

Nature Trail Development

Pasadena Nordic Ski Club

Feasibility and Recommended Strategy

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Original Report  
For / By Western NF  
Model Forest



## Table of Contents

	Pages
Summary Recommendation .....	3
Introduction .....	4
The Area .....	5
The Nature Trail Concept .....	6
The Four-Season Concept .....	7
Structures Along Trails .....	9
Schedule of Development .....	10
Proposed Timetable Outline .....	11
Budget Estimates (1995) .....	13
Sample Pages From Nature Guide Booklets .....	14
1.    Canada Anemone .....	15
2.    Boreal Owl .....	16
3.    White Pine .....	17
4.    Lungwort Lichen .....	18

**Summary Recommendation:**

Based on a survey of the trail system and discussions with community and club members, this report recommends that the total Pasadena Nordic Ski Trail system be upgraded as walking trails accessible to Pasadena residents and visitors throughout the spring, summer and autumn seasons, and that a four-season nature trail component be incorporated. A self-guided nature trail development suitable for a small voluntary organization is envisaged and an outline of such a proposal is provided for the club's consideration including a time-frame and budget.



## Introduction

The Pasadena Nordic Ski Club has formally been in operation since the early 1970's. During this time 7 km of groomed trails were developed beginning at Castlewood Drive and extending southward towards the base of the valley hills. In 1992 a chalet was erected and in 1993-94 a new 3 km loop was completed bringing a total of 10 km of groomed trails into use. At the same time work was initiated to upgrade the trail system and to develop a multi-use, multi-season facility for the community. The smoothing, widening, and drainage improvements allow for a longer ski season and a more pleasant recreational ski, but also improve the quality for competitive events. Conditions are now suitable for the development of a recreational spring, summer, and autumn hiking trail as well as a nature interpretation trail system. Both of these highly desirable initiatives will greatly enhance the quality of life in the town and significantly promote the community's potential to become a desirable tourism destination as part of the Greater Humber Development Area.

The ski club has provided a much needed winter recreational outlet for our youth through an active and well run Jackrabbit Program as well as providing expert instruction in skills necessary for higher level competitive skiing. Along with adult instruction and recreational programs, it has become a winter focal point for youth, families, adults, and seniors. A new multi-season use initiative promises to add considerable quality to the community life of all citizens.

Because of the location and infrastructure already present, the Pasadena Nordic Ski Trail system can easily be upgraded to an all-season nature study facility providing a window into one of our most valuable natural resources, the boreal forest. It is an ideal site for bringing together recreational interests, educational interests and industry interests to help promote a truly integrated management strategy. It will also be an excellent facility for local schools to develop and foster outdoor education and nature study science projects.

This report outlines a strategy for the development of the nature trail component within the multi-season, multi-use concept. It is envisaged that with suitable funding and initiative the program and materials for self-guided nature trails can be prepared in a 2½ year period beginning in the spring of 1995 and phasing in the four-season components by the winter of 1997-98.

## The Area

The area encompassed by the ski trails is located several kilometers to the south of the community of Pasadena beginning at Castlewood Drive. The initial one kilometer portion of the trail system (Snowflake Lane) follows the Castlewood right-of-way and terminates at the club chalet. Snowflake Lane passes by some old cleared fields and is bordered by a variety of interesting shrubs and wildflowers characteristic of rich sites in the Humber Valley. The major trail loops beginning at the chalet (Looper Run, Rabbit Path, Lone Pine, and the new 3 km Rex's Run) pass through typical boreal forest habitat. The site is not, however, uniform but the trails wind through a variety of forest types each with their associated communities of plants and animals. In well drained upland locations White Spruce may be common intermixed with Balsam Fir, White Birch, and Red Maple. In wetter areas with a peaty accumulation Black Spruce and Larch tend to dominate. Hardwood thickets of Birch, Mountain Maple and/or Alder also occur providing a mosaic patchwork to the area. Each of these forest types has its own suite of understory shrubs and herbs. Here and there remains of a former White Pine forest is visible in a few remaining living giants and as stumps and rotting logs on the forest floor. To the careful observer effects of past logging, fire, disease and insect infestation are also evident. The opportunities for future trail expansion is almost limitless and visionaries can already see the nucleus of a first class nature facility emerging.

A variety of wildlife inhabit the area including moose, snowshoe hare, fox, lynx, squirrel, weasel, shrew, and vole. On occasion Pine Martin sign has been noted in winter. Summer and winter boreal forest birds abound both in numbers and variety. The trails will provide an ideal four-season access for the ever increasing hobby of birdwatching and photography. Willow Ptarmigan are regularly noted at certain locations along the trails as are Ruffed Grouse. Numerous common as well as several rare wildflower species occur. It is almost certain that with a thorough survey many more uncommon species of wildflowers will be located. Wildflower study and photography is increasing in popularity especially in the visiting tourist industry and we have here an excellent opportunity to develop and feature this nature activity. Other groups of organisms which abound in the area and which can be featured in various ways include the ferns, mosses, lichens, fungi, and insects.

## The Nature Trail Concept

The nature trail concept being proposed is one where certain noteworthy features are each marked with a small numbered sign. These may include specific organisms or more general ecological observations such as forest types, age structure, microclimatic conditions, etc. Field-guide sized booklets will be produced explaining the nature of each of the numbered ecological sites or organisms. Hikers who wish to learn about the plants, animals, and ecology of the area may borrow (rent? purchase?) a booklet from the club and then read about the numbered features as they encounter them on their hike.

This self-guided concept has a number of advantages over most other concepts and appears to be the most suitable for a small volunteer organization that does not have a guaranteed source of funding from one year to the next.

- ▶ once the original materials have been prepared (literature, booklets, brochures, signs, display collections, etc.), the yearly costs of maintenance, change, and upgrading will be minimal, well within the budget of the club.
- ▶ yearly operation of nature trails will require minimal manpower resources. Time commitments should be well within the capability of this small volunteer group with perhaps some summer student assistance.
- ▶ this self-guiding concept requires no expensive erection of signs or other physical facilities which often tend to distract from the "nature experience" and which require yearly maintenance.
- ▶ man-made structures are always the focus of vandalism, especially so in areas that are largely unsupervised. With this concept, the only physical structures that could be vandalized are the small number signs which can easily and inexpensively be replaced.
- ▶ it is envisaged that booklets will be made of waterproof field-guide sized ring binders with replaceable waterproof pages. In this way features can be added, deleted, changed in sequence, etc. on a yearly or seasonal basis to suit the changes in nature along the trails. Both in the placement of the number signs and the corresponding placement of pages in the booklets, this

concept will offer unlimited flexibility.

- ▶ additional new unexpected observations (eg. rare bird sightings, Martin tracks in the snow, etc.) can be posted weekly on a bulletin board in the chalet or at the start of the trails. This will further foster interest and involvement by the membership and visitors, especially if users are encouraged to also report their observations.

There is a broad range of expertise available in the Humber Valley/Bay of Islands region. This system is flexible enough to incorporate this expertise as it becomes available. In this way emphasis and focus may change with time as experts become involved to locate, identify and describe new organisms and relationships which had not been previously noted. Periodic hikes, workshops, outdoor studies, etc. may be co-sponsored with other community organizations such as the Humber Natural History Society, the Tourism Association, Schools, Colleges, Scouts, Guides, etc.

### **The Four-Season Concept**

It is recommended that the nature trail concept be developed for all four seasons, including winter, as each of the seasons brings its own unique observations. Year round use is preferred to involve a greater segment of the local community and to have an ongoing focal point for tourists and visitors whenever they may happen to come to the Pasadena area. Even in winter when the focus is on skiing, there are many individuals who are more interested in the nature aspect of getting outdoors on skis rather than the competitive or physical exertion component. Both these aspects can easily co-exist if promoted by the club.

Winter brings new nature experiences as well as many that were hidden during the summer now become exposed and visible. For example:

- ◆ animal tracks, their recognition and frequency tell us something about the species present and their population sizes.
- ◆ winter brings its own suite of birds to be observed and photographed.

- ◆ the identification of our deciduous trees and shrubs by bark and twig characteristics is an interesting study and hobby and also has practical value in being able to recognize species in the dormant leafless condition when transplanting is normally done. Many of our native species make excellent horticultural yard plantings.
- ◆ a variety of bracket fungi can be noted on different tree species and their ecology can be investigated.
- ◆ tree lichens abound in the forest and are especially noticeable in winter. A number of activities relating to lichen identity, ecology and even lichen uses could be promoted.
- ◆ snow itself is a structurally variable material which has many implications not only for skiing wax application, but also for wildlife feeding, protection, travelling, etc.
- ◆ insect damage, insect overwintering, parasitic fungal damage, mistletoe infestation, etc. can often be readily observed in winter.

There are many more nature observations and activities than these few examples which can be promoted during the winter months. As well, the three seasons spring, summer, and autumn each bring their own blossoms, insects, berries, and a myriad of other changes as the months progress.

Although a total four-season involvement is recommended, for practical purposes the spring, summer, and autumn nature trail components should be developed first and major emphasis placed here initially. The winter component will follow naturally once the club and the community are familiar and comfortable with the summer component.



## Structures Along Trails and Littering

It is recommended that at certain ideal locations along the trails rest stops be created where individuals can relax, lunch, or simply sit and quietly enjoy the sights and sounds of nature. Only a few of these would be desirable, perhaps only one strategically located on each trail. Any amenities (benches, shelters, firepits, etc.) should be of very crude local construction which will not invite vandalism. The fewer the structures, the less time and funding will be required for yearly maintenance.

Also it is highly recommended that no garbage containers or pits be provided as this conveys the wrong message and actually encourages individuals to litter. In a small volunteer organization valuable manpower resources should not be diverted into regular garbage collection. The best approach is to insist from the outset that anything brought into the area must again be taken out when individuals leave and nothing is to be left behind. This can be continually publicized in the booklets, at the beginning of the trails, at the rest stops, and in the chalet, and will pay off in the long term in a cleaner, more cared for environment.



## Schedule of Development

Although the rate of development of a nature trail component will depend upon a number of factors including availability of funding, manpower resources, expertise, and others, a timetable is here proposed beginning in the spring of 1995. The Pasadena Nordic Ski Club will have to decide "if" and "how" it wishes to proceed with a nature trail development, and whether the proposed timetable is feasible. Nevertheless, such a timetable outline is still a useful planning tool even if it needs to be modified over a shorter or longer time span.

It is suggested that in spring of 1995 two "senior" students be hired to prepare records and collections for the spring, summer, and autumn self-guiding booklets and to identify the organisms and ecological features to be included. In order to maximize efficiency and productivity it is essential that a capable and enthusiastic supervisor be appointed who will carefully supervise the student's duties. Selected specimens will have to be collected and prepared to aid in the production of guide information sheets and for display and promotion purposes. Number signs, information posters, photographic records, etc. can also be produced during the summer.

The data and specimens collected during the summer of 1995 can then be used in the preparation of the information sheets throughout the fall and winter months with the goal of spring 1996 for completion of the booklets. Preferably the individual who supervised the student workers would take the responsibility for the development of the information sheets on a volunteer or minimal contract basis. Funding would have to be available for the preparation of drawings to be done by a graphic artist. Good illustrations are considered to be essential for the usefulness of the self-guiding booklets. Funding will also be required for the booklet supplies, copying, printing, sign materials, collection materials, student salaries and other incidental expenses.

The winter self-guiding booklet could be developed by someone within the club or community during the winter of 1995-96 to be ready for use in the winter of 1996-97.

### Proposed Timetable Outline

- |   |  |
|---|--|
| March/April 1995                                  | <ul style="list-style-type: none"><li>- club chooses a supervisor</li><li>- procedures and schedules refined</li><li>- advertising for student workers*</li></ul>  |
| May 1-14, 1995                                    | <ul style="list-style-type: none"><li>- hiring of students</li><li>- student orientation meetings</li><li>- hikes with supervisor</li><li>- preparation for spring collections and records</li></ul>   |
| May 15-June 30, 1995 (Spring)                     | <ul style="list-style-type: none"><li>- collection and recording of spring organisms and ecological features</li><li>- identification, organization, and compilation of data</li><li>- begin preparation of number signs</li></ul>   |
| July 1-August 14, 1995 (Summer)                   | <ul style="list-style-type: none"><li>- summer collections and records</li><li>- identify features to be targeted in spring, determine spring illustrations necessary</li><li>- prepare proposed spring map of sites</li><li>- continue work on signage</li></ul>  |
| August 15-September 15 <sup>+</sup> , 1995 (Fall) | <ul style="list-style-type: none"><li>- fall collections and records</li><li>- identify and target summer features</li><li>- determine illustrations necessary and prepare summer map of sites</li><li>- complete signage</li><li>- later fall collections and records will have to be completed by the supervisor and/or club members after students return to classes</li><li>- map of fall number sites</li></ul> |

- November 1995-April 1996  
(Winter)
- complete organization of spring, summer and fall sites/organisms.
  - complete illustrations for guides by graphic artist
  - prepare pages of guides
  - print guides
  - collection/recording of sites/organisms for winter nature guide booklet with goal for use in winter of 1996-97.
- Spring 1996
- produce publicity for nature trail opening
  - hire a student to supervise trail promotion and to maintain nature trails
  - spring grand opening of nature trails
  - trail maintenance and improvement
- Summer 1996
- publicity for summer trail features
  - student resource individual for hikers
  - student maintains and features a representative display at chalet
  - trail maintenance and improvement
- Fall 1996
- publicity for fall trail features
  - student resource individual/representative display of fall features at chalet
  - trail maintenance and improvement
  - preparations for winter nature trail component
- Winter 1996-97  
(after permanent snowfall)
- setup number markers for winter trail guides
  - prepare representative winter display in chalet
  - promotional literature to members at ski registration, also available to visitors in chalet

- \* Students to be hired should have some background knowledge of the flora, fauna, and ecology of Newfoundland from studies at a post-secondary institution.

**Budget Estimates (1995)**

-	salaries for 2 summer students				
	15 weeks each (May - August),				
	35 hrs/wk				
	per student/week				
-	35 hrs/wk	@	\$4.75 hour	=	\$166.25
-	holiday pay	@	4%	=	\$6.65
-	benefits	@	9%	=	<u>\$14.96</u>
			Total	=	\$187.86 per week
-	per student per 15 weeks			=	\$2817.90
	x 2 students	.....			\$5635.80
-	signage materials and supplies	.....			\$500.00
-	collection/preparation/recording materials	.....			\$200.00
-	film/developing/printing	.....			\$250.00
-	professional typist fees	.....			\$500.00
-	graphic artist fees	.....			\$2000.00
-	booklet supplies	.....			\$750.00
-	photocopying/printing	.....			\$500.00
	Total Budget (1995) =				\$10,335.80

Sample Pages From Nature Guide Booklets \*+

1. Canada Anemone ..... 15

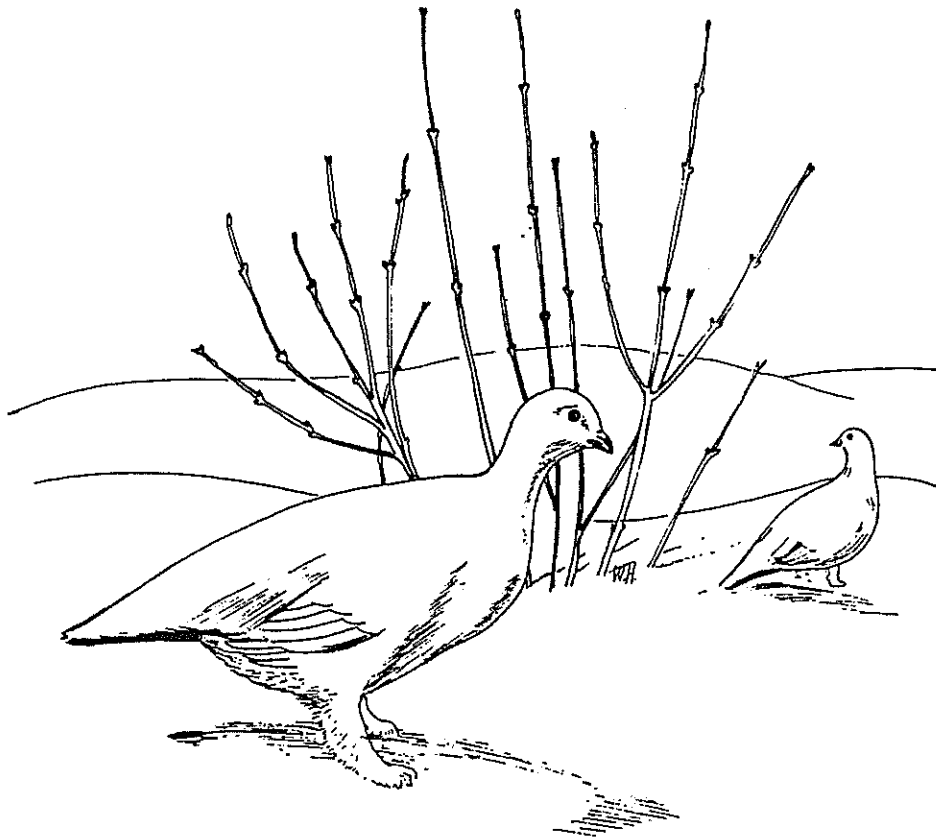
2. Boreal Owl ..... 16

3. White Pine ..... 17

4. Lungwort Lichen ..... 18

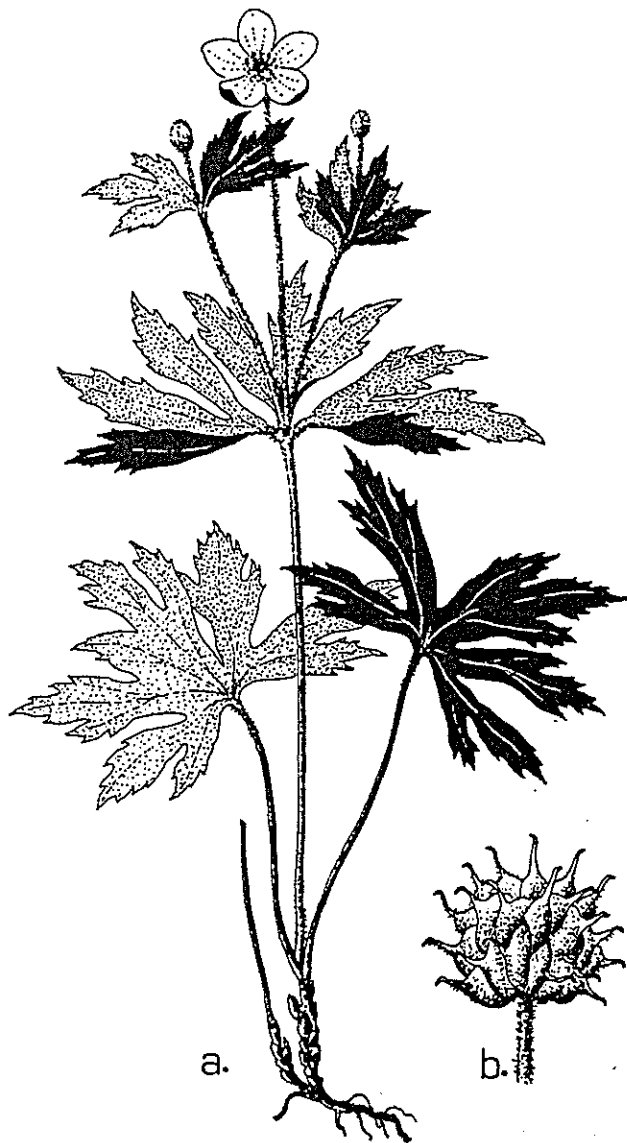
\* Actual guidebook pages will be reduced to approximately 5 x 7 inches (12.6 x 17.8 cm)

+ Drawings were prepared by graphic artist Warwick Hewitt



Snowflake Lane (3)  
Summer

Canada Anemone (Anemone canadensis L.)



a. entire plant

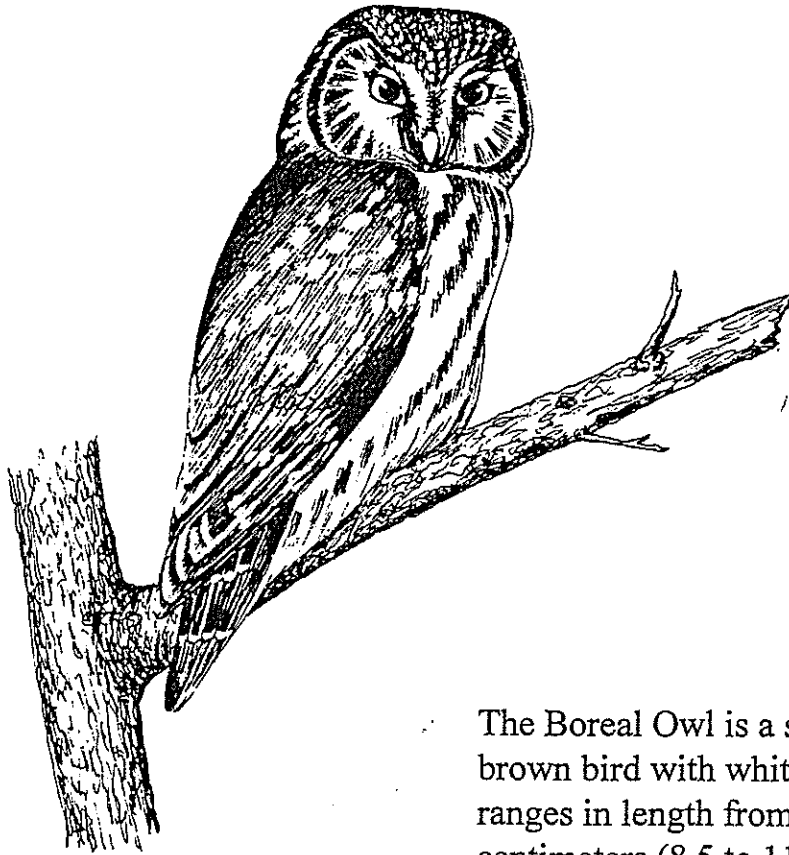
b. seed head

This showy wildflower produces masses of plants in meadows and open woods, often in moist clearings near streams. Plants are up to 70 cm tall with divided leaves and large white flowers with yellow centres. The blooming season extends from about mid-June to late July.

Canada Anemone is one of our rare wildflowers known on the Island only from several locations in Gros Morne Park and the Humber Valley. Naturalists finding new populations of this species should report them to a local botanist for recording.

Looper Run (10)  
Summer

Boreal Owl (*Aegolius funereus* L.)



The Boreal Owl is a small dark-brown bird with white markings. It ranges in length from 22 to 29 centimeters (8.5 to 11.5 inches). Its dark forehead is marked with round white spots and the facial disc has a narrow dark brown or blackish outer border. Undersides are white streaked with brown. The eyes are yellow and the beak is yellowish. Both sexes are similar in appearance. This owl nests in cavities in deciduous or coniferous trees.

A number of nest boxes have been placed along the trails by the Pasadena Pathfinders. Anyone spotting one of these owls or noticing evidence of nesting in the boxes or in tree cavities should report such sightings for recording. Use of nest boxes by other species would also be of interest.

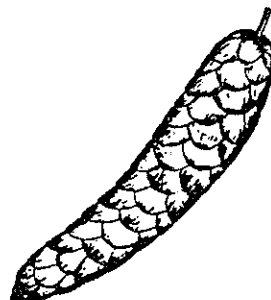
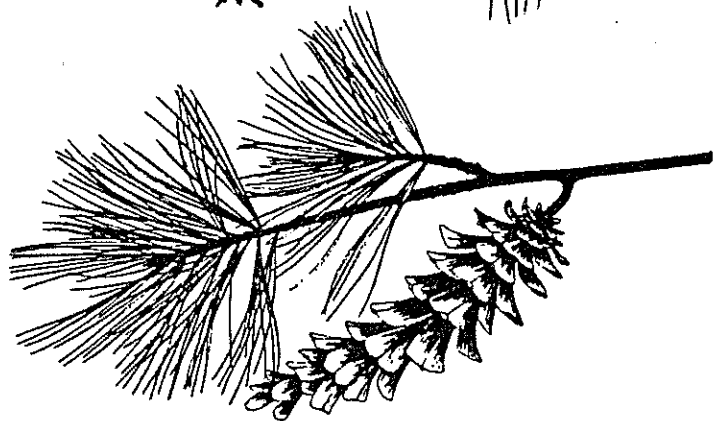
Lone Pine Trail (16)  
Summer

White Pine (*Pinus strobus* L.)



This large native pine was once a common component of the forests in the Humber Valley as evidenced by numerous rotting stumps throughout the area. Its decline is largely attributed to logging, fires, and to the introduction of the White Pine Blister Rust. Many of the remaining trees show evidence of this fungal disease by their yellowing or browning needles and blistering of young bark. Several large White Pine can be seen along the Lone Pine Trail and Rex's Run.

White Pine can be recognized by the long thin needles (4-12 cm) in clusters of 3 to 5 and by the long cones (7-16 cm) which open in the second year to release their seeds.



Lone Pine Trail (7)  
Winter

Lungwort Lichen (Lobaria pulmonaria (L.) Hoffm.)

This large flat leafy lichen prefers to grow on the bark of deciduous trees and can commonly be seen along the trails on older Yellow Birch or Red Maple. Its upperside ranges from olive-brown when dry to greenish when wet. The upper surface is wrinkled with depressions supposedly resembling lung tissue, hence the name "lungwort" (wort = plant). The lower surface is rusty colored with white patches.

Lichens are made up of an alga and a fungus growing together in a symbiotic relationship. Many lichens have chemicals which have antibiotic and other properties. Collecting, identifying, and learning about our many tree lichens can be an interesting and rewarding winter hobby.

