

URBAN ECOLOGY WALKING TOURS

Rick T. Ryan
Western Newfoundland Model Forest
Forest Centre, University Drive, P.O. Box 68
Corner Brook, NL
A2H 6C3

2003

This project was undertaken on behalf of the
Knowledge and Science Transfer Working Group
Of the Western Newfoundland Model Forest

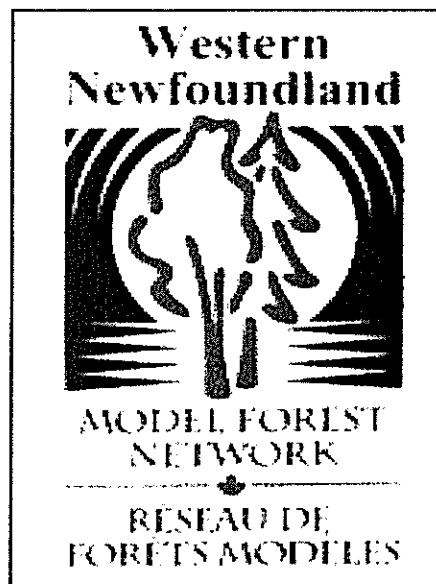


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DISCLAIMER

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Additional copies of this report are available from:

Western Newfoundland Model Forest
Forest Centre
University Drive
P.O. Box 68
Corner Brook, NL
A2H 6C3
Telephone: (709) 637-7308
Fax: (709) 634-0255

ABSTRACT

The 2003 Urban Forest Ecology Walking Tours were offered through the Participark, located on University Drive near the Forest Center and Sir Wilfred Grenfell College Campus. This year's tours were once again hosted by the Western Newfoundland Model Forest and open to all schools and community groups, with the greatest focus placed on schools within School District 3. The total number of participants this year reached over 700, with a geographic range from Benoit's Cove to Deer Lake.

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INTRODUCTION

The 2003 Urban Forest Ecology Walking Tours hosted by the Western Newfoundland Model Forest (WNMF) has again entertained a large number of people from various school and community groups. Since the creation of the annual walking tours there has been a general increase in the number of participants. The 2003 tours began on September 15 and ran until October 21 entertaining 31 groups throughout the duration. There were only minor adjustments or changes from past years to this year's tour template. The total number of visitors this year reached over 700, with a geographic range from Benoit's Cove to Deer Lake (Appendix A).

Though the tours were open to any interested group, the most emphasis was placed on the school children within School District 3. This included all public schools on the west coast and northern peninsula of Newfoundland. The majority of participants (93 %) were students in grades Kindergarten to 12 from School District 3.

There was also participation from other communal groups not included in School District 3. The 2003 tours entertained a female group from the College of the North Atlantic, whom were enrolled in an introductory course to Trades and Technology. Other groups that participated included two groups from the 11th Corner Brook Guides, and the Regina Envirothon Team.

TOUR DELIVERY

There were a few adjustments to this year's delivery based on past years. Instead of an 11" x 17" color poster, an 8.5" x 11" color poster was created highlighting the partners involved, the tour deliverables and contact information. The poster was delivered to the School Board Office and all schools with School District 3 along with a principal and teacher memo, also outlining the tour details. The poster and teacher memo were displayed in areas where teacher traffic was high. This was done in accordance with past tour recommendations to better reach all interested groups.

The poster was also distributed around the city of Corner Brook in locations frequented by many city residents. These areas included the following:

1. Millbrook Mall (entrance near Mary Brown's)
2. Shoppers Drug Mart (Millbrook Mall)
3. Holy Smokes
4. Dominion
5. Canadian Tire
6. Walmart
7. Corner Market
8. College of the North Atlantic
9. Sir Wilfred Grenfell College

Other promotional advertising was done to make the 2003 tours a success. The Western Star was contacted during the first week of the tours and they ran an article highlighting the tour details and contact information. CFCB Radio and the Canadian Broadcasting Corp. also agreed to air the information about the 2003 tours daily.

All tours were booked over the phone with the exception of one which was booked by email. For most teachers, and other group leaders, a little more information about the tours was required after the initial contact. Some teachers requested that the tour template be tailored to accommodate certain curriculum outcomes required for students of a specific grade. In some instances the teachers were asked to provide further details about what the children had previously covered in class and what topics they wished to have covered in more detail during the tour. I made an effort to reduce group size where possible and during the tours, group sizes ranged from 5 to 42.

Most tours which were done in the past started with a short video called, "The Western Newfoundland Model Forest". The 2003 tours excluded the showing of the video and began at the front entrance of the Participark. This was done because of little interest in the movie during past years and also for the safety of young students. The Participark provides a safe parking lot for the buses to drop off and pick up students. For this reason it was decided to start the tours near the park entrance with a brief overview about the Boreal Forest.

TOUR STOPS

There were many planned stops throughout the Participark. These stops varied according to the groups interests and were altered as the fall season proceeded. Many stops were to point out the most important aspects of the Boreal Forest. Some stops were along the trail while others required participants to venture off the main trail. Large groups were often not taken far from the main trail to reduce confusion and the overall effectiveness of the stop. Explanations also varied according to the technical background of each group.

The following is a list of stops that were used for most groups. This list is not exhaustive and was often altered because of both group and time constraints. Other stops occurred, though they were unplanned. In most cases these stops were to explain things that the group had noted or identified as being interesting.

1. Park Entrance
2. The Wetland
3. Soil Pit (Podzol)
4. Golden Rod / Fire Weed
5. Balsam Fir / Black Spruce (Evergreen / Coniferous Trees)
6. Old Snag / Woodpecker Hole
7. Larch
8. Labrador Tea / Beaked Hazelnut
9. White Birch / Yellow Birch (Deciduous Trees)
10. Red Maple / Mountain Maple
11. Blueberry
12. Northern Wild Raisin / High Bush Cranberry
13. Squirrel Habitat
14. Mountain Ash (Seed dispersal)
15. Bird Habitat (Bird Nest)
16. Interrupted Fern
17. Glacial Deposition
18. Mountain Holly
19. Tree Aging
20. Power Line
21. Mistletoe Damage / Insect Damage
22. Margaret Bowater Park Lookout
23. Tributary to the Corner Brook Stream
24. Canada Yew
25. White Pine Stump

Several tours were done differently to accommodate school teachers. These tours were tailored to educate students on specific topics. One tour concentrated on the soils of the Boreal Forest. Another tour was tailored to allow the group to take part in evaluating tree growth and tree aging with the use of some simple scientific equipment. The last tour that was tailored for an environmental team concentrated on tree and shrub identification and the use of common forestry field equipment.

TOUR TEMPLATE

Park Entrance: The park entrance was used to first briefly describe what the Boreal Forest is, how large it is, and why it is so important for the people of Newfoundland and the rest of Canada.

Wetland: The wetland was first used to identify some of the common plant life found in these areas. This was followed with a discussion of the importance of wetlands for humans and other plant / animal species. Discussions about the wildlife one would expect to find on wetlands led to further discussions of the food chain and the importance of all living creatures. Older students were introduced to the soil type (Organic Soil) found on wetlands and further discussions led to explanations of how this soil type formed and what it would look like.

Soil Pit: The next stop introduced the students to a nearby forested area and its soil type (Podzol). Discussions of the different soil layers, how they formed, why we find the majority of roots in the top layer of soil and some throughout the profile, and a little about the living things we find in soil and their role in decomposition followed.

Golden Rod / Fireweed: These two common plant species were first identified as being common plant species found throughout the Boreal Forest. They were then used to briefly describe the function of flowers, fruit, and seeds. They were also used to demonstrate one form of seed dispersal (by wind).

Balsam Fir / Black Spruce: Students were introduced to tree identification and were shown how to differentiate the two species using the needle test and by differences in the bark. Further discussions included the major uses for both humans and wildlife. It was also a good stop to introduce the idea of evergreen, softwood, and coniferous trees.

Old Snag / Woodpecker Hole: This was a good stop to talk about the importance of both live and dead trees. The snag was used to explain the importance of leaving snags for wildlife which require rotting trees and the soft wood to bore their homes in. It was also used to discuss their importance for both insects and fungi.

Larch: This stop was used to introduce students to larch and to introduce them to a species that looks much like an evergreen tree and explain to them how it's not an evergreen but it's still a coniferous tree.

Labrador Tea / Beaked hazelnut: During this stop the students were introduced to two shrub species. Discussions of the differences between trees and shrubs originated and that many shrub species provide a food source for humans and all sorts of wildlife.

White Birch / Yellow Birch: During this stop the students identified two hardwood species and discussions included the uses of the wood and identification features of the two species. Discussions of hardwood, deciduous trees were compared with softwood, evergreen trees followed. Students were also allowed to taste the yellow birch for its wintergreen taste.

Red Maple / Mountain Maple: Students were introduced to both types of maples. We discussed how to identify both, why we find the maple leaf on our Canada Flag, the uses of Red Maple, and why leaves change color during the fall season.

Blueberry: Students were pointed out a blueberry bush for those who never seen one before. We talked about animals (other than humans) which would use the berries as a food source and how some small animals act as seed carriers.

Northern Wild Raisin / High Bush Cranberry: These two species were first identified and then we discussed the importance of their berries as a food source for birds and other animals. During this stop I discussed how many birds and squirrels act as seed carriers and how some seeds require digestion to break down the seed coat before the seed can grow.

Squirrel Habitat: Students were first introduced to a squirrel's borrow and allowed to guess as to what lives there. We started a discussion by talking about what we must look for to determine what species would live in a certain habitat. We looked for evidence that a squirrel lived there. Students were shown how to identify the left over food (seeds and left over scales from coniferous cones), and we talked of the importance of a home with many entrances/exits to escape from predators. We also discussed the predators of a squirrel.

Mountain Ash: We first started with the identification of the mountain ash, and continued by talking once again about seed dispersal and the importance of the berries for birds and other small mammals.

Bird Habitat: The mountain ash (from the previous stop) provided a good food source for migratory birds (robins) and within the tree I found a bird nest that could easily be observed (nest was only 2 feet above the ground, in a part of the mountain ash that had rotted and fallen over). Discussions followed about migratory birds and the importance of nest and habitat protection.

Interrupted Fern: This stop allowed for students to learn a little about ferns. We discussed their importance and the number of different ferns we could expect to find.
Glacial Deposition: Glacial deposition was discussed after a huge rock within the park was pointed out and the students were asked how they thought that the rock got to be there.

Mountain Holly: This stop allowed for the identification of another shrub species.
Tree Aging: This stop was the last stop on the tour for many younger school groups as I was usually running out of time by now. Using an increment borer, I extracted a core sample from a tree and discussed the importance of a forester knowing tree age, how a tree grows, how to age a tree, and how much it grows. Most groups had the opportunity to individually guess the age of the tree before I removed the core sample and a prize (hat) was given to the individual who guessed closest to the actual age of the tree.

Power Line: During this stop I identified several pioneer plant species and discussed forest succession, second growth forests, seed trees and natural regeneration. During this stop I also brought the groups attention to the fact that the whole park was once harvested in the 1920's and that the trees have regenerated naturally.

Mistletoe Damage / Insect damage: As we walked toward the Margaret Bowater Park lookout I discussed mistletoe damage which could be easily pointed out. I discussed the effects it has on trees, and pointed out trees that already had formed extensive "witches brooms" and other trees which had already had the crowns die back. This spot was also a great spot to introduce the damage to many balsam fir trees caused by the Balsam Fir Sawfly. I discussed the effects the insect has on the trees, the life cycle of the insect and management options that could be used to control the insect.

Margaret Bowater Park Lookout: During this stop I discussed the Corner Brook Stream and its role in providing fresh water to the paper mill and how it was responsible for the location of the mill today. I also discussed the fish species which are found in the stream and the importance of the fish ladders in both the Glynmill Inn Pond and Margaret Bowater Park.

Tributary to the Corner Brook Stream: During this stop I discussed the importance of small streams and their protection through buffers / riparian zones. I also mentioned the importance of permanent bridges and culverts for reducing erosion and in the protection of the stream and spawning grounds. During a couple of tours I did discuss harvesting within buffer zones and the impacts this could have on streams and rivers.

Canada Yew: This was a good stop to talk of the importance of trees, shrubs, and plants for other uses than paper or lumber materials. Canada Yew was a great example of a shrub from which we obtain medicines. I discussed how Biolyse Pharma's Paclitaxel, a drug used in the fight against breast and lung cancer, could be harvested as a renewable resource. I also used this stop to talk about the protection of rare and endangered plants which may contain things we could use for medicine.

White Pine Stump: This was the last stop for all groups because it was close to the park entrance and a great stop to show everyone that even an old rotting stump can tell you the history of an area. We first discussed how old we thought the stump was and what kind of tree we thought it was. This led to a discussion of the life expectancy of some trees. Once the groups understood that this old stump (Pine was over 250 years old) could tell us a bit about the history, we discussed what happened to the tree and I pointed out evidence that confirmed our observations. This was a great opportunity to also discuss the decomposition of trees and nutrient cycling. I ended the tour by talking about the tree disease (White Pine Blister Rust) that has killed many of the Pines within the Participark and throughout the Boreal Forest.

Costs Breakdown:

Organization	Contribution	In Kind	Total(s)
WNMF	\$ 3500	Salary	\$ 3500
	\$ 100	Transportation	\$ 100
	\$ 50	Advertising	\$ 50
	\$ 525	Employee Benefits (15% of salary)	\$ 525
Total			\$ 4175

Recommendations:

There are a few recommendations I have that could make future tours better. The following are a list of things that should be implemented in the following years:

Timing: The tours should be started a little earlier than they did this year. This should be done to allow for more groups to take part in the tours before the weather turns cold and before the trees and shrubs lose their leaves. It would also allow for the identification of many native plants and wild flowers before they die back for the winter. Earlier hiring of the tour guide would also allow for earlier advertisement of the tours and would most likely result in higher participation numbers. The poster and memos should be sent out as early as possible to allow teachers time to introduce the Boreal Forest as part of their curriculum before students participate in the tour.

Group Size: The smaller the group the easier it was to have more interaction and visualization along the tour. It also reduces the amount of interruption caused by larger groups and reduces time wasted in moving from one stop to the next. The walking tour coordinator must insist on maintaining a group size of less than 25 students to increase the overall effectiveness of the tour. Smaller groups are more easily controlled and make safety less of an issue.

Bussing the students is the biggest concern when the group size is small for teachers because they have an easier time obtaining buses when group size is larger. To solve this problem, teachers should be provided with a couple of options to entertain students if a large class has to be broken into two smaller groups. Corner Brook has many sites and places to offer students an additional learning experience. Examples would include the Arts and Culture Center, Corner Brook Stream Trail, Corner Brook Museum, Sir Wilfred Grenfell College campus and others.

Tailoring Tours to Specific School Grades: It was my experience that many teachers wished to have specific topics discussed during the tour which overlapped with mandatory curriculum outcomes. Perhaps the best way to do this would be to have the tour coordinator analyze the curriculum outcomes for each grade and compile a list of topics for each grade that should be discussed during the tour. I would advise that the internet not be used to determine the curriculum outcomes for each grade because it has not been kept up to date. It would be best to communicate directly with a teacher from each grade and obtain their updated list of outcomes.

Cellular Phone: The tour coordinator should have a cellular phone on hand at all times. This would enable the coordinator to make any emergency calls (ambulance) from the Participark if required. It would allow for teachers to contact the coordinator directly in the case of a tour cancellation. This would work great when the coordinator is waiting for the group at the Participark and not in the office. This would also allow the coordinator to be contacted by the Western Newfoundland Model Forest should a cancellation be phoned into the office while he/she is waiting for the group to arrive at the Participark.

Survey: A survey was been done in past years by some teachers and students following their tour. A survey was not done this year because of problems in past years where very few of the surveys were completed and returned. I think that the best way to solve this problem would be to ask only the teachers to complete and return the survey. In past years it has been the teachers who gave the most feedback with the surveys. The survey would give the coordinator useful feedback on how the tour went and what may be changed to make the tour a more effective teaching resource.

Advertisement: I think that all forms of advertisement should be utilized for future tours. I believe that if the tours were advertised on the local cable channel there would be an increase in the number of groups from the general public, other than school students, who would participate. Advertisement through posters and memos to each school worked great at informing the schools within School District 3 of the tours. Advertisement by the local newspaper (Western Star) and radio stations proved to also be effective in reaching interested public groups.

APPENDIX

Appendix A

Table 1. Participants in the 2003 Urban Forest Ecology Walking Tours

Date	School	Grade	Number of Students
9/16/03	Presentation Junior High	7	25
9/17/03	J.J. Curling Elementary	2	25
9/18/03	J.J. Curling Elementary	2	24
9/22/03	C.C. Loughlin Elementary	3	25
9/22/03	C.C. Loughlin Elementary	5	25
9/23/03	C.C. Loughlin Elementary	2	22
9/25/03	St. Gerard's Elementary	4	30
9/25/03	11 th Corner Brook Guides	-	12
9/26/03	College of the North Atlantic	Trades & Technology	14
9/29/03	Humber Elementary	Kindergarten	30
10/01/03	Sacred Heart Elementary	4	35
10/02/03	Sacred Heart Elementary	2	24
10/02/03	Sacred Heart Elementary	2	22
10/03/03	St. Peter's Academy	8	35
10/06/03	St. Gerard's Elementary	2	17
10/06/03	Elwood Elementary	4	26
10/07/03	Northshore Elementary	5	23
10/07/03	Northshore Elementary	5	22
10/08/03	Sacred Heart Elementary	Kindergarten	23
10/08/03	11 th Corner Brook Guides	-	21
10/09/03	Humber Elementary	1	22
10/09/03	Humber Elementary	5 & 6	15
10/10/03	St. Peter's Academy	4 & 5	42
10/10/03	Elwood Elementary	4	24
10/14/03	Regina High School	12	5
10/15/03	Xavier Junior High	7	15
10/15/03	Xavier Junior High	4	15
10/16/03	St. Peter's Academy	2 & 3	27
10/17/03	Elwood Elementary	4	26
10/21/03	Xavier Junior High	7	15
10/21/03	Xavier Junior High	7	15
Total			701

Appendix B

Dear Principal,

I am requesting your cooperation in making this year's annual Western Newfoundland Model Forest Urban Walking Tours as much of a success as in past years.

These free, guided tours offer students of all ages the chance to get outside for some hands-on learning about the boreal forest and the many resources it has to offer.

The aim of the tour is to promote awareness of the geology, soils, past and present uses of the forest, its flora and fauna, the ecology and sustainability of the forest ecosystem.

I am requesting that each teacher is supplied with a copy of the included memo, which contains the contact information about the tours, and request that a copy is posted in your staffroom. Thank you.

Sincerely,

Richard T. Ryan
Walking Tour Coordinator
Forestry and Environmental Management
Western Newfoundland Model Forest Inc.

Appendix C

Urban Forest Ecology Walking Tours

Did you know that Newfoundland is part of the boreal forest, the largest natural forest ecosystem on earth?

Do you know what trees are commonly found in the boreal forest?

Can you tell the difference between a Black Spruce and a Balsam Fir?

Do you know how forestry companies are protecting our environment?

Would you like to learn some other interesting information about Corner Brook's forests? Come and join us on an interpretive tour of Corner Brook's Kinsmen Particik Park during the months of September and October.

The tours take place on an easily accessible trail and will run for approximately two hours. Tours are scheduled twice daily at **9:30 am.** & **12:30 pm.** These times will remain flexible in order to accommodate as many school groups as possible. Tours must be booked in advance and while there are still openings!!

Tours will provide an introduction to the boreal forest ecosystem. Discussions will include the trees, plants and wildlife commonly found in our local boreal forest. Other topics would include the geology, soils, past and present resource use, and things that we can do to ensure the sustainability of future forest ecosystems.

The tours provide school children the opportunity to get outside and learn about their environment, while both having fun and getting some exercise. Activities can be arranged for children of all ages.

Urban Forest Ecology Walking Tours

TIME: SEPTEMBER 15 TO OCTOBER 17

PLACE: CORNER BROOK'S KINSMEN PARTICI-PARK

GRADES: OPEN TO ALL GRADES K-12

For More Information Contact:

Richard Ryan
Forestry and Environmental Management
Phone: 637-7308
Fax: 634-0255
Email: 173zp@unb.ca

Appendix D

ATTENTION CFCB:

Would you please air this advertisement during the morning school report and at any other available time during the day.

“The Western Newfoundland Model Forest is offering urban forest ecology walking tours to students and community groups of all ages during the month of October (free of charge). Tours focus on the geology, soils, flora and fauna of the Boreal Forest and their importance. For more information or to book a tour, please contact Rick at the Western Newfoundland Model Forest. The phone number is 637-7308.”

Thanks very much.

Rick Ryan
Forestry and Environmental Management
Western Newfoundland Model Forest
Forest Centre, University Drive, PO Box 68
Corner Brook, NL, A2H 6C3
October 1, 2003

APPENDIX E

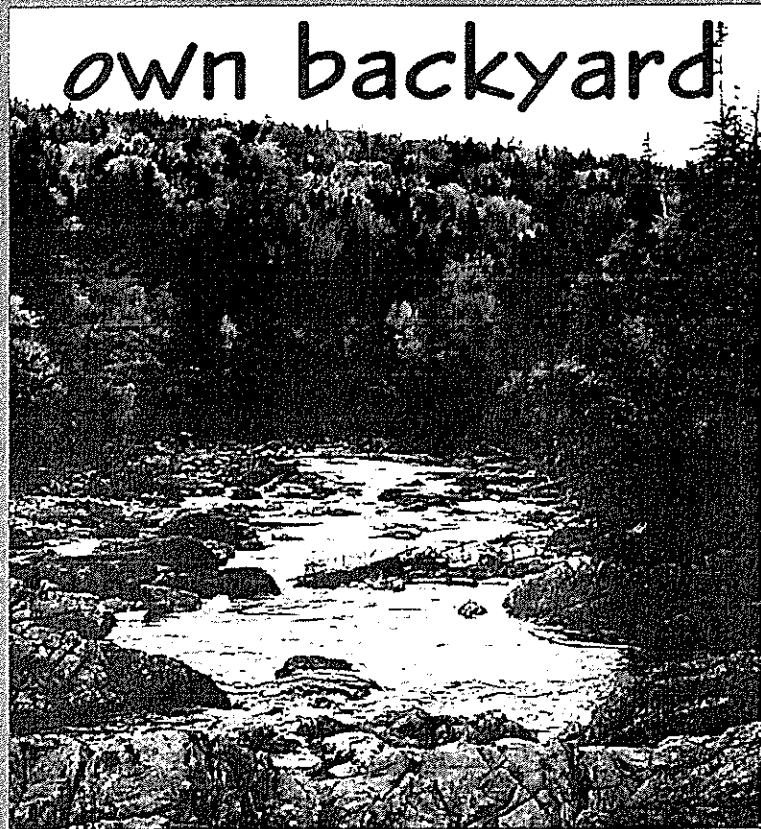
Explore the Boreal Forest in your own backyard

Explore the Boreal Forest this fall during the Western Newfoundland Model Forest's annual Urban Forest Ecology Walking Tour.

The Boreal Forest is the largest ecosystem in Canada, extending from British Columbia to Newfoundland and Labrador. The walking tours offer students of all ages a chance to see the Boreal Forest in their own backyards, bringing them to the urban forest environment of the Corner Brook Stream Trail and letting them see, smell and feel the forest around them.

The tour focuses on the geology, soils, flora and fauna of the Boreal Forest. Forester Rick Ryan will demonstrate techniques to determine tree age and take soil samples, and identify tree and plant species along the trail. Participants will see examples of insect damage and tree disease and learn about the role of wetlands in the forest ecosystem.

Tours run throughout September and October.



To book a tour,
call Rick
at the WNMF
at 637-7308