



Winter Newsletter 2017

ISSUE #25

Message from our Chair

Greetings one and all! I want to start this message by stating that our Annual General Meeting in Deep River in late November was quite pleasant and successful, and gave all of us an opportunity to take stock and remind ourselves of the many good things that are happening at the PRF. The value of this wonderful research forest with respect to forest science, recreation, public awareness and forestry education is obvious when we take a few minutes to review just some of its research sites and general operations, and our own 'Friends' activities and projects. The AGM certainly provided the opportunity take a more in-depth look at everything. Our AGM guest speaker - Tania Baker from the Ministry of Natural Resources and Forestry (MNRF) in Pembroke gave an informative talk on invasive species, regulations and programs, including Invasive Species Road Rallies, which PRF could potentially help with - by recording the invasive species that we find to be present. We will discuss this at future meetings of the Friends.

Highlights of 2016 included five Friends Board meetings throughout the year, and we produced newsletters and a new Friends brochure - 300 copies were printed for general distribution. Many of us enjoyed pancakes and maple syrup at Maplefest, held at the PRF sugar shack last April by the Chalk River Lions Club. Our volunteers also talked to the public and distributed information at the Renfrew County Woodlot Day that was held in September; as well, the Kitchissippi Run was held partly within the PRF the next day. The Friends contributed financially to the University of Toronto Masters Of Forest Conservation Students Tour last February. We also contributed to the CIF/IFC Teachers' Forestry Tour in August. We led tree identification sessions at the Arboretum for the Teachers, as well as for the Environmental Technician class from Algonquin College and a high school class from Bolton. Friends Vice Chair Frank Knaapen coordinated work on maintaining the ski, snowshoe, and bike trail system. Frank had plenty of help from Stuart Craig, Randy Cochrane and others. We planted even more trees in the PRF Arboretum last year. A total of 120 trees of 62 species have been planted to date. Much appreciated assistance with the planting and maintenance came from PRF staff and summer students, a crew of MNRF Stewardship Rangers, and Algonquin College students, especially Fraser Young. An Arboretum sign is now erected, and we have new labels on many trees.

2017 looks to be another busy year as we have quite a slate of upcoming events and new and continuing projects, starting again with the annual University of Toronto Masters of Forest Conservation Students and Faculty visiting us in late February for a full-day tour of several of our active research installations including PSP1 and the Biomass Study. No doubt the usual lunch stop at the Sugar Shack will also be a big hit with the students.

In closing, I would like to thank everyone who is continuing to work on our Board this coming year including: Frank Knappen (Vice Chair), Tom Moore, John Pineau, Hilary Veen (Secretary), Melissa Vekeman (Treasurer), Dave Lemkay and our new member - Jordan MacMillan; also thanks to John Muff, who recently stepped down from his position. Please contact me or any of our members if you are interested in joining the Friends, and please redistribute this newsletter to your family, friends and colleagues. We also invite everyone to visit our Friends Facebook page; members are welcome to post photos of their experiences at the PRF on Facebook at: <https://www.facebook.com/FriendsofPRF/>

Robin Cunningham
Chair
Friends of the Petawawa Research Forest



Robin Cunningham

Chair of the Board
Friends of the Petawawa
Research Forest
1000 Clouthier Road, RR1,
Chalk River, ON K0J 1J0
rcunning@bell.net
(613) 732-8402



Annual General Meeting

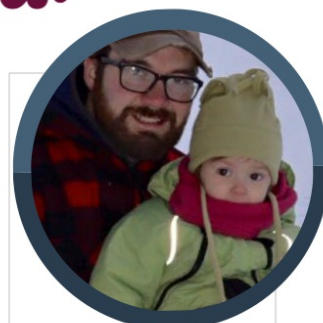


On Tuesday November 29th, 2016, the Friends of the Petawawa Research Forest held their Annual General Meeting at the Deep River Library. Those in attendance heard a year end update from Friends of the PRF chair Robin Cunningham, an update on the research projects ongoing at the PRF, an update on Robin's arboretum project, and the nomination of one new member to the board of directors. The evening was capped off by a presentation from the keynote speaker Tania Baker, Management Biologist with the Ontario Ministry of Natural Resources and Forestry, who presented on invasive species in Ontario, with a focus on Renfrew County.



New member of the board: Jordan MacMillan

Hello, I am Jordan MacMillan and I am thrilled to be joining the Board of Directors for the Friends of the Petawawa Research Forest. I was first introduced to the PRF when I attended the Forest Technician program at Algonquin College. I continued to experience the great value of the PRF through hosting various tours during my time with FPIInnovations, and now the Canadian Institute of Forestry. I look forward to being a member of the board to help ensure many people continue to experience the educational value of the PRF.



Jordan
MacMillan

Pinus banksiana



Jack Pine



Pin gris



Arboretum Update



Friends of the PRF Board Chair Robin Cunningham has been busy the last few years with his Arboretum project. The Arboretum is located within the PRF grounds at the corner of Cloutier and Racehorse Road near the site of the Silviculture building. To date, Robin has planted 120 trees of 62 species and includes species common to the area such as Eastern white pine, and white spruce, and many uncommon and rare species as well. The trees in the Arboretum are now equipped with individual signs that allow visitors to scan a bar code and receive information on the tree to their cell phones. Many school groups and educational tours have visited the arboretum over the last four years and we encourage everyone to take the opportunity to come to the PRF and check it out!

Left: Example of one of the new signs at the Arboretum.



Research & Operations Update



2016 has been a busy year for staff, researchers and contractors at the PRF!

On the research front, there were several highlights that are worth mentioning.

First of all, as many of you may have noticed, PSP 1, and its surroundings were harvested this past winter. The aim is to open up the canopy to increase light levels to allow an understory of white pine to establish. It is the seventh time that PSP 1 has been harvested since 1918. As always, PSP 2 has been left untouched and remains the control. A student with the University of Toronto's Masters of Forest Conservation Program is currently using the data for her thesis. We are expecting the results later this month.

The PRF is a test site for the national, NSERC funded research program AWARE (Assessing Wood Attributes through Remote Sensing). As part of this project, a multi-spectral LiDAR flight took place in September. The data collected during this flight will help further the Enhanced Forest Inventory research, which is also getting closer to individual tree species identification. The LiDAR data is used for other purposes as well, including bioindicators, assessing vertical structures for species at risk, and PRF staff use the information for forest management purposes.

Work continues to take place on the Biomass study, with crews out this summer taken several measurements, including regeneration, downed woody debris, saplings and substrate (ground cover). Several papers have been published profiling this study, with more coming out in the near future.

The Moose Grove Red Pine study area was also harvested this past winter, partly to release the existing white pine understory. A researcher from Sault Ste Marie is currently looking at the impact of this harvest on the understory and preliminary results look very promising.

FPIInnovations has been involved in two different studies this year. They flew an Unmanned Aerial Vehicle (UAV) that was equipped with a regular as well as a LiDAR camera. They flew several lines, capturing parts of the biomass study, as well as the Moose Grove Red Pine study. They also added additional boards and posts to their decking study, which has been going on for decades now. FPIInnovations uses the PRF as a test site to test the strength and rate of degradation of post and boards, and their treatments, used for decking and fencing.

PRF staff have also been busy with tours and presentations. Some highlights include the annual Teacher's Tour, which saw about 30 teachers learn about forest research and management, as well as visits from UofT Masters of Forest Conservation students for their annual field tour. The PRF also hosted the Renfrew County Outdoor Woodlot day, on a beautiful sunny but chilly day in September. SFL forest managers from all over Ontario visited the PRF for a two day tour of research and operation sites in October, which was extremely well received and led to several interesting discussions and a confirmation of strong working relationship with regional SFL managers, including the Nipissing Forest, Algonquin Forest Authority and Ottawa Valley Forest.

As you can see, it has been a very busy but successful year, and staff is getting ready for making 2017 even more successful!

Contact:
Peter Arbour
Operations Manager
peter.arbour@canada.ca – 613-589-3018

Katalijn MacAfee
Knowledge Exchange Specialist
Katalijn.macafee@canada.ca – 613-897-3922

Unmanned Aerial Vehicle Studies at PRF

Unmanned Aerial Vehicles (UAVs), or more commonly known as 'drones' are becoming increasingly prevalent in many personal and work-related settings, and forestry and forest operations are no exception. The non-profit forestry and wood products research organization - FPIInnovations has been involved in two different UAV studies at the PRF this past year. These studies involved a high-end UAV equipped with a digital camera, as well as a state of the art integrated LiDAR camera. Several lines, capturing parts of the biomass study, as well as the Moose Grove Red Pine study, were included in the UAV flight lines during 2016.

FPIInnovations is focusing these and other study efforts to develop a thorough understanding of the best uses of UAV's in forestry, and best practices associated with their use - so as to maximize the return on investment for forest products companies that want to use them to improve how they capture and manage certain types of data. John Pineau, a member of the Friends Board, is also Provincial Leader of FPIInnovations Ontario program. He is working directly with their organization's Forest Operations Researchers to communicate the latest results of these studies through a presentation called 'Taming the Drone for Forestry', which John will be delivering at several events across Ontario in the coming months.



Meridian Road Bridge Replacement and Study

The PRF is working with the Algonquin Forest Authority (AFA) and FPIInnovations to install a bridge using engineered wood products (EWP) on the Meridian Road in 2017. This project is part of a study of the use of EWP for logging road bridges in forestry. The project goal is to determine the feasibility of replacing steel support beams with those constructed of EWP such as Glulam or Structural Composite Lumber (SCL). The project objectives include implementing the use of three portable EWP bridges in forestry operations in AFA's license areas, as well as replacing a permanent bridge with an EWP solution at the PRF. A key part of the project includes the development of Case Studies that lead to a Best Practices Guide for the use of EWP bridges on log haul roads.

The potential benefits of replacing steel with EWP in bridge construction appear to be strongly positive. Overall, the cost of constructing and installing EWP bridges is expected to be less when compared to steel bridges. Cost effectiveness, combined with the fact that wood bridges have proven to be easier to install and disassemble at the end of their service life, and transport (lowering heavy machinery associated costs) could result in EWP bridges becoming an attractive option for Sustainable Forest License forestry operations across Ontario. Construction time, as well as the duration from ordering to receiving the finished product is also lower in wood supported bridges compared to steel, in some noted examples, weeks versus several months. The durability and load capacity of wooden bridges is comparable, therefore eliminating any potential safety or extensive maintenance concerns that may be associated with wooden bridges.

The environmental benefits of wooden bridges are also significant considering the role long term mass timber structures can play in greenhouse gas mitigation through the storage of carbon in wood products. The overall aesthetics factor of a wooden bridge replacing a steel bridge in the natural landscape is significant, especially if situated in a location of high public exposure such as a canoe routes, or public access points; this fits well with the mandate and needs of both the Petawawa Research Forest and Algonquin Park.



EWP bridge used for forestry operations in Maicasagi, Quebec. Bridge was designed and installed by Nordic Structures of Quebec.

Durability of Wood Studies at PRF

For 80 years, FPIInnovations, and its predecessor organizations have undertaken field testing of a variety of treated and untreated wood products at PRF. Still in test are many of the creosoted posts installed in 1937. Products tested include fenceposts, utility poles, sawn lumber and timbers. Decking was added in 2004, and deck tests were moved to a new site, close to the PRF offices, in 2013. This past year, FPIInnovations researchers also removed posts treated with obsolete preservatives to make room for new tests. FPIInnovations uses the PRF as a one of several key sites to test the service life of naturally durable and treated wood, and the efficacy of various preservative treatments in Canadian wood species.

Treated wood products are important to Canada's economy since they provide key components of our transport, communication and energy transmission and agricultural infrastructure. Preservative treatments contribute to sustainability by ensuring wood products last long enough to grow replacement fiber, when used in conditions where decay or termites can occur. Field data on the true service life of treated wood helps industry resist substitution by alternative materials with greater energy consumption and GHG emissions.

Decking tests such as those undertaken at PRF support the competitiveness of Canadian forest products by facilitating registration by Canada's Pest Management Regulatory Agency of more environmentally friendly wood preservatives already in use in other countries. Ground contact tests supported modifications to CSA standards for treated wood to make them more achievable with the impermeable Canadian wood species, without sacrificing the performance consumers expect. Similar changes to US and overseas standards would improve market access for Canadian treated wood products. Field test data on untreated wood is also being used to determine under what climatic conditions the National Building Code of Canada should require wood elements to be treated.



Recent Events and Tours

CIF Teacher's Tour

On August 3rd, 2016, the Canadian Institute of Forestry (CIF) brought a contingent of teachers from across Ontario to the PRF as part of the CIF's annual Teacher's Tour. The tour is a week-long event and is designed to provide teachers with a greater understanding of the way our forest resources are sustainably managed. While visiting the PRF, teachers were introduced to various research projects, and were provided with the opportunity to interact with PRF and Natural Resources Canada staff. To conclude the day, Friends of the PRF Chair Robin Cunningham conducted a tree identification exercise with the teachers and many planned to bring similar exercises to their classrooms.

Renfrew County Woodlot Day

On September 24, 2016, the Renfrew County woodlot day took place at the Petawawa Research Forest, the theme of the day was. The day was jam packed with exciting events, including tours of Permanent Sample Plots 1 and 2 and the Arboretum. Presentations on Lidar applications, red pine management, sugar maple management, and sustainable biomass harvesting.

Kitchissippi Run

On September 25, 2016, the annual Kitchissippi Run took place in support of the North Renfrew Long Term Care Centre. The race travels through the Petawawa Research Forest, and participants were able to enjoy the beautiful fall colours. Friends of the PRF Board members were on site to hand out water and our brochures to the participating runners. The run consists of full and half marathons, as well as races of 10 km, 5km, and a family 2 km.

Arboretum Tree ID – Humberview Secondary School

On October 6, 2016, a class from Humberview Secondary School (Bolton, Ontario) visited the Arboretum and learned about tree identification from Friends of the PRF Chair Robin Cunningham and member of the board Jordan MacMillan.

Algonquin College at the Arboretum

On October 14, 2016, Friends of the PRF Chair Robin Cunningham introduced the Algonquin College Environmental Technician class to the Arboretum and the practice of tree identification. The Algonquin College Forest Technician class has also paid visit to the Arboretum on a number of occasions.

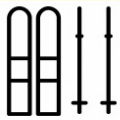
Presentation to Petawawa Horticulture Society

On Monday, February 6, Friends of the PRF Chair Robin Cunningham gave a presentation to the Petawawa Horticultural Society at the Petawawa Civic Centre. The presentation focused on trees at the PRF.

Donation from Kitchissippi Run



The organizers of the Kitchissippi Run presented the Friends of the Petawawa Research Forest Board with a generous donation of \$1000. The Kitchissippi Run took place on September 25, 2016 and had a portion take participants through the Petawawa Research Forest. Members of the Friends of the PRF were on hand during the event to hand out water and registration bags.



X-Country ski and snowshoe trails are now open at the PRF!



Petawawa National Forestry Institute (PNFI) Former Employee Social Media (Facebook) Group

Former employees at PNFI are invited to catch up on what is going on with your friends and colleagues and to share what you have been doing, where you are, how your family is... Pass this group link on to others that you are still in touch with, so they can join our little group too.



SEARCH

PFNI Alumni Group

Friends of the Petawawa Research Forest

Donations to the Friends of the Petawawa Research Forest

The Friends of the Petawawa Research Forest welcome your donations. We will be able to continue to lead and support many projects, activities and events - through your generosity.

Please print and detach this form if you would like to make a donation and become a member of the Friends.

Name _____

Postal address _____

Telephone _____

E-mail address _____

Please make your cheque payable to:
"Friends of the Petawawa Research Forest"

And mail to:
Treasurer - Friends of the Petawawa
Research Forest,
PO Box 2000
Chalk River, ON
K0J 1J0

A charitable tax receipt will be provided for all donations...

FEEDBACK

Want more information on any of the above articles? Interested in submitting an article in the next FPRF Newsletter?

Please contact:

John Pineau
FPInnovations
Email: john.pineau@fpinnovations.ca
Phone: 705.744.1715 Ext: 565



Canadian Institute of Forestry
Institut forestier du Canada



Winter Newsletter 2017

ISSUE #25

