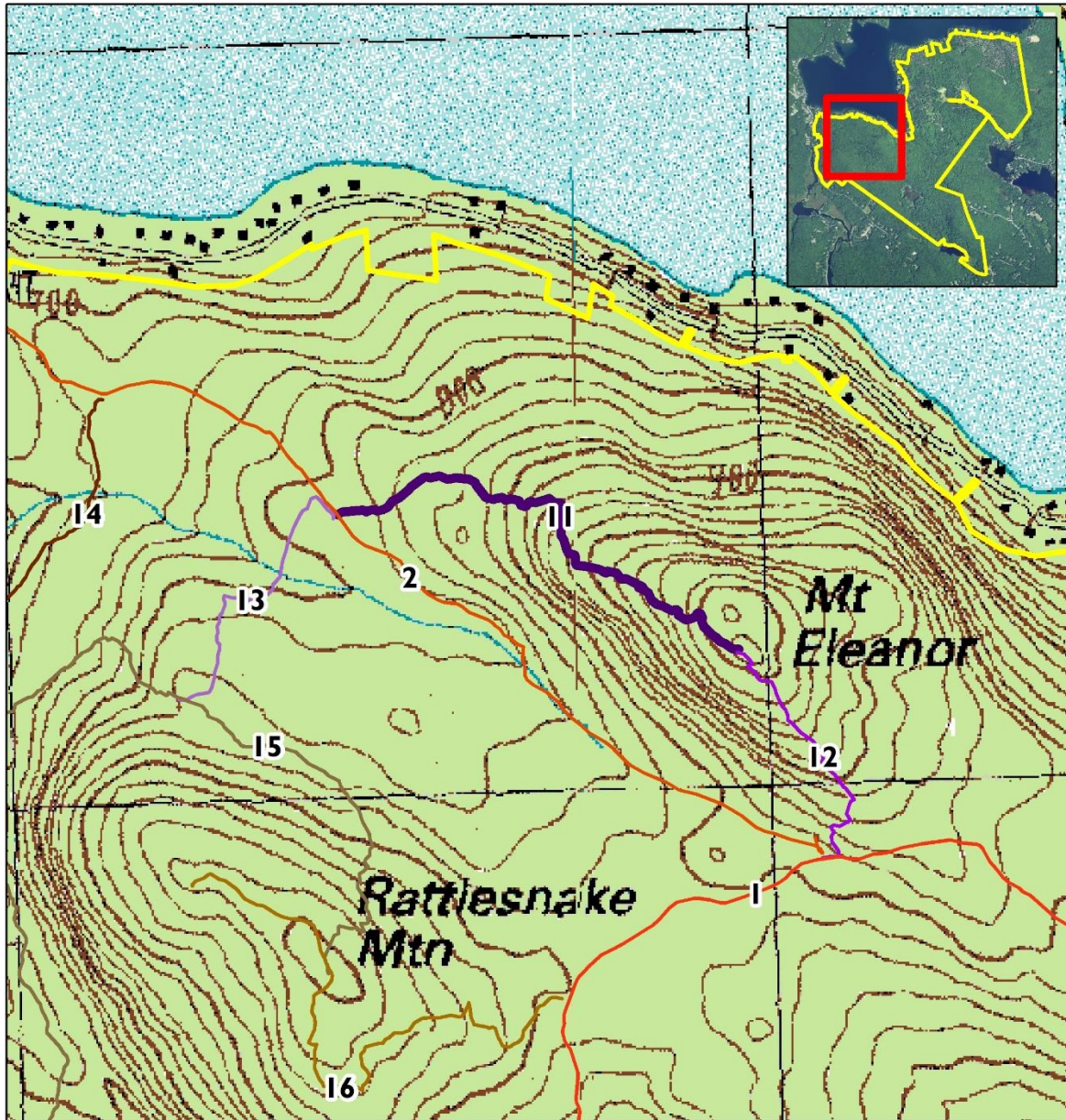
This would be best reserved for foot travel only and excludes any motorized and wheeled uses including mountain bikes. It is worth noting that this could serve as access to good backcountry skiing through the open trees on the north end of the ridge, something that is increasing in popularity for winter recreation.

Construction of this trail would be hand-built and could be done by a professional trail contractor working with volunteers. The lower harvested section could use some machine work if one was available but it's not a necessity.

Recommended uses:

- Hiking
- Skiing/snowshoeing





### Birch Ridge Community Forest Trails - Mount Eleanor North



### Trail #11

## **Trail #12**

### **Mt. Eleanor Trail South (0.24 mi.)**

Trail #12 is the other half of Trail #11 on Mt. Eleanor. It can be used as another access from the junction of Corridor 22 and the Lake Trail. It can also be included as part of the loop trail to the ridge of Rattlesnake Mt.

The grade is a bit gentler than on the north side (Trail #11) and meanders through a very interesting area of smaller trees near the top and the low end where trees were removed for the harvest but not completely cleared. Using terrain features and proper design measures would allow for a very nice sustainable hiking trail. Soils are suitable and would be appropriate for constructing a new trail. This would also become part of the loop trail to the ridge of Rattlesnake Mt.

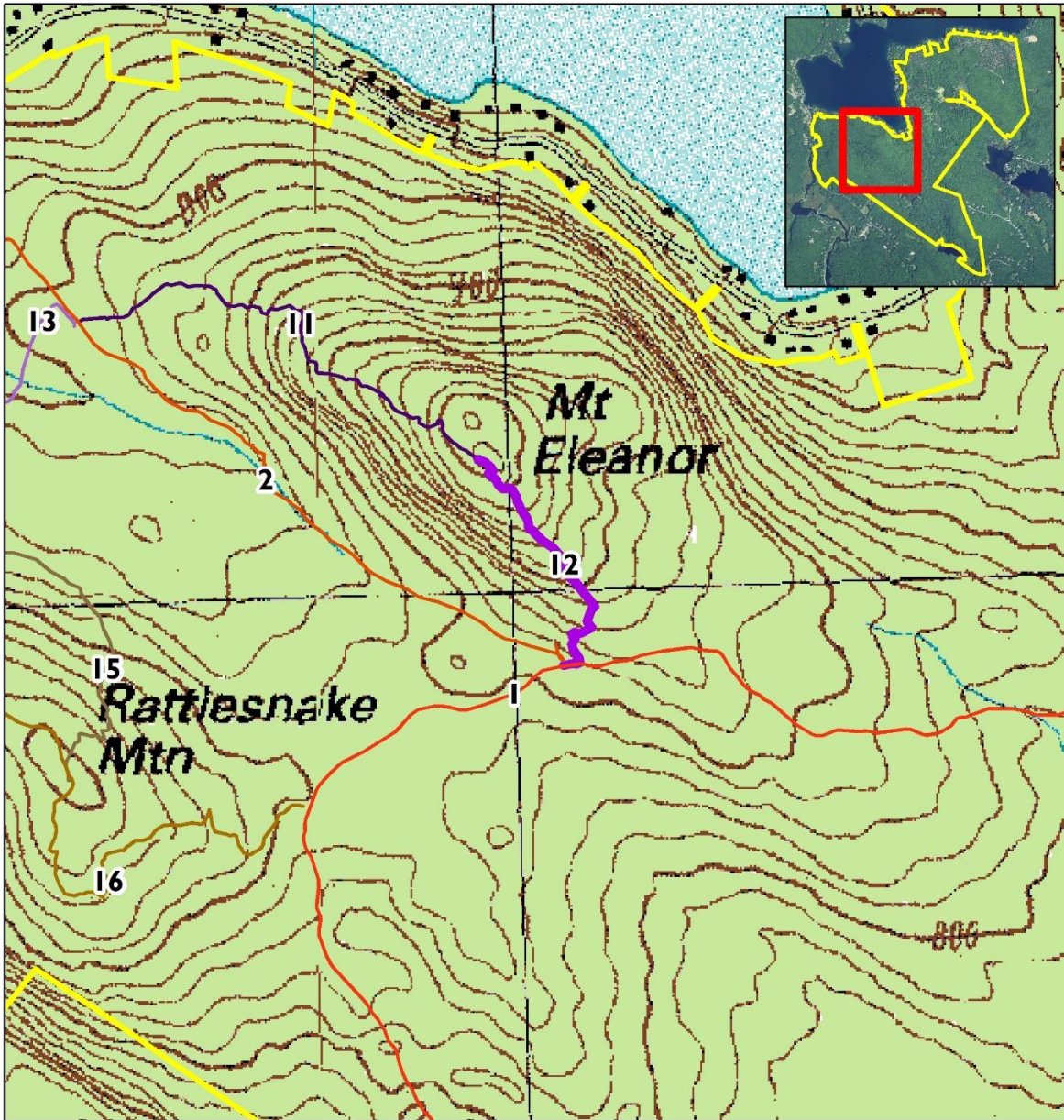
This would be best reserved for foot travel only and excludes any motorized and wheeled uses including mountain bikes. This could also serve as access to good backcountry skiing through the open trees.

Construction of this trail would be hand-built and could be done by a professional trail contractor working with volunteers.

Recommended uses:

- Hiking
- Skiing/snowshoeing





### Birch Ridge Community Forest Trails - Mount Eleanor South



### Trail #12



## **Trail #13**

### **Rattlesnake to Eleanor Connector (0.26 mi.)**

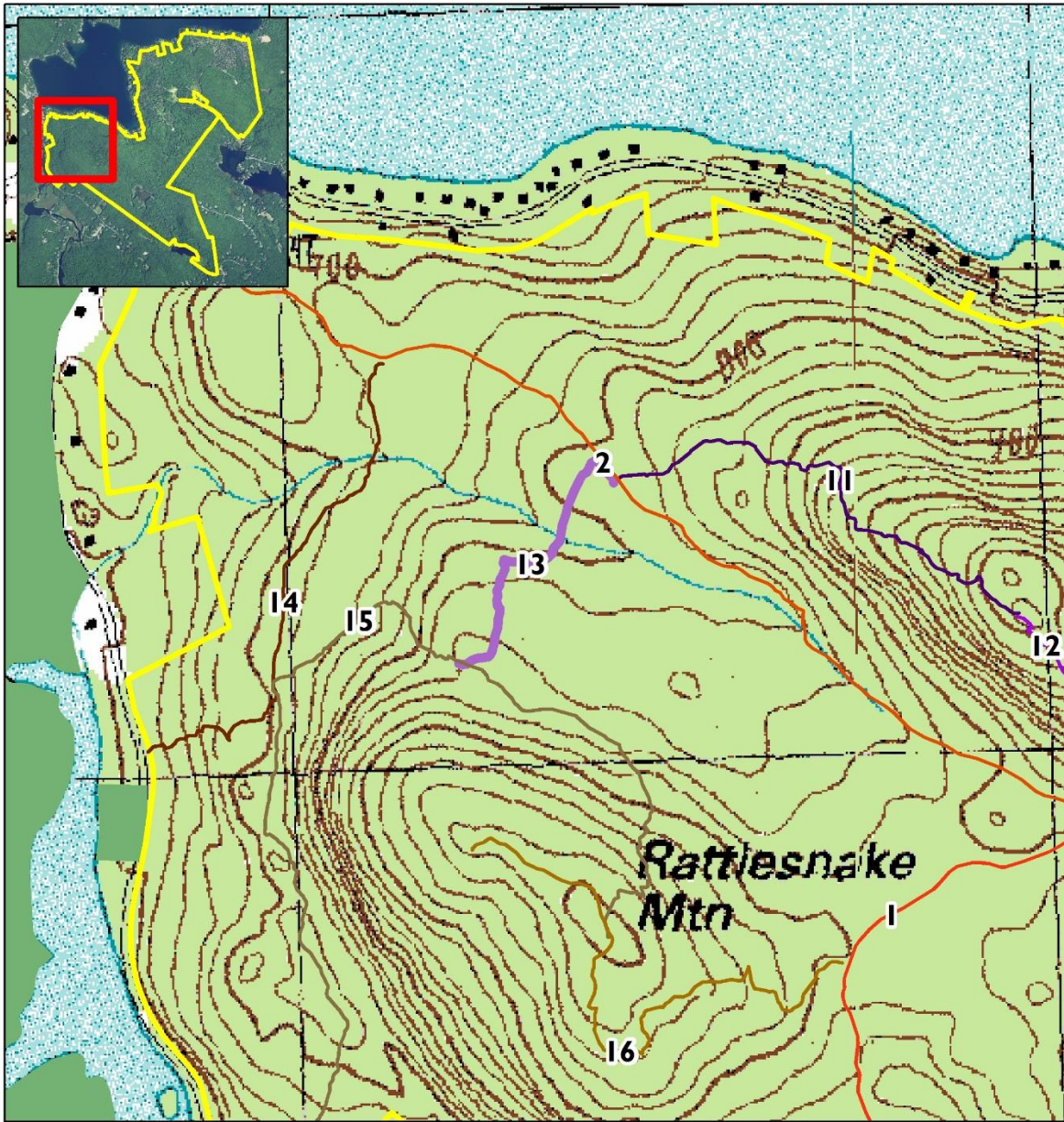
This trail does not exist and would require construction. The recommendation is for use as a non-motorized trail only. It would be the northern connection between Mt. Eleanor and Rattlesnake Mt. It would sit between the junction of Trail #2 (Lake Trail) and Trail # 11 (Mt. Eleanor North) and connect to Trail #16 (Rattlesnake Main Trail). From the Lake Trail end it follows a short skid path to a stream, crossing the stream and then up to another skid path until reaching the main skid road that circles around the north end of Rattlesnake Mt.

There is little work to be done for clearing and it would be done as a 24"-36" wide tread if hand built and a bit wider if done by machine. The stream crossing could be done by installing step stones or better still with a 16' foot bridge. A bridge would be best for allowing passage for uses other than just hiking. It would be built bank-to-bank so no wetlands permitting will be required.

Construction of this trail would be hand-built or machine built and could be done by a professional trail contractor working with volunteers. Given the area it is in and the logging debris that remains, it might be best done by a small machine suitable for trail work.

Recommended uses:

- Hiking
- Skiing/snowshoeing
- Mountain biking (with specific use modifications)
- Equestrian (with specific use modifications)



### Birch Ridge Community Forest Trails - Rattlesnake to Eleanor



### Trail #13

### **Trail #14- Rattlesnake Access (0.45 mi. as shown))**

Trail #14 is one of the heavily used skid roads that was used during the harvest. It connected the northern end of Trail #2 (Lake Trail) to the main skid road that ran down to the large landing west of Rattlesnake Mt. at the corner of Brackett Rd. and Merrymeeting Rd. This map shows the trail beginning/ending across the road from the Merrymeeting Marsh parking area because there was an attempt to find quicker access from the parking area which might work as parking for the BRCF trail network. The parking is suitable and has ample space but requires crossing Merrymeeting Rd. which may present safety concerns. This access point could provide a short route to the main skid road (see Trail #15) but with the steep grades it will require building it by traversing the slope with bench cutting and using climbing turns or switchbacks to maintain a maximum 10-15% grade.

Consideration should be given to whether this is the best access point on the west side of Rattlesnake Mt. or whether the landing to the south is more suitable. Though it might not be ideal to mix a log landing and trailhead parking, the landing to the south appears to have enough space to include a designated parking area for the trail. Also, the trail from the Merrymeeting Marsh parking area would not be suitable for snowmobiles if it is built as described above. It would be foot travel only.

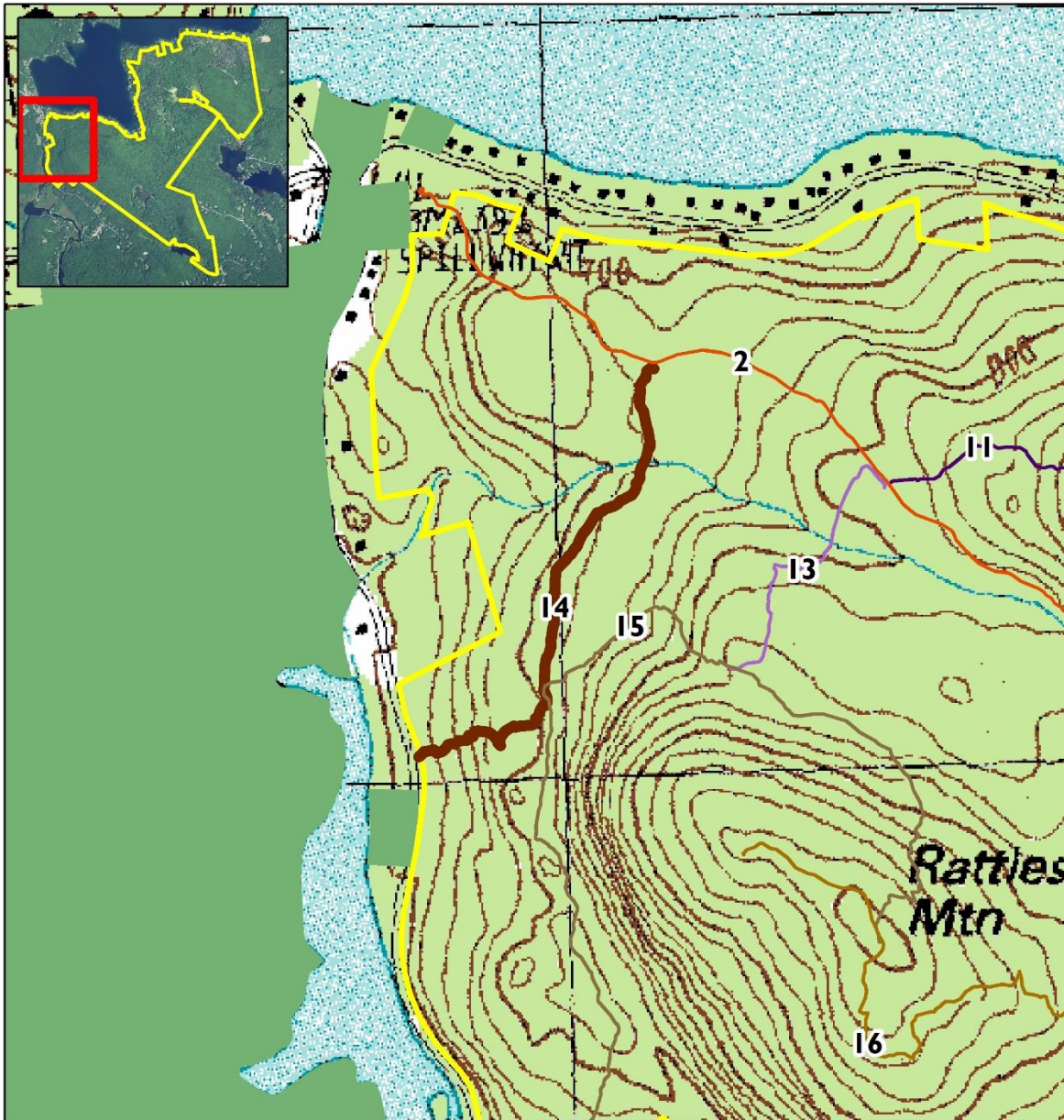
There are not many reasons to use the northern portion of this trail other than to create a shortcut between the end of the Trail #2 and the Trail # 15. The amount of additional work seems unnecessary given there may be other routes to use between the town beach parking area and Rattlesnake Mt. If a shortcut is important, there may be other routes to use as shortcuts with the open spaces and skid roads in the area that were created by the timber harvest.

If any trails are to be constructed from the Merrymeeting Marsh parking area, they would likely be hand-built. More research needs to be done to determine where the best routes might be.

Recommended uses:

- Hiking
- Skiing/snowshoeing





### Birch Ridge Community Forest Trails - Rattlesnake Access



**Trail #14**

### **Trail # 15 - Rattlesnake Main Trail (1.10 mi.)**

This trail follows the very heavily used skid road that brought the timber on this end of the property to the landing on Merrymeeting Rd. Of all the trails in BRCF, this one ranks as the third largest after Trails 1 & 2. With the timber work that took place and the leftover slash and debris, this skid road is the only sensible option to be considered for a trail from this side of Rattlesnake Mt. It follows the western side of the mountain and winds around the northern end before accessing the eastern facing slopes that were logged quite heavily. Due to the amount of cutting that took place in this area, there are several paths to climb to the skid road from the old landing but options are limited with the proximity to the property boundary. As mentioned in the previous narrative, this landing could be used as a trailhead/parking area for the western side of BRCF but would need to consider how it is used for future timber harvests.

This skid road continues northwest from the landing, turns north, then northeast before eventually southeast where it follows the toe of the eastern facing slope. There are steep grades on the skid road as it ascends to the eastern side. There are likely better options in the rough, wooded area adjacent to the skid road as it ascends this steep section. A climbing trail that follows easier grades might be cut in this area with some careful route planning. This might be best to do as a later phase after first using the skid road for the near future.

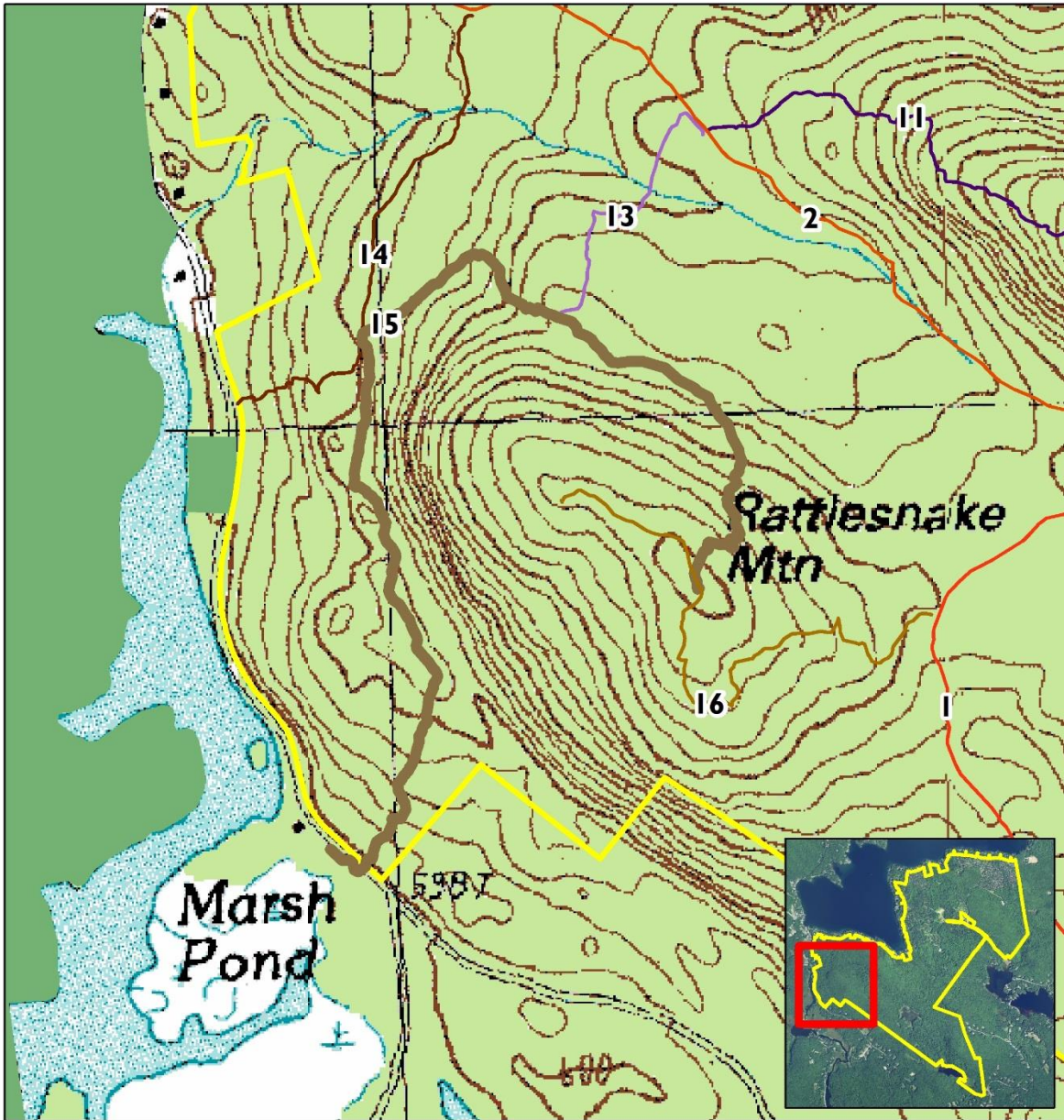
After reaching the eastern side of the ridge where it temporarily levels off, a trail could follow the topography using a series of climbing turns to reach the ridge where it could join Trail #16 (Rattlesnake Ridge Trail). There are a number of skid roads that were used to pull timber off this side offering numerous ways to climb to the ridge. There is a great deal of slash and debris as well as a wet areas and seeps that need to be addressed but with careful route finding a trail could be built with a crew using a combination of machinery and hand tools.

The western slope of Rattlesnake Mt. is steep with numerous rocky outcroppings making it more difficult to access. There are places where a steep trail leading directly to the ridge could be hand built with the most suitable point starting near the northwestern end of the ridge. One of the best sites to begin such a trail to the ridge could begin where Trail #14 intersects with this trail. This will take careful route finding and erosion could occur over time. When reviewing possible trail routes on the ridge the mapping was discontinued on the north end where a trail might descend to meet the intersection with Trail #15 (not shown on the maps). With all the current options available, it makes sense to use the skid road for the foreseeable future.

#### Recommended Uses:

- Hiking
- Skiing/snowshoeing
- Snowmobiling (optional, if used to access the Lake Trail via Trail #14)





### Birch Ridge Community Forest Trails - Rattlesnake Main Trail



### **Trail #16 - Rattlesnake Ridge Trail (0.56 as shown)**

The ridge on Rattlesnake Mt. is another must-see area of BRCF and could easily become a highlight of the property. From the top there are new views as a result of the timber harvest that look north to mountains and the lake below as well as east to Mt. Eleanor. There are also some small view sheds to the southwest and west into Merrymeeting Marsh and beyond. This should become part of the loop with Mt. Eleanor though access to Rattlesnake Mt. can be found from the south on Corridor 22 or from the options available using Trail #15 as mentioned in the previous narrative.

Once on the ridge it is mostly open and there is a rather obvious path created during the timber harvest and it would be easy to build a trail along this section. The grade is rolling to nearly level. From the southern end there are a few route options that can be used to wind down to C22. If used as a loop with Mt. Eleanor it will continue along Trail #1 (Corridor 22) to where it intersects with both Trail #2 (Lake Trail) and Trail #12 (Mt. Eleanor North Trail). Grades along this portion are very manageable at less than 10-15% maximum.

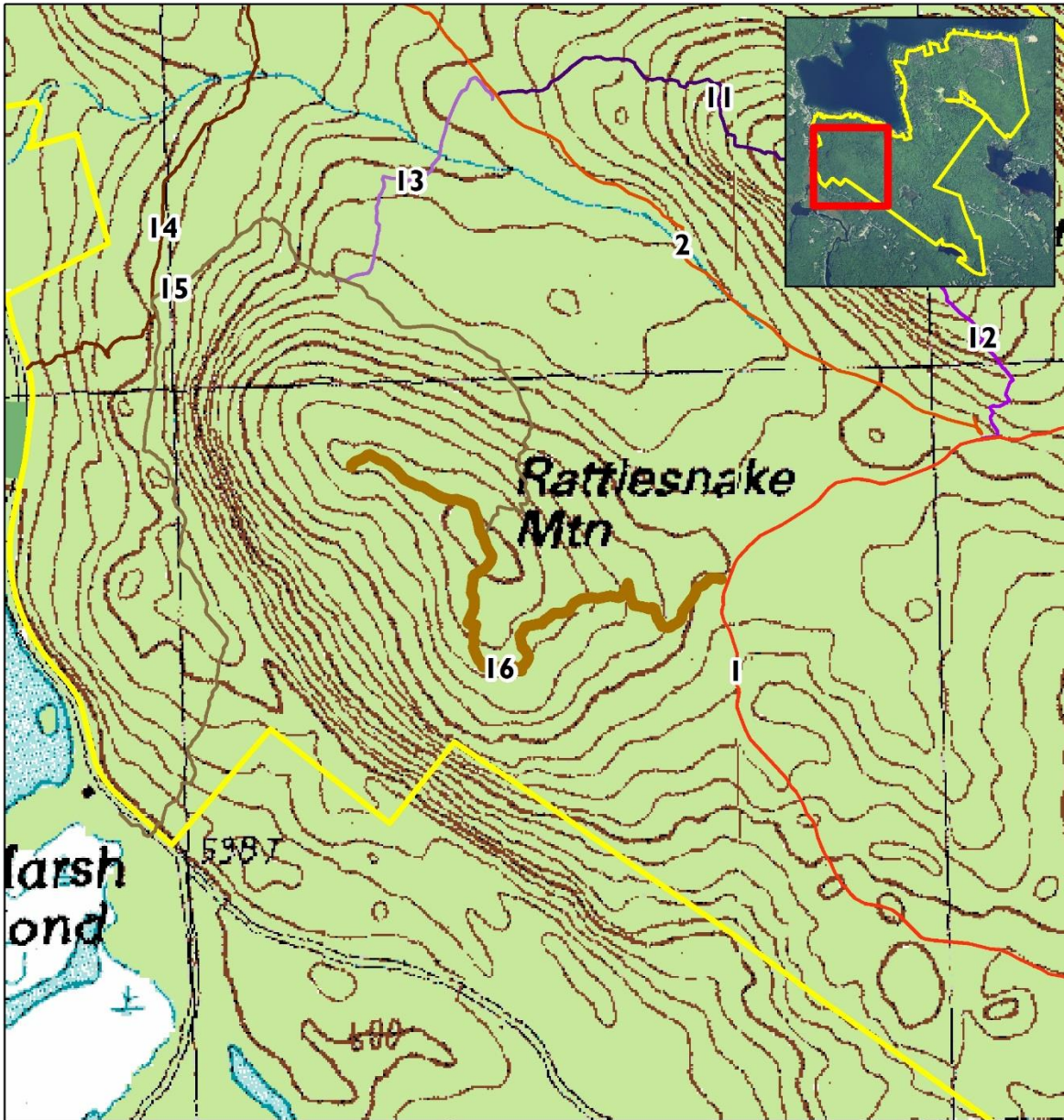
It promises to be another favorite with hikers and should make for some good backcountry skiing as well on the east facing slope.

This trail could be built working with machinery and/or hand built with a trail contractor and volunteers.

Recommended uses:

- Hiking
- Skiing/snowshoeing
- Mountain biking (only if designed for bike access and not recommended at this time)





### Birch Ridge Community Forest Trails - Rattlesnake Mt. Ridge Trail



### Trail #16

### **Trail #17 - Connector to Camp Pride (0.76 mi. as shown)**

This is a proposed trail that would follow an access road cut during the timber harvest. Located on the far northeastern corner of the BRCF property, it offers access to the adjacent land owned by Camp Pride which is located at the east end of Merrymeeting Lake. There have already been conversations with SELT on how this trail could be used and the decision has been that if it was viable, it would be for non-motorized use only.

Departing from the lake, the route follows a roughly cut access road that traverses low along the BRCF boundary near the lake before turning sharply to the left and climbing rather sharply to eventually meet Corridor 22 at the large landing below the western slope of Birch Ridge.

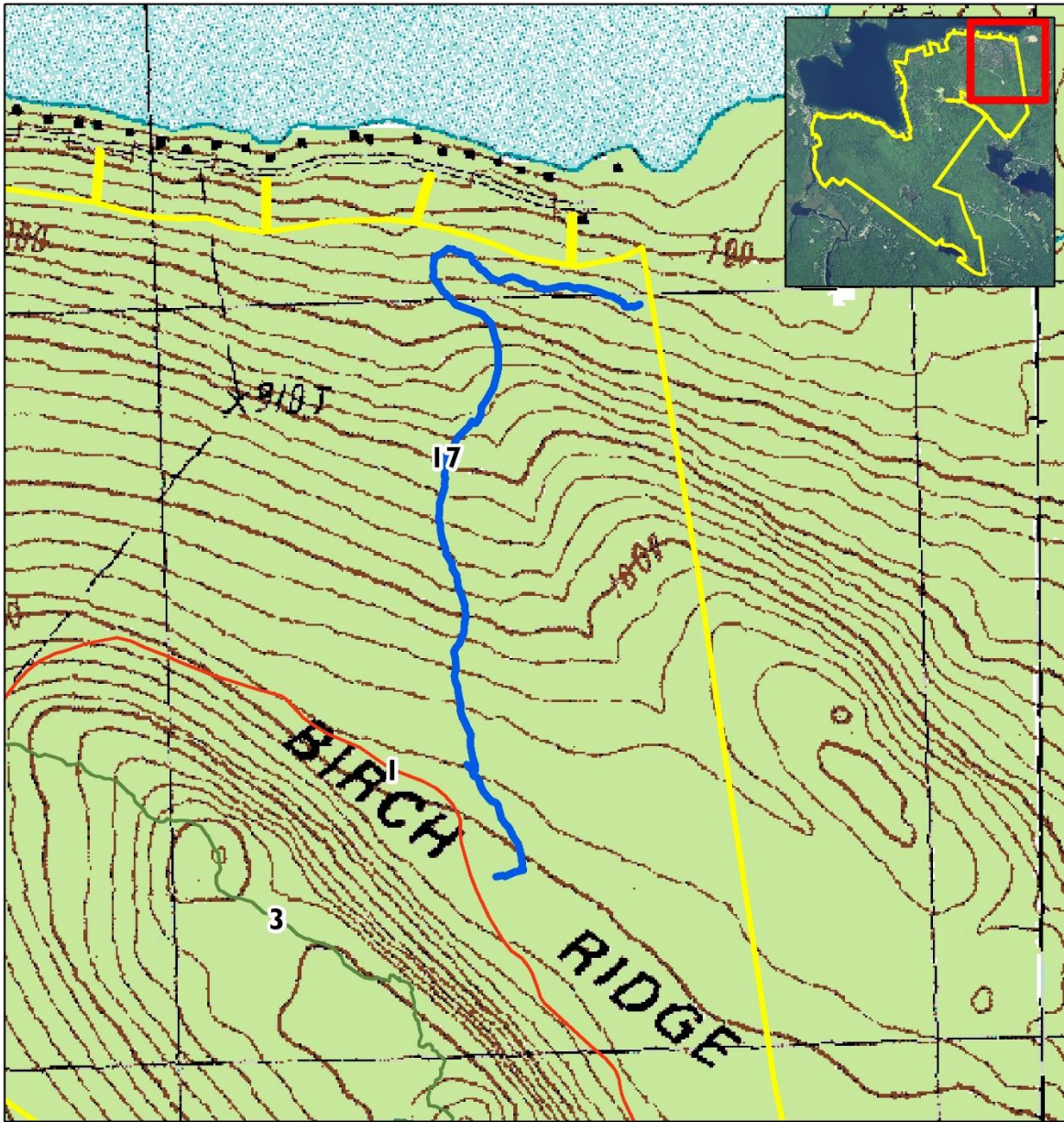
Average grades are less than 20%, often less than 10-15%. However, there are enough steep sections (grades up to 25%+) that would require rerouting with climbing turns and side hilling to maintain a lesser more sustainable grade. Other erosion control measures will also be required on the longer pitches with sustained grades even though they may be less than 15%.

This has potential to be used for foot travel only but it would require a fair amount of work for the distance covered, especially to make it smooth and even as was requested for users from Camp Pride. It could also loop back on to BRCF land using some old roads nearby but they are quite steep and drainage is currently a challenge without proper reconstruction. If this trail were to be constructed it should be considered for a later phase with other trails being a higher priority.

Possible uses:

- Hiking
- Snowshoeing





### Birch Ridge Community Forest Trails - Connector to Camp Pride



### Trail #17



### **Trail #18 - Connector to Coldrain Pond ((NH Fish and Game WMA, 0.56 as shown)**

This trail is not on BRCF property but should be considered for another good access point that includes parking. NH Fish and Game (NHF&G) owns the adjacent property known as Coldrain Pond Wildlife Management Area. Coldrain Pond is an 18 acre fly-fishing only trout pond with a shoreline made up predominantly of floating bog that transforms into red maple swamp. The surrounding upland is oak-pine forest. It is known for a variety of wildlife species. This trail would depart the BRCF on Corridor 22 and then turn south on NHF&G land to eventually meet up with Coldrain Pond Trail (shown as Trail #18 on these maps) then turn right to the already established trail head/parking area on Brackett Rd.

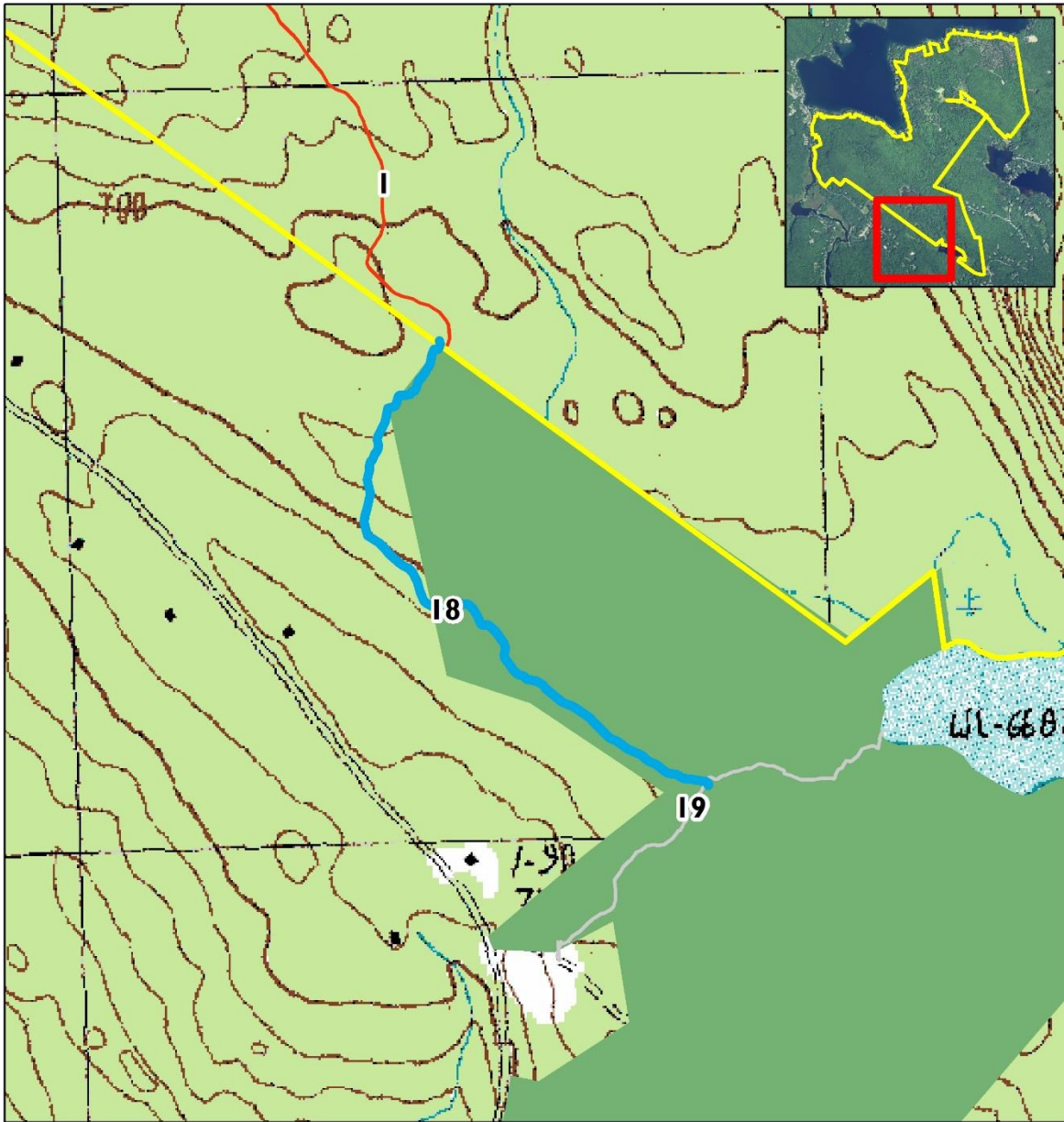
Leaving from Corridor 22, this trail will skirt through a short section of fairly open woods before following an overgrown roadway that will be easy to clear for trail use. This would create an opportunity to travel from here at the southern end of BRCF to the farthest north corner beyond Birch Ridge. Because it is NHF&G WMA property, it will quite likely be limited to foot travel year round.

Permission will be required from NH Fish and Game for this trail to be built. Volunteers could easily open this section of trail with minimal guidance from a knowledgeable trail designer/builder.

(\*Note: The attached map for this trail shows that the final route may need adjusting to remain on NHF&G property).

#### **Recommended Uses:**

- Hiking
- Skiing/snowshoeing



### Birch Ridge Community Forest Trails - Connector to Coldrain Pond



## Trail #19

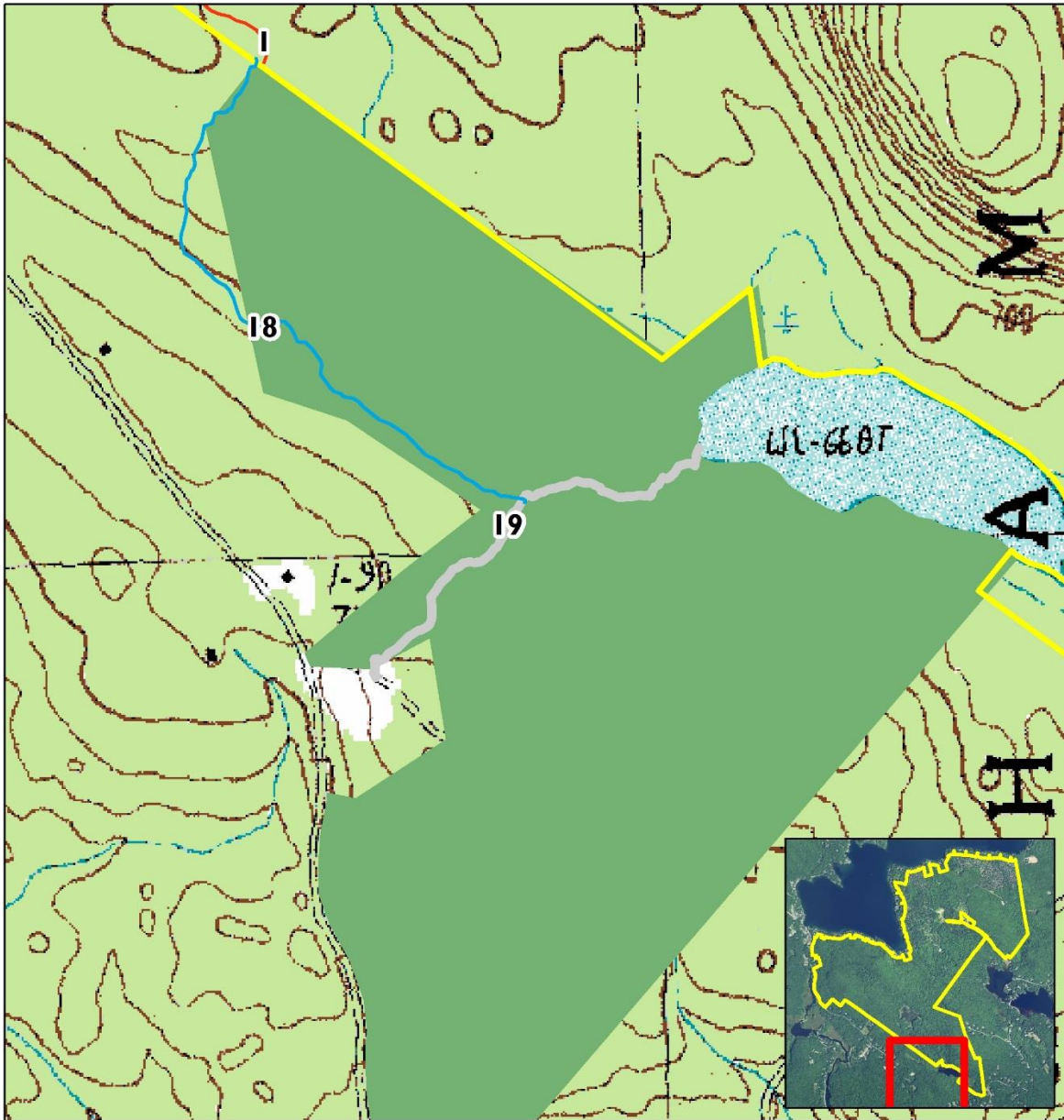
### **Trail #19 - Coldrain Pond Trail (NH Fish and Game WMA, 0.40 mi.)**

This trail already exists and is being included in this document to complete the route discussed in the previous narrative. The trail begins at the trailhead/parking area on Brackett Rd. and ends at Coldrain Pond. The far side of Coldrain Pond is on BRCF property but due to the pond and surrounding wetlands it is not an ideal location for other trails without great effort and expense. Of course access in the winter would be easier when the pond and surrounding landscape freeze.

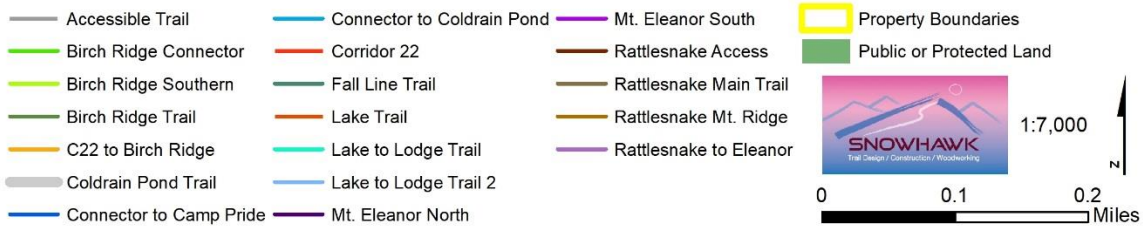
There is an old roadway on the left before dropping down the final pitch to the pond. This is the trail (Trail #18) that would be used to access Corridor 22.

Uses:

- Hiking
- Skiing/snowshoeing



### Birch Ridge Community Forest Trails - Coldrain Pond Trail



### Trail #19

### **Trail #20 – Sunrise Trail (0. mi. as shown)**

This is an existing trail that follows an access road used during the timber harvest and has been used as snowmobile access by adjacent landowners for access to Corridor 22 and beyond. It is located on the far northeastern corner of the BRCF property, it offers access to the adjacent private land just to the west of Chalk Pond.

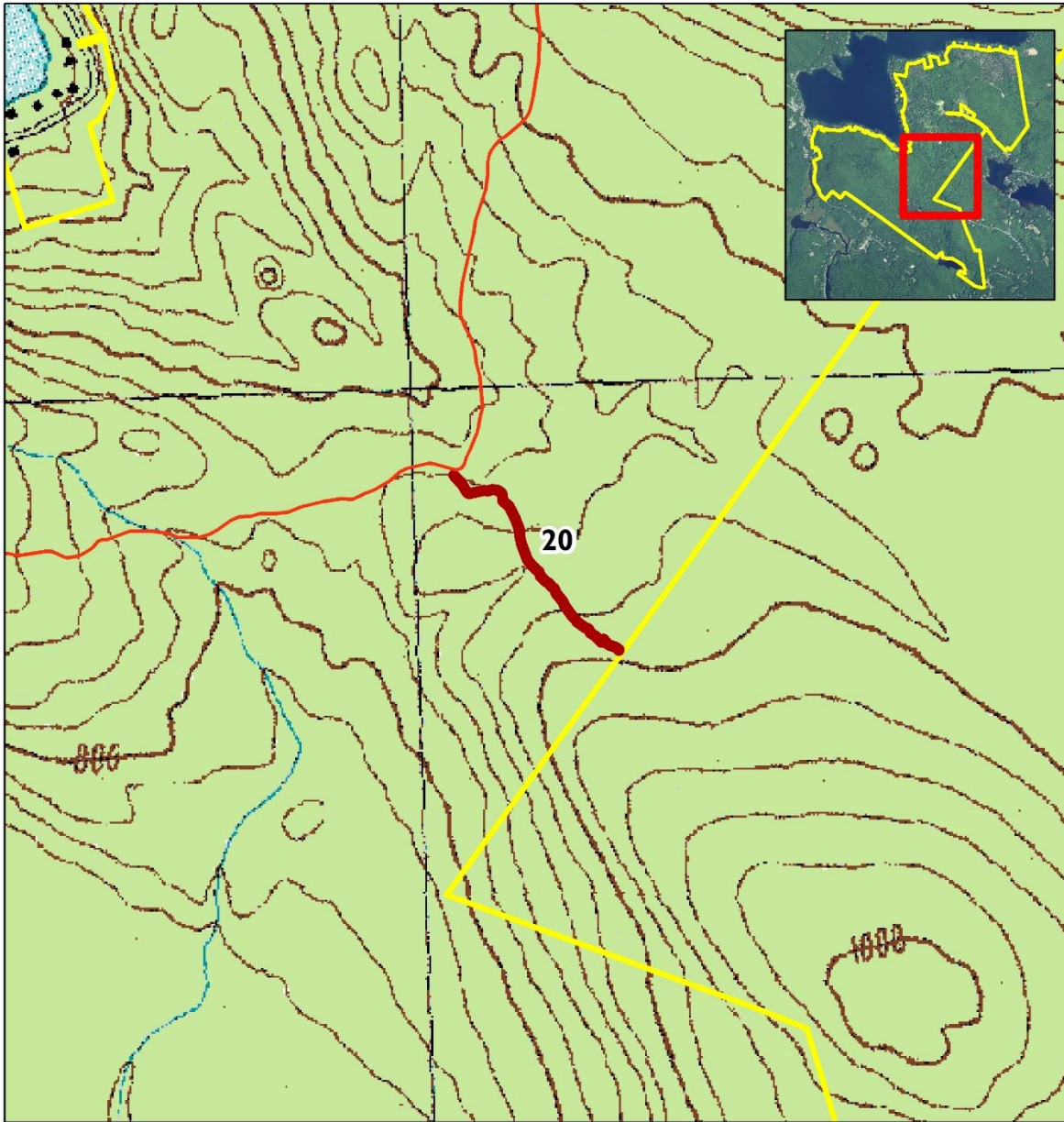
Departing from Corridor 22 in the large log landing approximately halfway between the cabin and the junction for the Lake Trail, the trail follows an access road along relatively level ground climbing gradually to the property boundary before crossing on to private property. There appear to be relatively good soils and few areas requiring any significant drainage work though some maintenance will be required over time.

As this has historically been a key point of access to Corridor 22 for the abutters, this trail should remain open to allow the access for that group. Monitoring the amount of traffic may then be a matter for those landowners as much as it will be for SELT.


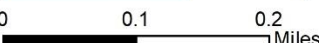

Possible uses:

- Hiking
- Snowshoeing
- Snowmobiling
- Skiing/snowshoeing





### Birch Ridge Community Forest Trails - Sunrise Trail

— Accessible Trail	— Connector to Coldrain Pond	— Mt. Eleanor South	□ Property Boundaries
— Birch Ridge Connector	— Corridor 22	— Rattlesnake Access	■ Public or Protected Land
— Birch Ridge Southern	— Fall Line Trail	— Rattlesnake Main Trail	
— Birch Ridge Trail	— Lake Trail	— Rattlesnake Mt. Ridge	
— C22 to Birch Hill Road	— Lake to Lodge Trail	— Rattlesnake to Eleanor	
— Coldrain Pond Trail	— Lake to Lodge Trail 2	— Sunrise Trail	
— Connector to Camp Pride	— Mt. Eleanor North		

**Trail #20**

### **Construction costs**

Ask anyone that builds trail about the costs and there will be a wide range of numbers provided. There are so many site-specific variables that include such things as length/width, soils, access, vegetation removal, season, machine vs. hand-built, contactor overhead, volunteers or not...the list goes on. Research for this report regarding current cost ranges is continuing and will be provided to SELT in the near future.

When the time comes to build any new trails, it will likely require a bid process with requests for proposals. This will give the range of costs to assess for creating a contract or agreement. This will require a complete and thorough trail log/survey to present for the bidding. Using this document as a foundation for that work should be helpful in that process. There are several trail contractors in the northeast and beyond that are competent and have the know-how to take on any of the work mentioned here.

### **General recommendations**

As one can tell after reading through the information on the existing trails and those that could be built, there will be work for some time to come. There are a few things that should be considered now while the trails have been opened to the public. In brief, these are:

- Trail blazing and signage – With the various roads created during the timber harvest, it is necessary to clearly define the routes to be followed. It would also help to close the ends of any trails/roads that may confuse the users and possibly mark them as such until such time that the route is more obvious. Trails can be numbered or named, even color coded. Paint blazing requires maintenance and plastic or aluminum blazes seem to work well if properly positioned.
- Kiosks – Trail heads and access points would benefit from kiosks built to contain pertinent information and maps related to the property and what is/is not permitted. Leave No Trace information would also be beneficial to post here.
- Access – There are a few locations that would serve the property well for access. The recommendations for those points are covered in the prior narratives and will be decided by SELT and others. Another consideration is limiting access where it is not desired. There are several access points that will need monitoring and many will require some form of closure (gates, cables/chains, natural features). This will be most important for the potential of motorized vehicles of all kinds. Signs are part of this but they haven't stopped ATVs and dirt bikes in the time since SELT took ownership and it's surely going to be an ongoing effort. Snowmobile use may also need to be limited to designated trails as well.
- Prioritize projects - Maintain critical access needs and build new trails as needed and when funding is available. There is so much work to be done on the main corridors and

they can provide good access until new trails can be built. The snowmobile club will need to do work for the upcoming winter and focusing on Corridor 22 and the Lake Trail. Perhaps that work will be the most important but as mentioned earlier it should be done following recognized design and construction standards with less of a quick-fix approach whenever possible (while being fully aware of the need to move quickly for the winter season ahead).

- New trails - If there is interest and funding, the recommendation is to prioritize which trails are most important to SELT and the public and build those in order of need. If asked for recommendations on which trails should come first the list might be as follows:
  - Birch Ridge Trail
  - Mt. Eleanor
  - Rattlesnake Mt.
  - Rattlesnake to Eleanor Connector
  - Coldrain Pond connector
  - Accessible Trail – This could be done at any time and does not necessarily deserve to be last on this list. Seek out funding sources to build an accessible trail, or at least a phase one portion. Though it may come at a great expense, there is a need and it will be valued by those that need it.
- Maintain partnerships and a volunteer base - It will take many hands to do the work. Partners (such as the Powdermill Snowmobile Club and Merrymeeting Lake Association among others) will be key in order to accomplish it all. Building a base of volunteers who are ready to help is also important. Training volunteers to do understand trails and how to build them properly and safely is another piece of the process.

## **Conclusion**

Birch Ridge Community Forest has excellent potential for being recognized as a destination for several types of outdoor recreation. With good planning, construction, and long term maintenance, the forest will provide opportunities for many over the years ahead. It has been a pleasure to get to know the land while realizing that there is so much more to be seen and learn. It is my hope that this report will help to make some of those opportunities a reality.

See you on the trails,

Lew Shelley

SnowHawk LLC

## **Acknowledgements**

There were several people that made the research in the field fun and the reporting/map work at the desk easier for this trail guy. Thanks to the following individuals (in no particular order) for their assistance in making this document possible and keeping it interesting and fun:

- SELT Staff, especially Debbie Goard for answering a myriad of questions and inviting me to participate in the project.
- Mike Gelinas for being a tour guide extraordinaire, local historian, and keeping the fires lit and fanning the flames for all the ideas.
- Matt Murphy for more local knowledge and being on-call for any needs.
- Jon Martin for his perspective as a forester and contributions to this project.
- Charlie Bridges and Lee Alexander for the perspective as a wildlife biologists and contributions to this project.
- Rick Brackett for assistance with GIS and map wizardry.
- Laurie Smith for a wonderful stay on the lake during the early recon missions.
- Kris Snowman-Shelley who was there from the first recon trip in the snow to the final click on the keyboard.

## Appendix I Potential Impact of Trails to Wildlife



## APPENDIX I

### BRCF Trails Analysis Using NH Fish & Game Trails for People & Wildlife Tool

As the public trail network was planned, the impacts both new and existing trails and woods roads had on wildlife were considered. To help with this assessment the tool developed by NH Fish & Game, "Trails for People and Wildlife", was used. This tool, through the utilization of GIS, provides guidance during the trail planning process to understand locations where trails minimize the impact on wildlife and still provide a good user experience. To do this, two factors are determined: 1) the level of impact trail locations have on wildlife and 2) the Corridor of Influence of the trails - or the effect both trail location and trail density has on different categories of wildlife (amphibians & reptiles, birds and mammals).

#### **Level of Impact Trails have on Wildlife**

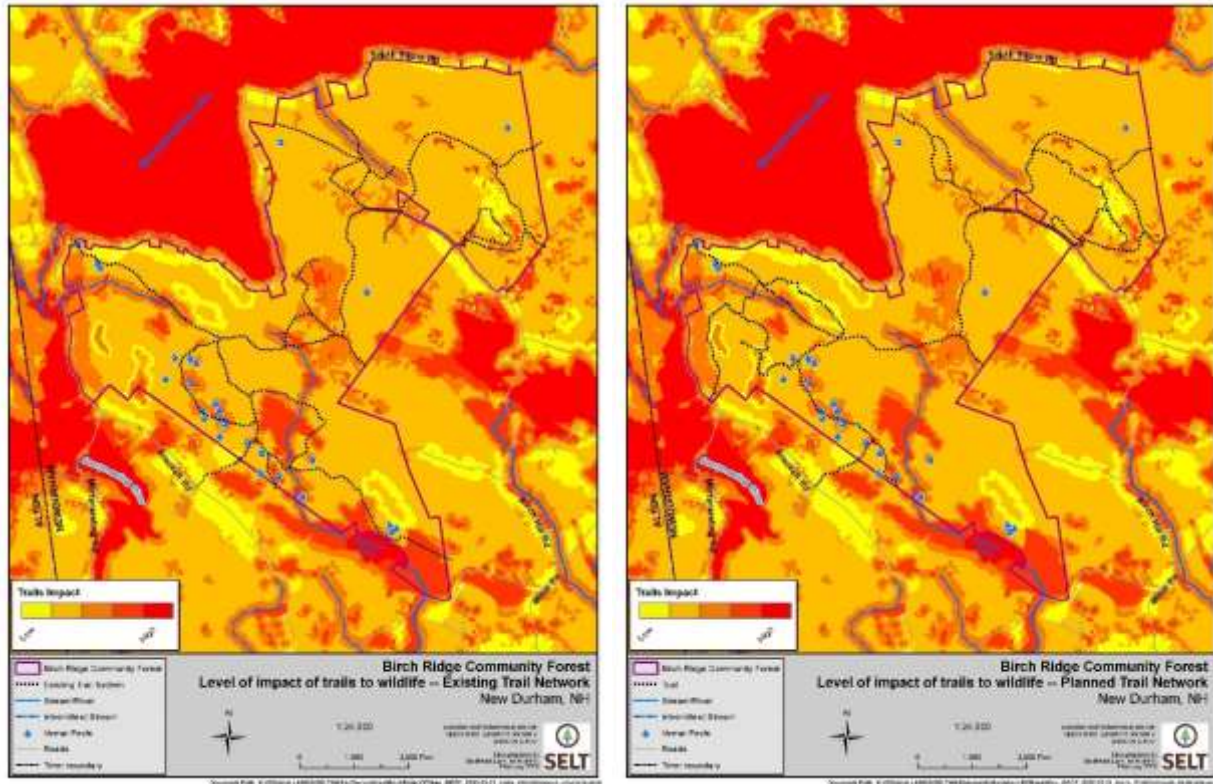
The interactions between the existing and planned trail networks and their level of impact to wildlife can be seen on the two maps below entitled Level of Impact of Trails to Wildlife – Existing Trail Network & Planned Trail Network. On these maps, the colder colors are those portions of the property where trails would have less of an impact to wildlife while the warmer colors indicate where trails would have more of an impact to wildlife.

The maps show that the areas trails would have more of an impact on wildlife include the higher elevations such as Mt. Eleanor, Rattlesnake Mountain and Birch Ridge, stream corridors and wetlands. The most notable impacts to wetlands would be to the large wetlands complex surrounding the beaver pond down to Coldrain Pond in the southern portion of BRCF.

On the map showing the existing trail network it can be seen that trails exist in more sensitive locations including the stream corridor in the northern portion of the property, the wetland complex in the central portion of the property and in the large wetland complex surrounding the beaver pond down to Coldrain Pond.

This information supported the decision to discontinue the trails located around the wetland in the south-central portion of the property and to the north of Coldrain Pond, as well as trail segments in the central and northern locations of the property. The discontinuation of these trails reduces not only the impact to water quality but also trails that have the potential for more of an impact to sensitive wildlife habitat.

While formal trails are planned to provide access to Mt. Eleanor, Rattlesnake Mountain and Birch Ridge, the maps can help guide the physical location of the planned trails to locate them in a manner that will minimize the impact to those more sensitive wildlife habitat areas.



The above maps show the locations on BRCF where trails would impact wildlife ranging from low to high impacts. By discontinuing or routing trails away from higher impact areas the impact of trails to wildlife can be reduced.

## Corridor of Influence

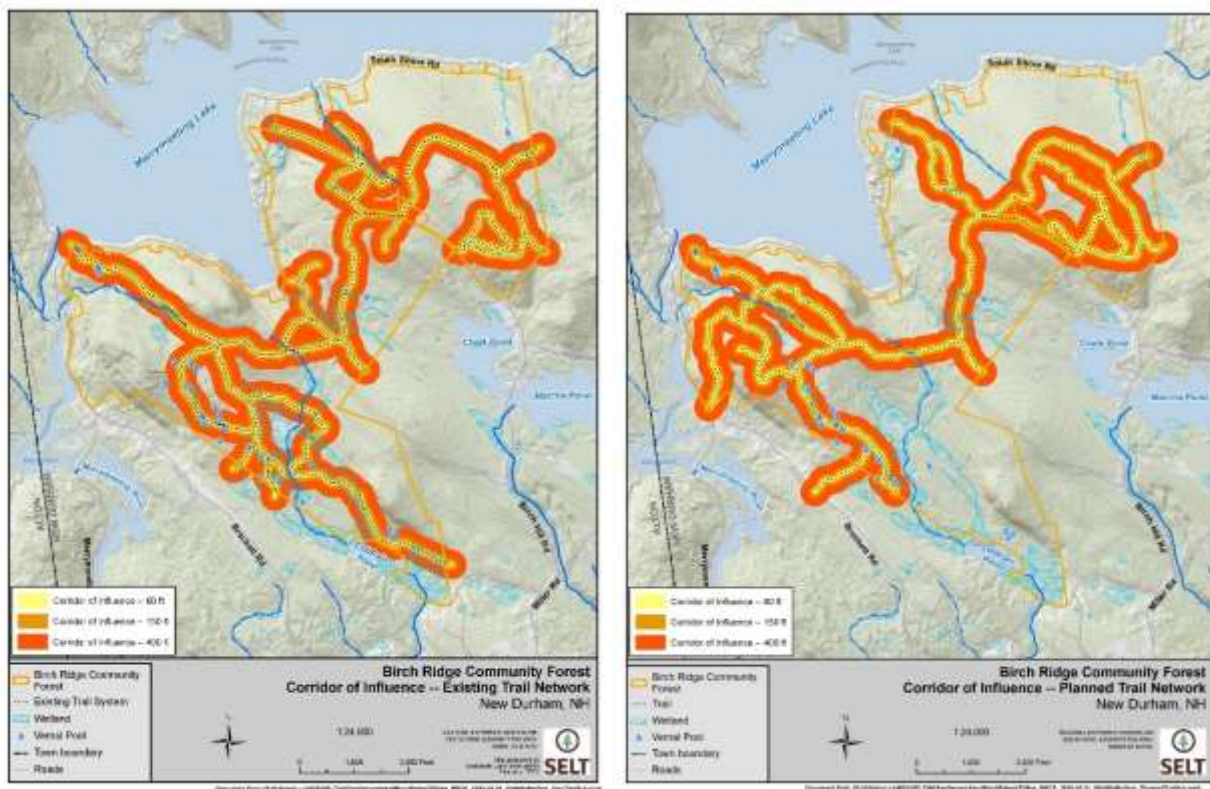
The second consideration of the tool is how trail locations and density affect the response of different types of wildlife through the trail's corridor of influence. In developing this tool, NH Fish & Game found that the research shows different wildlife species are sensitive and reactive to the presence of humans at different distances. Generally, amphibians and reptiles flee (escape to an area with no humans) when humans come within about 60-feet; birds become alert (stop what they are doing) when humans come within about 150-feet; and mammals become alert when humans come within about 400-feet.

By mapping the corridor of influence, we can better understand the portions of the property on which wildlife can be expected to be more affected by the trail system. We can also understand those portions of the property that would not be affected by the trail system, or the unfragmented blocks of land. The two maps below titled Corridor of Influence – Existing Trail Network & Planned Trail Network show the location of 60-foot, 150-foot and 400-foot corridors of influence around the existing trails and planned trail network.

On the map showing the existing trails, the extent of the trails appears to impact wildlife in some way on much of the property with only small areas of the BRCF left to contain unfragmented blocks of land where wildlife could occur less impacted.

On the planned trail network, it can be seen that while the planned trails still provide formal access to much of the property, larger blocks of unfragmented land remain, especially in the southern portion of the property surrounding the beaver pond down to Coldrain Pond.

A visual of the corridors of influence the trails have in conjunction with the locations on the property trails have a higher impact on wildlife further supports the closure of trails in the southern portion of the property as well as along the wetlands and stream corridors in the central and northern portions of BRCF.



Corridors of Influence are shown for 60-, 150- and 400-feet from the trails for: Left: Existing trail network and Right: Planned Trail Network.

To gain a better understanding of the tool, the publication “Trails for People and Wildlife: A Guide to Planning Trails that allow People to Enjoy Nature and Wildlife to Thrive” can be viewed at <https://wildlife.state.nh.us/trails/documents/trails-for-people-wildlife.pdf>.

## Appendix J List of Known Wildlife on BRCF

## APPENDIX J

### Wildlife Observed at the Birch Ridge Community Forest

Formal wildlife inventories have not been conducted. The species listed below reflect reported observations by knowledgeable individuals of wildlife observed at the BRCF during all seasons of the year. No differentiation has been made between species residing on the property and those migrating through. Note that **bold** signifies species of greatest conservation need as identified in the NH Wildlife Action Plan

#### Birds observed at the Birch Ridge Community Forest

Common Name	Scientific Name	Common Name	Scientific Name
<b>American black duck</b>	<i>Anas rubripes</i>	Hairy woodpecker	<i>Picoides villosus</i>
American Crow	<i>Corvus brachyrhynchos</i>	Hermit thrush	<i>Catharus guttatus</i>
American goldfinch	<i>Carduelis tristis</i>	Hooded Merganser	<i>Lophodytes cucullatus</i>
<b>American kestrel</b>	<i>Falco sparverius</i>	Mallard	<i>Anas platyrhynchos</i>
<b>American redstart</b>	<i>Setophaga ruticilla</i>	Mourning dove	<i>Zenaida macroura</i>
American robin	<i>Turdus migratorius</i>	Northern flicker	<i>Colaptes auratus</i>
<b>Bald eagle</b>	<i>Haliaeetus leucocephalus</i>	<b>Northern goshawk</b>	<i>Accipiter gentilis</i>
Barred owl	<i>Strix varia</i>	Osprey	<i>Pandion haliaetus</i>
Belted kingfisher	<i>Ceryle alcyon</i>	<b>Ovenbird</b>	<i>Seiurus aurocapilla</i>
<b>Black-and-white warbler</b>	<i>Mniotilta varia</i>	Palm warbler	<i>Dendroica palmarum</i>
Black-capped chickadee	<i>Poecile atricapillus</i>	Pileated woodpecker	<i>Dryocopus pileatus</i>
<b>Black-throated green warbler</b>	<i>Setophaga virens</i>	<b>Prairie warbler</b>	<i>Setophaga discolor</i>
Blue Jay	<i>Cyanocitta cristata</i>	Red-breasted nuthatch	<i>Sitta canadensis</i>
Broad-winged hawk	<i>Buteo platypterus</i>	Red-eyed vireo	<i>Vireo olivaceus</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>	Red-shouldered hawk	<i>Buteo lineatus</i>
<b>Chestnut-sided warbler</b>	<i>Setophaga pensylvanica</i>	Red-tailed hawk	<i>Buteo jamaicensis</i>
Common Grackle	<i>Quiscalus quiscula</i>	Ruby-crowned kinglet	<i>Regulus calendula</i>
<b>Common loon</b>	<i>Gavia immer</i>	Ruby-throated hummingbird	<i>Archilochus colubris</i>
Common Raven	<i>Corvus corax</i>	<b>Ruffed Grouse</b>	<i>Bonasa umbellus</i>
Common yellowthroat	<i>Geothlypis trichas</i>	Sharp-shinned hawk	<i>Accipiter striatus</i>
Cooper's hawk	<i>Accipiter cooperii</i>	Song sparrow	<i>Melospiza melodia</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>	Tree Swallow	<i>Tachycineta bicolor</i>
Downy woodpecker	<i>Picoides pubescens</i>	Tufted Titmouse	<i>Baeolophus bicolor</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>	Turkey vulture	<i>Cathartes aura</i>
Eastern phoebe	<i>Sayornis phoebe</i>	White-breasted nuthatch	<i>Sitta carolinensis</i>
<b>Eastern towhee</b>	<i>Pipilo erythrophthalmus</i>	Wild turkey	<i>Meleagris gallopavo</i>
Eastern wood-pewee	<i>Contopus virens</i>	Wood duck	<i>Aix sponsa</i>
European starling	<i>Sturnus vulgaris</i>	<b>Wood thrush</b>	<i>Hylocichla mustelina</i>
Fox sparrow	<i>Passerella iliaca</i>	Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>
Great-blue heron	<i>Ardea Herodias</i>	Yellow-rumped warbler	<i>Setophaga coronate</i>



### Mammals observed at the Birch Ridge Community Forest

Common Name	Scientific Name
Beaver	<i>Castor canadensis</i>
Black bear	<i>Ursus americanus</i>
Bobcat	<i>Felis rufus</i>
Eastern chipmunk	<i>Tamias striatus</i>
Eastern coyote	<i>Canis latrans var.</i>
Gray squirrel	<i>Sciurus carolinensis</i>
Meadow Vole	<i>Microtus pennsylvanicus</i>
Mink	<i>Mustela vison</i>
<b>Moose</b>	<i>Alces alces</i>
North American porcupine	<i>Erethizon dorsatum</i>
Raccoon	<i>Procyon lotor</i>
Red squirrel	<i>Tamiasciurus hudsonicus</i>
River otter	<i>Lutra canadensis</i>
Snowshoe hare	<i>Lepus americanus</i>
White-footed mouse	<i>Peromyscus spp.</i>
White-tailed deer	<i>Odocoileus virginianus</i>

### Amphibians observed at the Birch Ridge Community Forest

Common Name	Scientific Name
Bullfrog	<i>Rana catesbeiana</i>
Eastern american toad	<i>Bufo americanus</i>
Green frog	<i>Rana clamitans</i>
Northern redback salamander	<i>Plethodon cinereus</i>
Northern Spring peeper	<i>Pseudacris crucifer</i>
Pickerel frog	<i>Rana palustris</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Spotted salamander	<i>Ambystoma maculatum</i>
Wood frog	<i>Rana sylvatica</i>

### Reptiles observed at the Birch Ridge Community Forest

Common Name	Scientific Name
Common Garter snake	<i>Thamnophis sirtalis</i>
Common snapping turtle	<i>Chelydra serpentina</i>
Eastern painted turtle	<i>Chrysemys p. picta</i>
<b>Wood Turtle *</b>	<i>Glyptemys insculpta</i>

\* The wood turtle was found near South Shore Road. Since the Birch Ridge Community Forest does not have suitable habitat, it may be possible that this individual was released in the area.

## **Appendix K BRCF Community Feedback on Management Plan**

## APPENDIX K

### Birch Ridge Community Forest – Community Feedback on Management Plan

#### Summary of Questions during Public Input Session on July 22, 2020 and Comments Received via Email.

##### ***Questions During Public Input Sessions***

###### **Municipal Needs**

Question: What will be the surface of the Merrymeeting Road Parking Lot?

Answer: It will be unpaved, gravel

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Question: What is the plan for overflow parking?

Answer: They are being built for ten to fifteen cars which we believe should be ok for now. If there is a need we can increase the size in the future.

---

Question: Were all the areas that were clear-cut replanted?

Answer: The log landings were replanted with winter rye and clover. The forest was not replanted with seedlings as it will regenerate on it's own.

---

Question: What will be done to deal with traffic and people "exploring" the end of Birch Hill Road?

Answer: We expect with the creation of the parking lots, people will begin exploring from there. If public use becomes a problem for an abutter we ask that they contact SELT staff to determine what can be done.

---

Question: Is there a list of wildlife species on property?

Answer: Yes, there is a listing in the Appendix of the Management Plan.

---

Question: How will the lowbush blueberry field restoration occur on top of Birch Ridge?

Ans: There are plans to restore the blueberry field over the next several years. It will include cutting small trees, clearing brush/shrubs, and the possibility of maintaining it via prescribed burns.

---

Question: What type and where will the mountain bikes be able to access the trails?

Answer: The mountain bike trails will be shared trails rather than single track. Mountain bikers will be able to access the trail system from all trailheads.

---

Question: Could hunters receive permission to use an ATV to haul out a deer during hunting season.

Answer: While it may be a long way to haul out, the conservation easement does not allow ATVs to be used for recreational purposes, including hunting. SELT is not able to give anyone permission to use an ATV for hunting as it would violate the terms of the conservation easement.

---

Question: Can snowmobile trailers use the parking lots.

Answer: The trail from the parking lot on Merrymeeting Road does not allow for snowmobile use. For the parking lot off Birch Hill Road it was clarified that Birch Hill Road is an unmaintained town road with, up to this point, maintenance done by our abutter Steve Edwards who lives near the end of the road. Winter access to this road is not likely to be available to the public.

---

### ***Email Comments Submitted***

July 28, 2020

Dear Committee Members:

Thank you and congratulations on completing the important work of protecting the beautiful Birch Ridge Community Forest and drafting a management plan that will thoughtfully steward its care moving forward. I reviewed your draft document and listened to the Zoom public hearing with great interest and appreciate the comprehensive look that the committee has taken in terms of outlining objectives for the future.

I write today as the coordinator of the Strafford County Equestrian Trail Riders, a group of roughly thirty equestrians located in and around Strafford County, dedicated to promoting and preserving equestrian trail access. Like many other outdoor enthusiasts, equestrians are losing areas once traditionally available for our use to subdivision, fragmentation and development, and increasingly we rely upon our regional and state parks to provide recreational opportunities.

The BRCF draft plan indicates potential future equine use but has delayed soliciting equestrian feedback until 2022. Meanwhile, development of parking lots, trail heads, maps and improved access for most other user groups will begin imminently. It is our strong belief that the conversations between the Steering Committee and equestrians are best begun NOW, with the goal of allowing equestrian access to begin in 2022, rather than just starting the conversation at that time.

Equestrians will be a small subset of Birch Ridge users; our primary roadblock (always) is trailer parking. Navigating this hurdle earlier in the process, while parking lots are being planned and constructed, will prevent additional work in the future. In the Zoom session, speakers outlined that several trails and access points will be repaired or improved in the next few years. It makes the most sense to engage with equestrians now to learn how/if any of these trails could be suitable for our use. Often, mountain bike trails can also work for equestrians, as is or with only minor adjustments. Making needed changes now, while you are already working on improvements, is more efficient and a better use of resources.

The regional equestrian community is not organized into one large club, but rather several smaller grassroots organizations. There is interest in supporting the development of equestrian access to Birch Ridge (including donation of labor and funds) however it is difficult for us to actively solicit membership

for these types of projects if there isn't clear buy-in from conservation organizations that they are committed to actively work towards creating and maintaining equestrian access. Engaging *now* with equestrians, and actively including our needs in your imminent development, would show this commitment.

---

July 28, 2020

Hello,

My name is \_\_\_\_\_, I am a resident of New Durham who is an avid equestrian trail rider. When able to I enjoy nice relaxing trail rides through local woods. In today's world the trail systems available to horses is ever shrinking. My property has close access to this land that was a huge reason for buying the home so I had a place to ride. I know many local equestrians would utilize the trails and be respectful to all parties using the trails and trail heads. Please take into consideration the equestrian community in the area.

---

July 28, 2020

Dear SELT and Committee members

Regarding comments for Birch Ridge Community Forest Management Plan

Thank you for putting such as comprehensive plan together for the Birch Ridge Community Forest with the intention of conservation, water quality and recreation. I have witnessed many trails broken or disappear with development and commend your efforts that include all reasons for conservation.

I am an equestrian trail advocate and have enjoyed the trails on SELT managed properties and have become a member. I attended the public session at the New Durham school, meet with Allison Bolia, have contacted Deborah Goard, attended the annual meeting webinar and the Birch Ridge webinar and its recent trail walk, where I met Parker Schuerman and Rob Wofchuck. This was my start to familiarize myself with SELT. I have had some good conversations about trails.

My advocacy for equestrian trails started over 40 years ago, I have been a trail committee chairman with two towns, have commented and follow other trail plans, studied the basics of trail design, been a member of coalitions with trail interested equestrians, am a member of the Statewide Trails Advisory Committee and New Hampshire Horse Council, and have many hours as a volunteer doing basic trail maintenance.

I write the above because I wish to be a contact in the endeavor to developing equestrian trails on your SELT managed lands. The conversations I have had with the equine community, there is a consensus to start with the planning for horse use in general and for Birch Ridge. There are reasons for starting conversations now: horse use has very similar sustainable trail design as needed for hiking and bicycling; as current trails are being improved, it is more efficient with time and cost to consider horse use now while finalizing trail design, location, maps, water crossing and parking rather than retro-fit later; and to show progress with developing an equestrian trail overlay and develop ideas for the management of shared use trails; all with a goal of readiness for possible implementation in 2022.

Below is a list of comments to consider in moving forward with the horse community.

- Commonalities of hiking, biking and horseback riding trail designs ie. grades, clearing width, smoothness/roughness of tread, all are passive use, etc. so we can share trails.



That the trails being developed in 2020 and beyond have been considered for horse use and the trails are sustainable.

- It is assumed that the first trails created will be Birch Ridge's main trails.
- Have SELT talk to the equine community now with the aim for a trail overlay showing where horses will be allowed and could be developed for 2022.
- Incorporate a combination of trail maintenance options: SELT planned and scheduled trail care days for volunteers, organized group trail care days using members and nonmember volunteers, establishing a student/young adult trail maintenance group that roams to the different SELT lands.
- Donation program for specific trail improvements. It is a boost of interest if a project benefits horse use.
- I hope to see horseback riding activities added to BRCF list of allowed public users. So the lists written in the Plans read horseback riding, hiking, snowshoeing, wildlife viewing, mountain biking, snowmobiling and hunting.
- Horseback riders often are hikers, bicyclists, snowshoers, skiers and snowmobilers.
- Management of shared use trails is nearly the same no matter the users. Educate in advance about expectation of trail etiquette, who is sharing the trail, etc. Agencies/land managers can set the tone for minimal conflicts.

I hope to talk to you soon and look forward to sharing with the equine community any progress that has been achieved.

---

July 28, 2020

Hello,

I am an avid trail rider and would love to see SELT include equestrians in the parking lot design and trail development alongside other trail users. Thank you.

---

July 29, 2020

Hi Southeast Land Trust

I am a SELTie and an equestrian and would love to see SELT support equestrian Activities by developing parking and Equestrian trails at BRCF

Thanks

---

July 30, 2020

Hi everyone,

I missed the call the other night but I still wanted to make sure equine uses are in the planning for Birch Ridge.

I have a house on Merrymeeting and my dearest hope, when this property became available, was to be able to keep my horses in the area and be able to ride there.

Thank you for your consideration.

---

August 2, 2020

Dear friends,

I am writing you today to provide support for equestrian access on BRCF. As a local resident of Middleton and an avid equestrian, I am very interested in supporting this initiative. While I know the intent is to discuss this option on 2022, I would encourage a conversation in the fall of 2020 or early spring 2021.

Please let know how I might help in the preservation of this beautiful land while assuring local equestrians are able to access the beauty of this land.

Best,

---