

Building Accessibility and Knowledge

Otter Ponds Demonstration Forest 2018 Annual Report

by Christie Verstraten
May 2019

Photos by: Dan Hutt, Christie Verstraten, Wade Prest, Eddie Halfyard, Caitlin McCavour & Shannon Sterling





INTRODUCTION

We had another productive and busy year at the Otter Ponds Demonstration Forest in 2018. Much of our focus this year was on the maintenance and further construction of our hiking trail network, resulting in a total of ~7 km of trails in total so far. Our goal is to create a destination that is accessible to everyone, with trails ranging in elevation and difficulty as well as biodiversity and forest types.

Our fearless volunteers continue to be the backbone of Otter Ponds, devoting countless hours to infrastructure upkeep and construction, road and trail planning, guiding tours, and providing unique educational opportunities to our various visitors. Nine work parties were held to work on trails and other upkeep in the summer and fall alone.

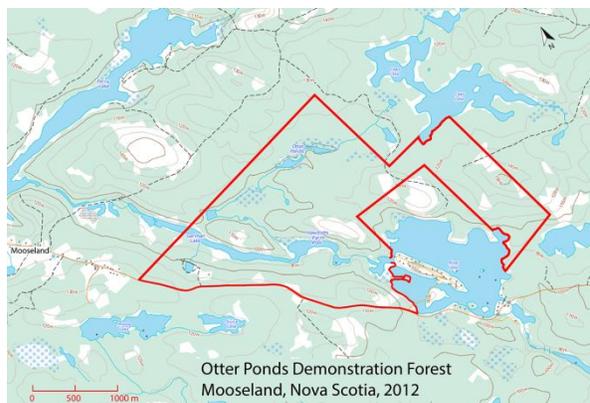
Otter Ponds remains committed to working with our partners to conduct research and demonstrate all aspects of ecologically, economically, and socially sustainable forestry. This year, we worked with the Nova Scotia Salmon Association, Dalhousie University, and the Nova Scotia Department of Lands and Forestry to conduct a liming trial on sample plots within the project area. These areas will continue to be monitored for 10 years to track changes to soil nutrients and watercourse pH levels in the surrounding environment.

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

Trails maintenance and construction continued in 2018. Using funding from Halifax C&D Recycling, Christie Verstraten planned 9 volunteer work parties throughout the summer and fall, completing another ~2 km of trail as well as clean-up on existing trails, which gives us ~7 km of completed trails on the property. We purchased two extra hard hats, ear protection, two pairs of compound loppers and a small bow saw with this funding, and used the Musquodoboit Community Health Board grant for work party refreshments for volunteers. Volunteers working on trails this year were: Dan Hutt, Steve Wournell, Mike Murray, Wade Prest, Kate Campbell, Jacob Prest, Dale Prest, Bimal Aryal, Scott Asling, Ben Power, Christie Verstraten (staff), and Andy Kekacs (staff).



Photo credit: Dan Hutt and Christie Verstraten

Trail maintenance focused on cleaning up the **Otter Ponds Marsh Loop Trail** (from the Visitor's Centre and its short-cut trail to the main road), and the **Otter Ponds Brook to Hawboldt's Farm Hill Trail** and its water-crossing. Newly constructed trails are the **North Pond Bluff Trail** (from the North boundary line to Powder Horn Hill Road), a small section of **Hawboldt's Farm Hill Trail** (from the landing to the start of the Hawboldt's Farm Hill Shortcut), and sections on either end of **Hawboldt's Farm Hill Shortcut** (from Hawboldt's Farm Hill Trail to a landing on Powder Horn Hill Road). See **Appendix A** for maps of the trails section mentioned.



Christie Verstraten and Ben Power fenced around the vernal pool in the old Prospector's Pit on **German Lake Hill Trail** with orange plastic fencing before the fall Mushroom Foray. It was decided that this was a necessary safety measure for this event.

Road Construction

Our road building contractor, Marshall Bateman, returned in January to complete another 550 m section of road on Powder Horn Hill Road. Marshall filmed some of this work and the Board viewed the video at the April board meeting. Marshall has given us permission to take the raw footage to a professional to be edited into a video for Otter Ponds, and he will send us more footage after the next section is built. The next 400 m section of Powder Horn Hill Road was cut in December by Forestex Ltd, with 160 tonnes of wood leaving the site. When the next section of road construction is completed, we would like to haul gravel onto some sections, to improve the driving surface and allow for easier periodic grading and maintenance.



Photo credit: Dan Hutt



Photo credit: Wade Prest

Visitor Shelter

A tree fell onto the north edge of the shelter in spring 2018 causing some minor damage to the metal roofing and wood trusses. Dan Hutt replaced the damaged boards and removed the destroyed section of steel roofing. Kate will order new steel roofing, and will install it when it arrives.



Photo credit: Dan Hutt





Humanure Toilet

Dan Hutt and Christie Verstraten did some more finishing work on the composting toilet, completing the inside divider, putting up the baton on the front and some of the mesh. We still need to put up baton on the back and steel mesh all the way around the top.



Photo credit: Dan Hutt

Scaler's Hut

We have decided to construct a 'scalers hut' on site that would have a number of bunks and a small sitting area. In Dan Hutt's absence, Jacob Prest and Kate Campbell will take over designing the scaler's hut. Some of the logs from the right-of-way harvest will be used to saw up the lumber for this project.

EDUCATION AND PUBLIC OUTREACH

Field Trips and Tours

About 20 students from **Dalhousie University's Environmental Sciences Program** visited Otter Ponds on August 24th with Prof. Susan Gass as part of their summer field school. Dr. Kevin Keys, a soil specialist with the NS Department of Lands and Forestry, took the group to several sites to show them different forest soil types and demonstrated how to interpret the different layers of soil revealed in a test pit. Dr. Keys emphasised that the soil in a forest is just as important as the trees whose health depends on the condition of the soil.



Photo credit: Dan Hutt



On September 12th, Otter Ponds hosted a group of 14 **McGill Alumni**. The tour was coordinated by Barb and John Cullen who are long-time members of the Nova Scotia Woodlot Owners and Operators Association. Andy Kekacs and Christie Verstraten led the tour along sections of new trails, discussing the history and purpose of Otter Ponds, as well as our approach to ecological forestry.



Photo credit: Christie Verstraten



A group of 10 from the **Nova Scotian Institute of Science** visited us on October 2nd for a tour. Andy Kekacs and Christie Verstraten led them along two sections of trail through different forest types and discussed forest succession, wildlife habitat, and how the recent *Independent Review of Forest Practices in Nova Scotia* ties in with our ecological forestry practices.

Photo credit: Christie Verstraten

On October 13th, Otter Ponds hosted the **Nova Scotia Mycological Society's annual fall Mushroom Foray**. In total, over 80 people attended the foray. Dan Hutt, Wade Prest, Kate Campbell, Steve Wournell, Andy Kekacs, and Christie Verstraten participated as tour guides for Otter Ponds, and NSMS had four mushroom experts available to help identify specimens and answer questions. The foray started with a classroom session at 10:00, then moved down to the site around 11:00 for foraging and collection, and back to the hall around 3:00 to catalogue and cook mushrooms. The participants were very keen and seemed to enjoy themselves. A large variety and volume of mushrooms were collected, and the experts were very helpful and enthusiastic.



Photo credit: Dan Hutt



Forest Liming Trial

For the past couple of years, the Nova Scotia Salmon Association (NSSA), Dalhousie University, NS Department of Lands and Forestry, and other partners have conducted a trial whereby small catchments have been helicopter limed to assess impacts on stream water quality for fish. This work has been led by Dr. Edmund Halfyard and conducted in the West River watershed area northwest of Marinette (off Hwy 224) where the NSSA had already been conducting in-stream lime dosing. The main objective was to see if partial catchment liming (mainly riparian areas) would lead to improvements in stream water chemistry by treating adjacent land/soils feeding these streams. Results to date have been positive. The next logical step was to expand liming to more upland areas to assess the impacts on forest soils and related tree growth/health, with the premise that liming of whole catchments could accelerate the long-term recovery of both soils and surface waters from acid deposition impacts.



Photo Credit: Wade Prest

Along with more catchments in the West River trial area being treated in fall 2018, two small upland areas (~4 ha each) in the Otter Ponds Demonstration Forest were limed with the purpose of monitoring long-term impacts on forest soils and related tree growth and health (including regeneration where applicable). Otter Ponds sites were selected for this work because (i) they are close to existing trials, (ii) they have similar soils as the West River sites, (iii) they have desirable mature tree cover (both softwood and hardwood), (iv) they have good access, and (v) the work is compatible with OPDF objectives.



Photo credit: Shannon Sterling and Caitlin McCavour



The liming project was overseen by Kevin Keys, a soil scientist with the Department of Lands and Forestry, and Master's student Caitlin McCavour was selected to establish experimental plots and conduct pre- and post- treatment measurements and sampling of soils and tree tissue. Caitlin's MSc project work was supervised by Drs. Shannon Sterling (Dalhousie), Edmund Halfyard (NSSA), and Kevin Keys. Although the MSc project is only scheduled for two years, the intent is to assess and sample these sites long-term (minimum 5-year and 10-year) since the benefits of this type of restoration work can take many years to be fully realized. This additional monitoring will be coordinated by Kevin Keys. In addition to treated areas, control plots were also established for comparison purposes. All plot locations were selected in cooperation with the OPDF, and liming was completed in late October 2018.

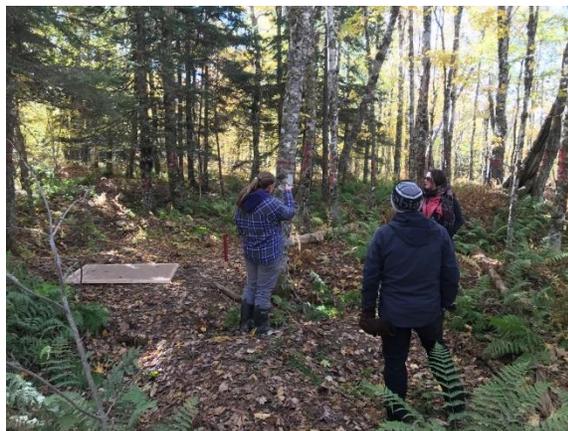


Photo credit: Eddie Halfyard

Communication and Marketing

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 351 on January 1st to 401 on December 31st.

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.

Other Outreach Activities

The annual Woodland Conferences were held in March and April, with approximately 275 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.

Christie Verstraten also attended the Maritime Forest Carbon Opportunity Conference with the display.

The Woodland Conferences



2018 NSWOOA AGM Presentation

Dan Hutt gave an update on OPDF at the 2018 NSWOOA Annual General Meeting on June 2nd, at the Shubenacadie Canal Commission in Dartmouth, NS. He showed a photo slideshow of the events and activities taking place at Otter Ponds and updated members on the status of our new trails.

Postponed or Cancelled Events

We had a couple of postponed or cancelled events this year. A visit from the Ecology Action Centre's Wilderness Issues Committee planned for November 3rd and Boundary Line Maintenance Workshop set for November 4th, were both postponed to spring 2019 due to stormy weather.



SILVICULTURE/HARVEST

Road construction continued on Powder Horn Hill Road with Marshall Bateman completing another 550 meter section of road in January 2018. The right-of-way for the next 400 m section was cut by Forestex Ltd. in December, with about 160 tonnes leaving the site. Work was almost completed before weather turned bad for trucking, so there is a bit more wood to be cut and shipped in spring 2019.



Photo credit: Wade Prest



FUNDING

HRM Community Fund Grant

Otter Ponds received a \$2500 grant from the HRM Community Fund in 2017 for equipment and materials for educational outreach (such as cruising gear, tree planting equipment, and a GPS and compasses), as well as program promotion and delivery material (poster, educational material, brochures). In spring 2018, the funds were used to purchase the following:

- Cruising gear: increment borer, diameter tape, prism, soil auger
- Tree planting equipment: planting shovel, 2 planting bags
- Navigational gear: GPS receiver, 6 compasses/clinometers
- Promotional materials: updated OPDF poster, 1000 new brochures



Photo credit: Christie Verstraten

We will be developing workshops to use the new gear (e.g. navigation, boundary line maintenance). Sessions will be designed to give woodlot owners an idea of how to use these tools to learn more about their woodlots.

Musquodoboit Community Health Board Wellness Fund Grant

On February 3rd, 2018, Simon Melrose and Christie Verstraten attended a Musquodoboit Community Health Board event at Oyster Ponds Academy to receive one of their annual Wellness Fund grants. CHB awarded Otter Ponds a \$200 grant for refreshments and drinks for volunteer work parties.



Halifax C&D Recycling Ltd. Donation

In fall 2017 we were generously given a donation of \$5000 from Halifax C&D Recycling Ltd. to further develop our trail system, focusing on areas with difficult terrain and a short section of highly accessible trail. These funds were used throughout the summer and fall of 2018 to hold 9 trail work parties, where we conducted maintenance on existing trails and completed another ~2 km of trail in more difficult and wet sections. Funds were also used to purchase two compound loppers, a small bow saw, two more hard hats, and some more pairs of hearing protection for volunteer crews.



Photo credit: Christie Verstraten

GOING FORWARD

Moving into 2019, our main priorities are to continue working on our trail network, pursue additional research opportunities with our partners, and development more and different educational opportunities for woodlot owners, students, and anyone interested in learning more about forests. We hope to reschedule events that were cancelled last fall due to weather, and work on new workshops, events, and tours utilizing our new equipment and tools. We plan to offer our popular Boundary Line Maintenance workshop again this spring.

We continue to extend Powder Horn Hill Road and hope to complete another section of road in 2019, and level previous sections that have settled over the winter. We will be looking into developing a short video on the road building work from 2018 and 2019 as an educational tool for woodlot owners and contractors, and to showcase the kind of work we do at Otter Ponds.

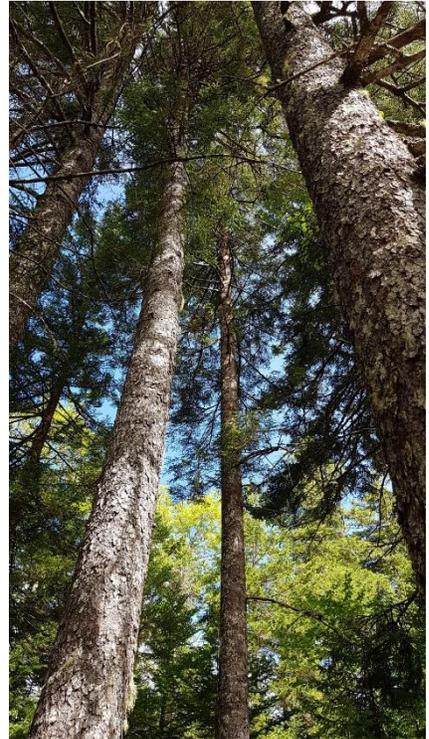
In addition to trails building work parties, we will also be hosting volunteer days to work on other infrastructure maintenance, including: general site clean-up around the visitor shelter, putting the finishing touches on our humanure toilet, repainting the gate, reflagging and marking our completed trails, and doing minor repairs on our existing roads and bridges. Another big project we will be working on is planning and constructing a 'scaler's hut' on site with a small number of bunks and a sitting area.

We are hoping to have a harvest this year if markets have improved enough. We currently have approximately 40 hectares tree-marked and ready to be harvested on Powder Horn Hill, as well as the approximately 2 hectares to be harvested on Hawboldt's Farm Hill as part of the new silvicultural prescriptions we are demonstrating in partnership with the Northern Hardwood Research Institute.

In early spring 2019, we created new pages on our website showcasing all the research projects we have been involved with since Otter Ponds was created, as well as data from our Nature Day Biota Survey, bird counts, and mushroom foray.



The goal of Otter Ponds Demonstration Forest is 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. We invite all who want to learn more about forest management to come visit this unique project.





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 Trail

Lenght : 1415m (Blue)

Difficulty : Easy

Features : Hardwood Drumlin, Mature American Beech, Hardwood Succession, Massive Yellow Birch, Mixed-wood Forest



Hawboldt's Farm Hill Shortcut

Length : 620m (Orange)

Difficulty : Moderate with difficult sections

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