



Rebuilding and Strengthening

Otter Ponds Demonstration Forest 2019 Annual Report

by Christie Verstraten
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Photos by: Christie Verstraten, Wade Prest, Mike Murray and Nancy Covington





INTRODUCTION

For better or for worse, 2019 was an interesting year for the Otter Ponds Demonstration Forest. While we started off well with only a minor amount of winter ice and wind damage and a successful spring clean-up day, our focus rapidly shifted to damage assessment and salvage after Hurricane Dorian blew through the province in September. With all our trails blocked by blowdowns and debris, our efforts shifted primarily to clearing enough of them to use for our fall hikes, tours and events. The biggest casualty to the hurricane by far was our beloved visitor shelter, which had a large red spruce come down directly in the middle of it. Damaged beyond repair, it was disassembled and we salvaged what material we could.

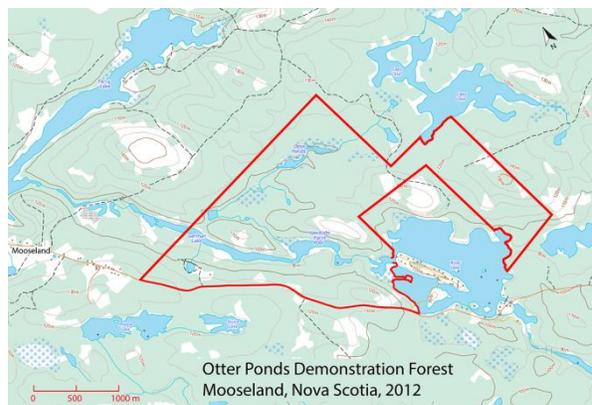
Despite these setbacks, we eventually cleared two of our main trails and were able to successfully host several fall events and tours, including a directional felling chainsaw certification course for board members and volunteers. We have much work to do to rebuild our shelter and restore our trail system, but with the help and determination of our many amazing volunteers anything is possible.

BACKGROUND

Otter Ponds Demonstration Forest is a 486-hectare (1200-acre) parcel of Crown forest near Mooseland, Nova Scotia. Operated as a division of the Nova Scotia Woodlot Owners and Operators Association (NSWOOA), the OPDF is a place for all Nova Scotians to learn about ecologically, economically and socially sustainable management of our native Acadian Forest. OPDF is a living laboratory that shows how timber production can be compatible with the protection of the full range of other forest values and services. It provides opportunities for woodlot owners, elementary and high school groups, university students and researchers, non-profit organizations, and individuals to visit an outstanding example of working forestland.

Otter Ponds demonstrates the philosophy, science, and practice of uneven-aged management in the Acadian Forest. It produces timber for market using the best forest practices presently known, while protecting wildlife habitat and the Tangier River watershed, respecting the ecosystem services provided by the parcel, and enhancing the social and cultural value of the forest. Another important objective of the OPDF is education and public outreach through field trips, public field days, workshops and other on-site events. We also reach out directly to woodlot owners through NSWOOA's newsletter and our Facebook page.

Management practices are certified to the Forest Stewardship Council's Maritime Standard. OPDF is managed by a unique partnership that includes four non-governmental organizations (NSWOOA, Ecology Action Centre, Eastern Shore Forest Watch, and Mooseland and Area Community Association), Northern Pulp Nova Scotia and the Nova Scotia Department of Lands & Forestry.



INFRASTRUCTURE

Trail Development

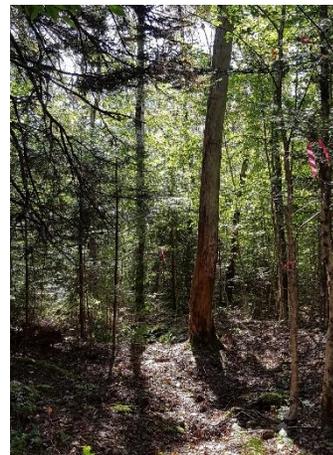
We did not create any new trails in 2019 as our focus was on maintaining and repairing our ~7km of existing trails after several damaging storm events. Due to volunteer availability and poor weather, we were only able to have three large work parties this year: June 22nd, September 21st and October 12th. We are eternally grateful to our fearless volunteers for all the effort and time they contribute to this project. This year, we'd like to thank the following for their help: Kate Campbell, Wade Prest, Mike Murray, Steve Wournell, Ross Watson, Jacob Prest, Dale Prest, Meg Carr, Ian Hay, Sky Smith, Jasmine Smart, Terri D'Souza and Nicola Patterson. Trail maps for the trails mentioned in the section can be found in [Appendix A](#).

Spring Clean-Up

We started off our 2019 trail work with a Volunteer Spring Clean-Up event on June 22nd. Using chainsaws, hand saws and pruners, we begin clearing downed branches and trees blocking the Otter Ponds Marsh Loop, Otter Ponds Brook to Hawboldt's Farm Hill Trail, and sections of the North Ponds Bluff Trail. At the same time, some of our helpers worked on repairing a section of the visitor shelter where a tree had hit a corner of the roof and others completed improvements to the humanure toilet. We didn't finish clearing all the trails that day, but we did create a rough map of sections still to be completed.



Working on the North Pond Bluff Trail. Photo credit: Christie Verstraten





Hurricane Dorian

In September 2019, Hurricane Dorian blew through Nova Scotia leaving a lot of destruction in its wake. Otter Ponds unfortunately suffered many blowdowns and significant damage to key infrastructure. All new trail construction was put on hold in order to focus on repairing the damage to existing trails. We discovered significant blowdowns on German Lake Hill Trail, North Ponds Bluff Trail and Otter Ponds Marsh Loop. Otter Ponds Brook to Hawboldt's Farm Hill Trail and the completed sections of Hawboldt's Farm Hill Shortcut were also impacted, but to a lesser degree. Trail signs were removed until the trails are safe for visitors again.



Damage to various stands from Hurricane Dorian. Photo credit: Christie Verstraten

We had work parties in September and October to work on clearing our trails in time for fall tours and activities, but were only able to fully clear North Ponds Bluff Trail and Otter Ponds Brook to Hawboldt's Farm Hill Trail. The other trails will remain closed to visitors until we are able to finish clearing debris and downed trees and can deem them safe for use.



Sky, Meg and Ian helping out at our September work party with Beau the German Shepherd guarding their lunches. Photo credit: Christie Verstraten



Pedestrian Bridge Construction

The final step to connect the North Pond Bluff Trail all the way from the main entrance road to Powder Horn Hill Road was a short pedestrian bridge over the stream by the beaver dam. Avid hikers were generally able to cross the stream when the water was low, but not during the spring and after heavy rain events. To improve accessibility for everyone year-round, a bridge was deemed necessary.

On October 18th, Wade, Kate and Christie carried the equipment and building materials ~700m from the Powder Horn Hill trail head to the beaver dam and set to work. The bridge was constructed using three 2"x8"x16' boards that had been sawn the previous month from the downed trees around the visitor shelter landing, and held together with sections of 2"x4". Large rocks were arranged at the lower end of the bridge for about 15-20 metres for hikers to use as stepping stones when the stream overflows into the floodplain. Wade reported that many community members have commented on how much they enjoy the trail.



Kate and Wade working on the pedestrian bridge for North Pond Bluff Trail. Photo credit: Christie Verstraten

Road Construction

In September, our road building contractor Marshall Bateman completed another 480 metres of Powder Horn Hill Road. The right-of-way for that section had been cut out in December 2018 by Forestex Ltd. While onsite, Marshall also repaired the spots that had settled in the section built in January 2018. Powder Horn Hill Road is now approximately 2.1 km long. Later in September, we had Conform Ltd. in to grade a section of the main road for us.



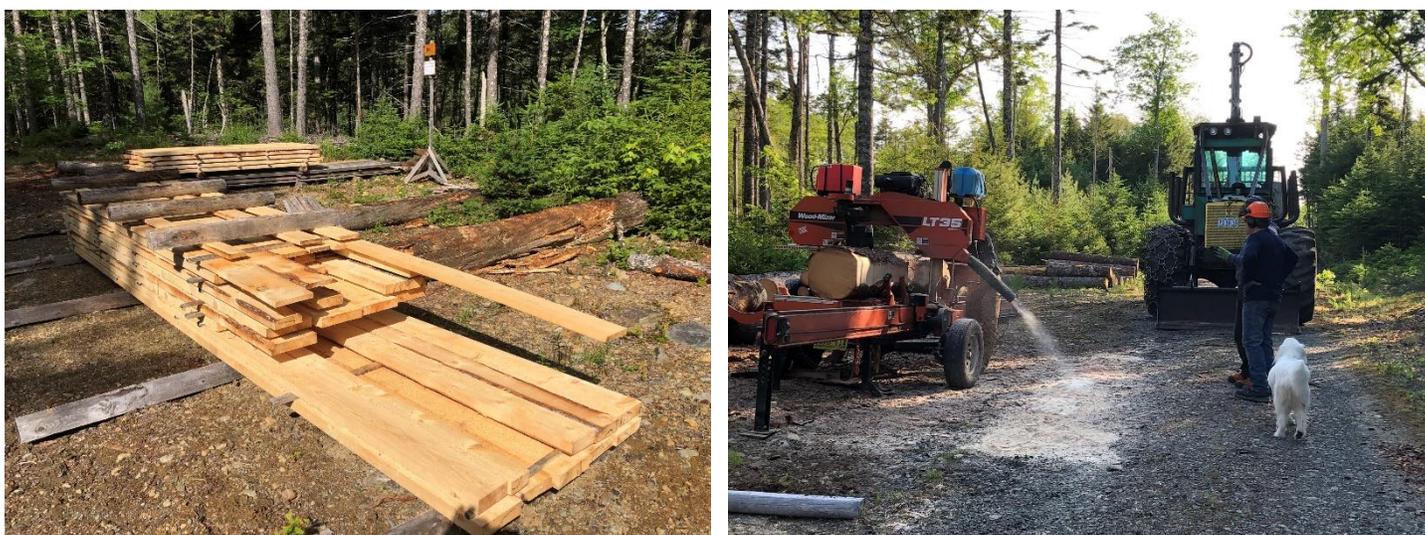
Visitor Shelter

When we went to check on the project after Hurricane Dorian came through, we discovered that a large red spruce tree had blown over and landed on the middle of our visitor shelter. The structure was unfortunately completely destroyed, and the wreckage was dismantled and cleared.



Damage to visitor shelter after from Hurricane Dorian. Photo credit: Wade Prest

We were able to salvage a small amount of lumber and steel roofing, and the cement footing is still intact. Luckily, only one of the picnic tables was damaged, and it can be easily repaired. The tree that fell on the shelter, as well as several others that blew down around the landing, were cut and milled onsite with Frank Higgins' portable sawmill. The lumber will be used in rebuilding the shelter and for other infrastructure.



Lumber milled with Frank Higgins' portable mill. Photo credit: Mike Murray

We hope to begin planning and construction of a new visitors shelter on the same site in 2020. The Board is considering incorporating a small bunkhouse into one corner of the new shelter rather than building a separate scaler's hut as previously planned. A careful survey of the trees around the landing will need to be done to remove any that could become hazards in future wind storms and hurricanes.



Humanure Toilet

Fortunately, our humanure toilet was not damaged by the hurricane or any of the other wind events in 2019. During our Spring Clean-Up event, several of our volunteers built steps from the road to the trailhead to increase accessibility, finished installing wire mesh around the top to keep out wildlife, and installed a new light inside. Rather than going for a light powered by battery or photovoltaic cells, we tried out a passive solar design and are very pleased with the results.

To make it, we used a 2L pop bottle, water, some bleach, metal flashing and caulking. We first cut a hole in the ceiling for the pop bottle to sit in, then filled the bottle with water and a bit of bleach to keep anything from growing inside it. The bottle was then placed in the hole, and we sealed around it with flashing and caulking to keep any water from dripping into the building. The result lets in a nice amount of natural light with very minimal cost. We emptied the light for the winter so the liquid wouldn't expand and crack the bottle, and will refill it after the last frost in the spring.



Jacob, Kate and Andrew working on the humanure toilet's solar light. Photo credit: Christie Verstraten

Scaler's Hut

We had planned to begin construction of a scaler's hut with bunk beds, but have had to re-evaluate now that the visitor shelter needs to be rebuilt. We are considering incorporating both in the same structure.

Signs

When the gate was initially constructed along the main road into the project, we had put up large, metal 'Gate Ahead' signs on either side as a precaution. At some point over the past couple of years, one of them appeared to have been stolen. This year, we sourced a new one from the Nova Scotia Department of Transportation and Infrastructure Renewal's sign shop and plan to put it up in spring 2020.

Before the hurricane destroyed the visitor shelter, we had ordered four 8"x6" aluminium sponsor signs to put up acknowledging the groups that have given us grants and donations over the past several years. We have picked up the signs, but will need to wait until the structure is rebuilt to display them properly.



EDUCATION AND PUBLIC OUTREACH

Field Trips and Tours

Boundary Line Maintenance Workshop

We held our annual spring Boundary Line Maintenance Workshop on June 1st this year on a beautiful sunny day. Despite the many blackflies, we had a great day and positive feedback from participants. As usual, we started the day with a presentation in the Mooseland Community Centre to go over the basics, and spent the rest of the morning and afternoon in the woods along the North boundary of the project lands. The workshop was led by NSWOOA board member and retired NS Land Surveyor, Britt Roscoe, with OPDF board member Wade Prest giving an introduction to the history of the Mooseland area. We had 11 participants this year.



Participants on site at the Boundary Line Maintenance Workshop. Photo credit: Christie Verstraten

Fall Board Meeting and Hurricane Damage Assessment

We decided to hold our September 28th OPDF board meeting on site rather than inside to take advantage of the beautiful weather and to assess the damage done to the visitor shelter and landing. The shelter was destroyed but we were able to safely extract the picnic tables, only one of which was damaged. Plans were made to disassemble the shelter in October, cut and saw up the fallen trees, and salvage what materials we could.

Fall Field Day and Hike

We held our Fall Field Day and Hike on October 19th, partnering with Hike Nova Scotia to advertise the event as part of their Fall Guided Hike Series. The weather forecast for that day was poor and lead to a much smaller turnout than expected, but it turned into a very pleasant fall day. We had 11 hikers in total and very good feedback. We had previously been able to fully clear North Pond Bluff Trail and Otter Ponds Brook to Hawboldt's Farm Hill Trail of hurricane debris and planned to use them for the day. In the end, we decided to take a leisurely hike along North Pond Bluff Trail and finish with a late lunch at the picnic tables. Board members Wade and Jacob, safety officer Mike, staff person Christie and volunteer Sky helped out for the day.



Participants in our Fall Field Day and Hike. Photo credit: Christie Verstraten

Young Naturalists Club Tour

After postponing from Spring to Fall, we welcomed the Halifax chapter of the Young Naturalists Club back for a tour and hike on October 27th. Board members Karen, Wade and Kate led the tour, with 13 participants in attendance. Karen organised a bus for the group from Halifax to Otter Ponds, which arrived in the early afternoon. Starting from the main landing, the group took the Otter Ponds Brook to Hawboldt's Farm Hill trail and returned along Hawboldt's Farm Hill Road, stopping along the way to talk about wildlife and habitat, play a camouflage game, and look at tree cookies. The families had a great time and the kids enjoyed their afternoon in the woods.



Young Naturalists Club tour in October. Photo credit: Nancy Covington



Ecological Forestry Field Day

For the past several years, the Nova Scotia Woodlot Owners and Operators Association, in partnership with the Mersey Tobeatic Research Institute and the Federation of Nova Scotia Woodland Owners, have been offering a series of field days as part of the [Woodland Owner Mentorship Program](#). The Program is sponsored by the Nova Scotia Department of Lands & Forestry and is linked to their [Woodlot Management Home Study Program](#). Every year, the groups host a total of six workshops around the province, each focusing on one or more module from the Woodlot Management Home Study Program.

In 2019, NSWOOA hosted two field days with the theme of ecological forestry as recommended in [An Independent View of Forest Practises in Nova Scotia](#) (more commonly referred to as the Lahey Report), one of which was at Otter Ponds. Wade Prest led the field day with support from NSWOOA Executive Director, Andy Kekacs, and 10 participants attending. The field day was originally planned for November 9th but had to be held the following day due to a rain storm, resulting in smaller attendance numbers.

Directional Felling Chainsaw Course

This year we organised a Directional Felling Chainsaw Certification Course for a handful of our directors, staff and volunteers to increase the number of people certified to use chainsaws at our work parties and make sure everyone was up-to-date on the latest safety requirements and techniques. The course is put on by the Forestry Safety Society of Nova Scotia, who provided the instructor and safety manual and who are the certifying body for this training. The three-day course was taken on November 16th, 17th and 23rd by Kate Campbell, Wade Prest, Jacob Prest, Ross Watson, Andrew Henley and Christie Verstraten.



Students in our directional felling chainsaw course with instructor Richard Wentzell. Photo credit: Christie Verstraten



The course consisted of one classroom day, one day of hands-on practise in the woods, and one day of testing. Everyone passed their final testing and are now certified in Directional Felling. After the testing, our instructor also showed us the basics of limbing and bucking, as well as some special notches and techniques for safely taking down hung-up and leaning trees. These skills will be especially important for maintaining our hiking trails and dealing with downed trees from heavy wind storms. Following the success of this course, we plan to offer it to woodlot owners in the future.

Communication and Marketing

Facebook

The OPDF Facebook page was updated regularly by staff with forest-related articles, project announcements, and upcoming events at Otter Ponds. This year, page 'likes' rose from 401 on January 1st to 444 on December 31st. Our posts continue to engage our followers, with the most popular post reaching more than 1300 people.

Website

The Otter Ponds website, otterponds.ca, was launched early in 2017 and is updated regularly by staff. The site gives us a place to advertise upcoming events and accept online registrations, as well as keep people up-to-date with the research projects we are participating in. Event announcements for Otter Ponds programs are also posted to nswooa.ca, and nswoods.ca as well as on the NSWOOA and OPDF Facebook pages for maximum visibility.

This year, we created pages for each of our past [research projects](#) with the goal of showcasing the work we have been involved with over the years. We will continue to add new pages as new projects are completed.

iNaturalist

iNaturalist is an international, web-based platform and app where users can upload geo-tagged photo observations of organisms in nature and have other naturalists (professional and amateur) help identify them. It's a great tool for citizen scientists, researchers and curious nature-enthusiasts alike. One of the useful functions the site has is the ability to create Project pages for geographic locations, where you can view all the observations made in a certain place. We have created a Project page for Otter Ponds Demonstration Forest using our location vector files and can now collect more information on the types of organisms present on the project lands.



The Project page can be found at: <https://www.inaturalist.org/projects/otter-ponds-demonstration-forest>



Other Outreach Activities

Woodland Conferences

The annual Woodland Conferences were held in March and April, with approximately 325 people in attendance. As the Provincial Coordinator for these conferences, NSWOOA staff attended with the NSWOOA/OPDF display to talk to participants about the project and hand out brochures.

The Woodland Conferences



2019 NSWOOA AGM Presentation

Christie gave an update on OPDF at the 2019 NSWOOA Annual General Meeting on May 25th, at the Debert Hospitality Centre in Debert, NS. She presented a brief overview of trail work, road construction, infrastructure updates, events, research projects and funding received over the past year.

Postponed or Cancelled Events

We had originally scheduled a June tour for the Ecology Action Centre's Wilderness Issues Committee as an introduction to the project and to discuss ecological forestry but had to cancel. We were unable to reschedule for the fall as hoped, so we will try again next year.

SILVICULTURE/HARVEST

Powder Horn Hill Road Right-of-Way

In December of 2018, we cut another section of right-of-way on Powder Horn Hill Road. The weather had turned bad before the section was done, leaving some to be cut in the spring. That section of right-of-way has since been finished. A total of 728 tonnes was cut from the right-of-way from the second bridge to the end, which was a distance of 1.8 km.

Pre-Commercial Thinning

A Northern Pulp crew did approximately 46 hectares of pre-commercial thinning for us west of the Tangier River in the section of project land that was previously clearcut. Local board members had noticed that they were marking the area for treatment without contacting OPDF and got in touch with them. The block had apparently come up in their system as being due for pre-commercial thinning but was still assumed to be part of the crown lease that they were operating on rather than part of OPDF. We were happy to have the work done and Wade Prest and Dugal Prest met with them, instructing the crew to favour more hardwood than they normally would. The Board was very pleased with the quality of work done.



Perkins House Log Order

We were contacted in the Spring by a contractor for the Nova Scotia Department of Transportation & Infrastructure Renewal about procuring logs for a restoration project at the Perkins House Museum in Liverpool, NS. Built in the 1760s, the museum has a timber frame with load-bearing vertical plank sheathing. The vertical planking had become rotten and needed to be replaced. The original planks were sawn with a vertical, water-powered mill. NSTIR wanted to replicate the saw tooth pattern on the planks, and had partnered with the Sherbrooke Village Museum to use their water-powered mill to saw the logs. Wade Prest worked with them to figure out the final dimensions they needed and calculated how many logs we would need to cut to fill the order. The logs (scaled at 4908 board feet in total) were harvested by Forestex Ltd. in the summer, cut on one side with a portable mill so they would fit in the water-powered mill, and trucked to Sherbrooke Village by Michael Baker of Liscombe.



Logs cut for Perkins House Museum. Photo credits: photo 1- Wade Prest; photos 2 and 3- Mike Murray.

Hurricane Salvage

Forestex Ltd. cleared the tree that had fallen on the visitor shelter as well as several others that had blown down around the landing. Our NSDLF representative noted that there was a hold on salvage work on crown land right now until the Provincial government decided how to move forward with the Lahey recommendations. There were several significant patches of blow down on the project lands, and we will plan a salvage cut when the hold is lifted.

Boreal Felt Lichen Survey

Prior to conducting a harvest on crown land, a Boreal Felt Lichen survey is mandatory to determine if the species at risk is present and if a buffer zone is needed. We hired lichen expert Chris Pepper to conduct a survey, which he completed in September and October. Chris surveyed all of the potential BFL habitat within OPDF as identified by NSDLF. No BFL was found, but there were 4 occurrences of Blue Felt Lichen, each of which requires a 100-metre buffer zone where no harvesting can take place. It will not impact our operations in a significant way. He also reported a great diversity of lichen species in the area, and has provided us with a list of species observed as well as shapefiles for our records.



Roadside Log Removal

We had some small piles of leftover logs from the right-of-way cutting for Powder Horn Hill Road over the past few years, some of which were merchantable wood that didn't fit onto the log trucks and others that were unmerchantable dead trees that were removed from the right-of-ways to make road building easier. The leftover merchantable logs were bought and removed by Forestex Ltd, while the unmerchantable dead wood was distributed back into the woods for wildlife habitat and nutrients.

FUNDING

Rather than apply for grants this year, we decide to focus our efforts on rebuilding and clearing after the damage caused by Hurricane Dorian. We will seek funding for new projects in 2020. Otter Ponds received \$300 from the Woodland Owners Mentorship Program for being involved in one of their fall field days.

GOING FORWARD

As with the rest of the world, 2020 is shaping up to be full of uncertainty for Otter Ponds Demonstration Forest. With the Nova Scotia government declaring a State of Emergency in March due to COVID-19, and the closure of parks and trails to slow the public spread of the virus, all events at Otter Ponds have been postponed or cancelled until further notice. It is important that we all take actions to limit the spread of the virus by staying 6 feet away from others, not gathering in groups of more than 5 people, washing our hands often, and practicing self-isolation as much as possible. We will be closely following the provincial government's restrictions and recommendations to determine when it will be safe to re-open.

Sadly, this means we will won't be able to have our volunteer spring clean-up or our popular annual spring Boundary Line Maintenance Workshop. We will also have to delay any trails and infrastructure work until social distancing restrictions are lifted. We remain hopeful that the situation may allow for such work in the fall.



In the meantime, we will begin plans for the design of the new visitor shelter and bunkhouse, as well as an equipment and materials list for when we are able to start rebuilding. We will also be working on detailed plans for future projects and events, with the hope of submitting funding proposals in the fall. Our web presence will be maintained to keep our followers up-to-date on what we're up to and the online educational tools we have available, such as our Boundary Line Maintenance Guidebook, Trail Master Plan, and Deadwood Policy.

The goal of Otter Ponds Demonstration Forest has always been to teach and promote ecologically, economically, and socially sustainable forest management, and to demonstrate that you can do harvesting and silviculture while maintaining other important values like wildlife habitat, water quality, recreation, and non-timber forest products. While it will be some time before we can demonstrate these values on the ground, we hope to continue to provide helpful resources to woodlot owners and look forward to welcoming back visitors in the future.



APPENDICES

Appendix A: Maps for Trail Sections



Otter Ponds Marsh Loop

Lenght : Main Trail (Loop) 585m / Marsh View (Spur) 85m

Difficulty : Easy

Features : Softwood Forest, Marsh, Wetland Observation Post



Otter Ponds Brook to Hawboldt's Farm Hill Trail

Lenght : 675m (Turquoise)

Difficulty : Moderate

Features : Riparian Habitat, Mixed-aged, Transition from Softwood to Hardwood Drumlin



North-Pond Bluff Trail

Lenght : 1700m (Red)

Difficulty : Moderate

Features : Mature Softwood Forest, Ponds, Beaver Dam



Hawboldt's Farm Hill Shortcut

Lenght : 620m (Orange)

Difficulty : Moderate with difficult sections

Features : Hardwood Drumlin, Vernal Pool, Forested Wetland, Softwood Forest, Precommercial Thinning