

A Walk in the Woods



Old forest research in Nova Scotia

Colin Gray for Western Woodlot Conference March 2019

MTRI's Mission



MTRI's mission is to promote, conserve, and sustain biodiversity in southwestern Nova Scotia.

Our field station is near Keji in Queens County.



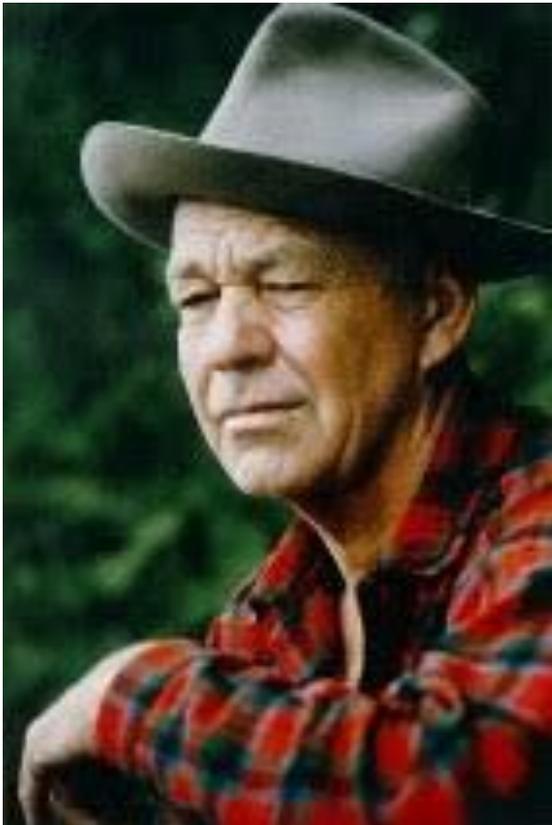
Old Forests and MTRI



Silent, Majestic and Awe-inspiring

Mersey Tobeatic
Research Institute





“Without love of the land conservation lacks meaning or purpose, for only in a deep and inherent feeling for the land can there be dedication in preserving it.”

Sigurd F Olson

What is an Old Forest?



An old-growth forest, also termed virgin forest, primeval forest, late successional forest, is a forest that has attained great age without significant disturbance and thereby exhibits unique ecological features that could be classified as a climax community.

Late Successional Climax Species

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Wapane'kati (Acadian) forest climax species of shade tolerant long lived Red spruce, Eastern hemlock, White pine, Sugar maple, Yellow birch, American beech.

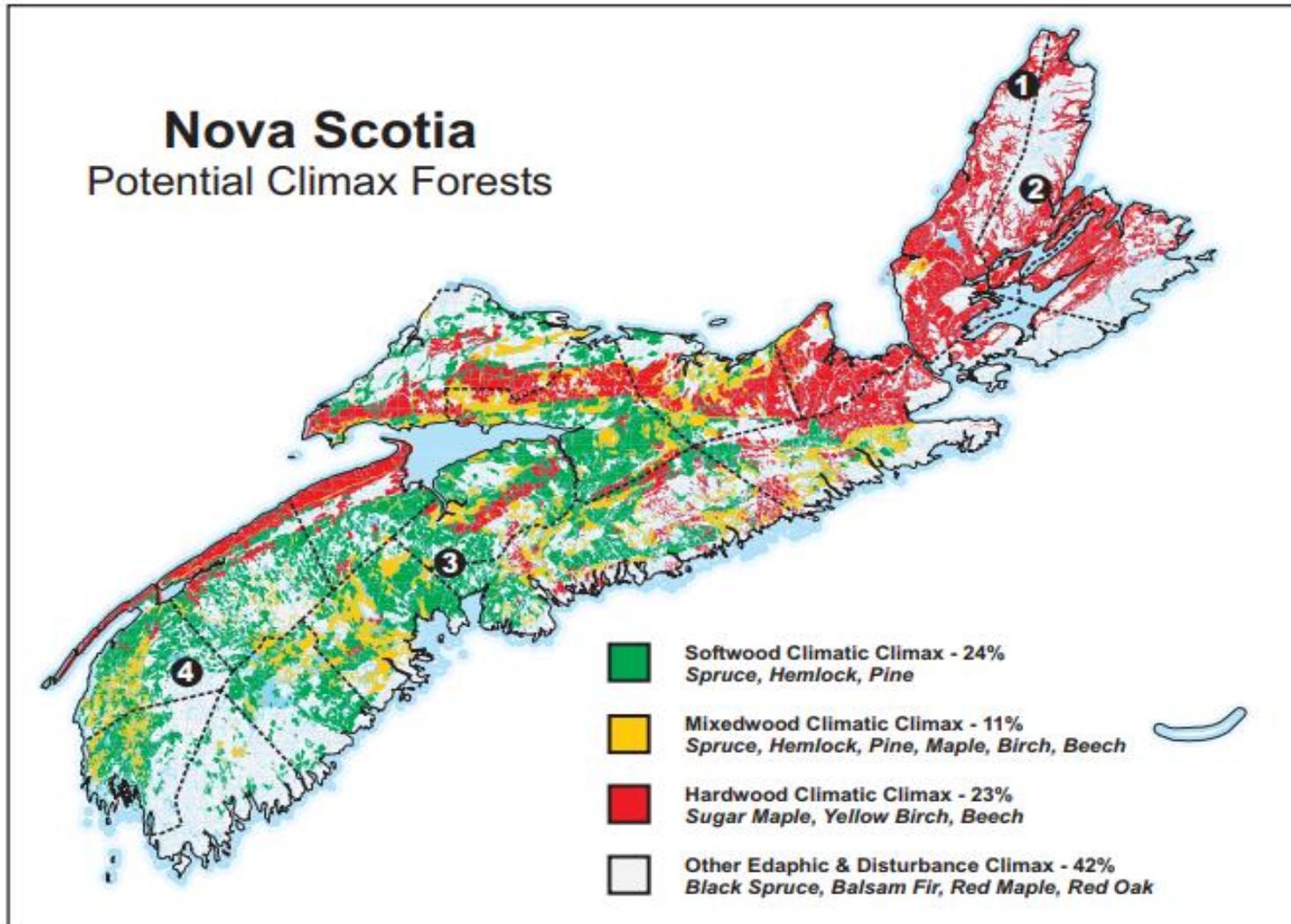
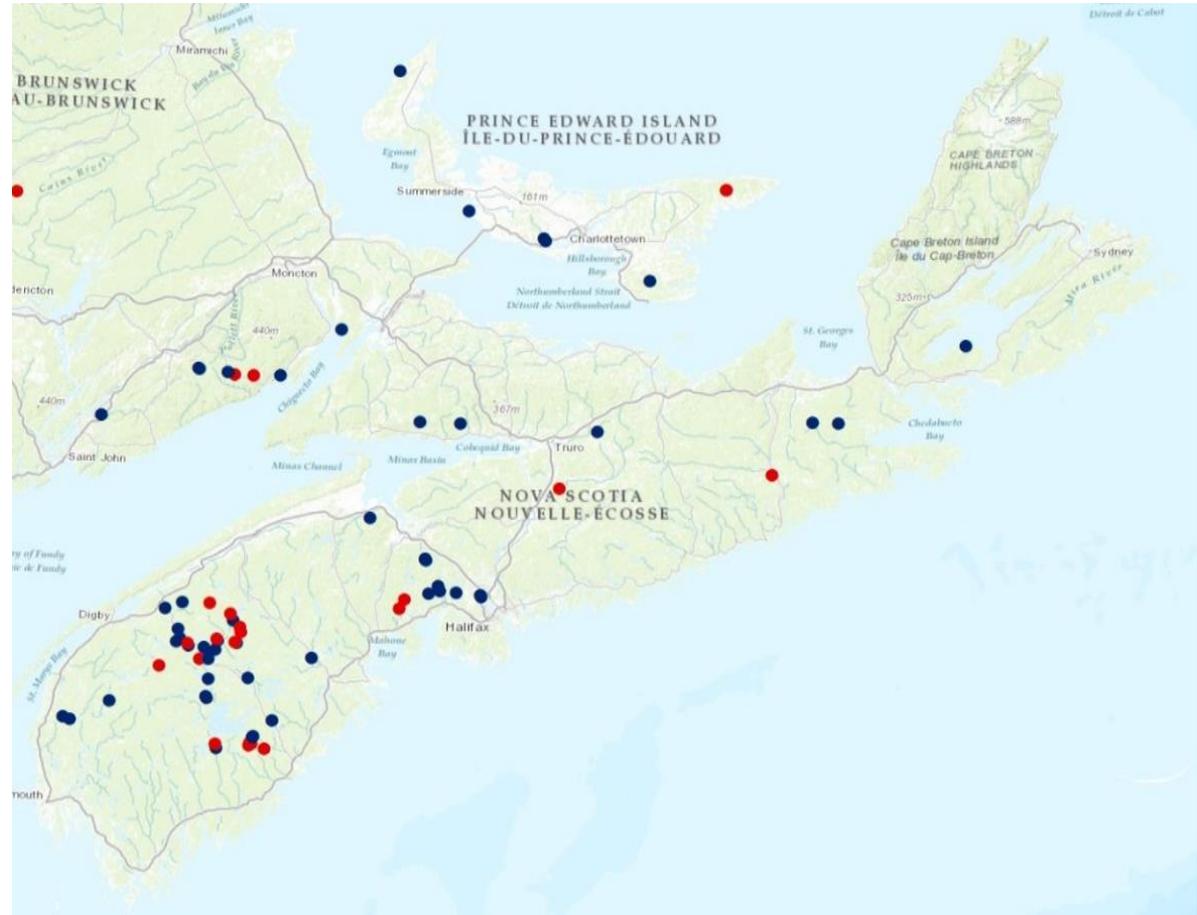


Fig 1. Location of study sites and distribution of potential regional climatic climax covertypes in Nova Scotia (NSDNR 2000). Study sites: 1. Grand Anse, 2. North River, 3. Panuke Lake, 4. Sporting Lake.

Old Forests in NS

Less than 1% of Nova Scotia's forests are considered to be true old-growth.

They still exist in pockets in Nova Scotia!



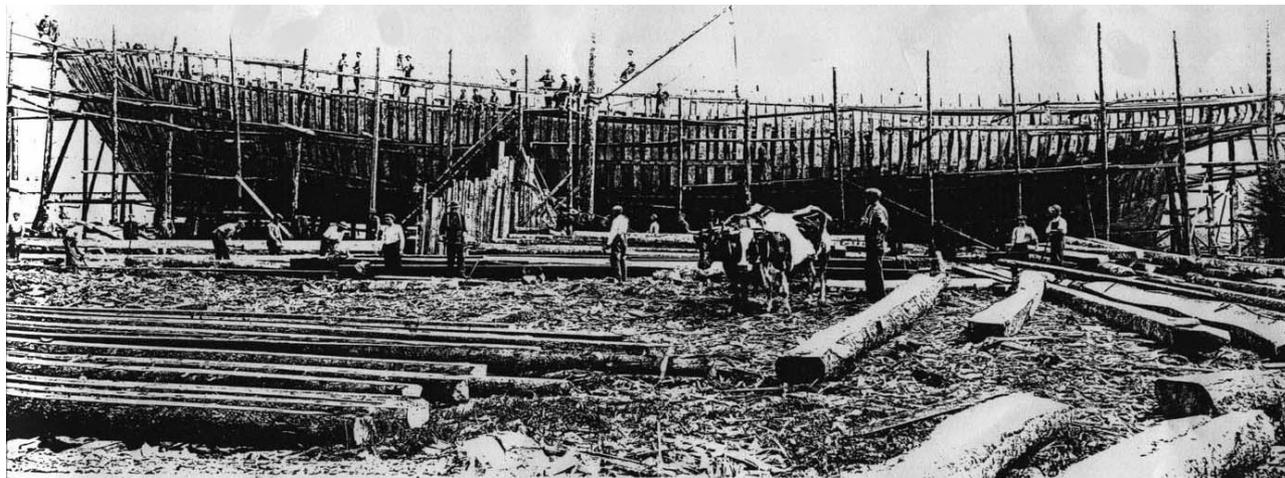
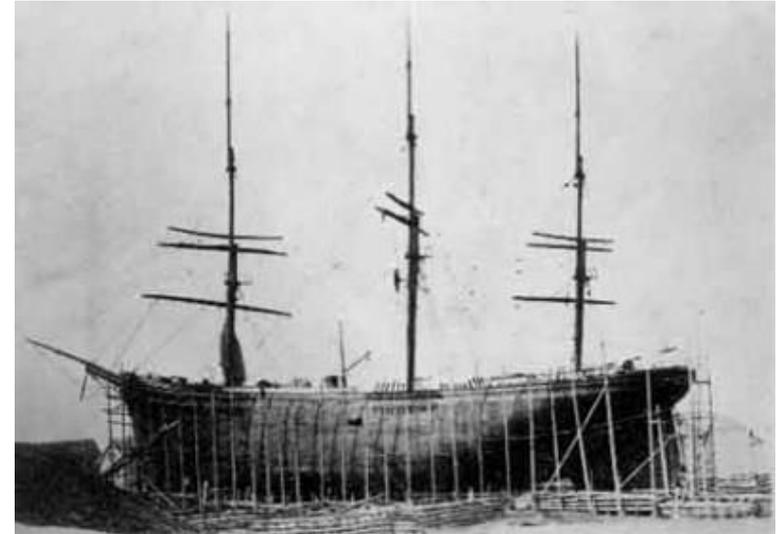
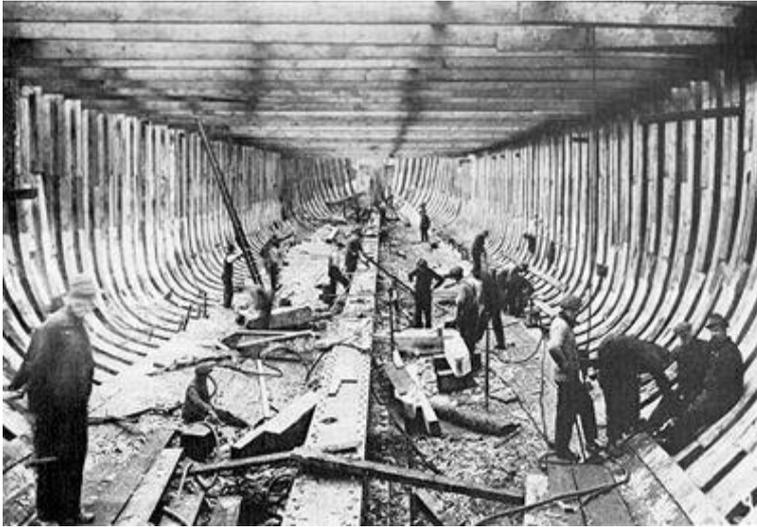
Landscape Fragmentation



Several hundred years of land clearing for agriculture and timber harvesting has eliminated most of the old-growth forests in Nova Scotia.

The Age of Wooden Ships & Iron Men

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John Wentworth, Surveyor General for the King's Woods 1783-1791

The timber reservations John Wentworth made between 1783 & 1791 not only provided the Royal Navy with masts but laid the basis of future crown land policies in Nova Scotia.



The Harvesting Continued

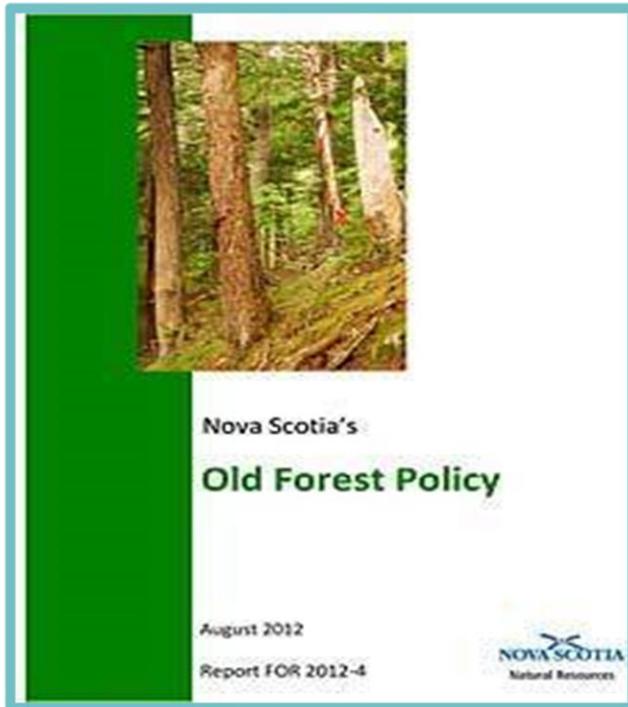


Field Truthing Old Forests in Nova Scotia

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Over 50 potential old forest sites have been ground truthed in Nova Scotia by MTRI staff, seventeen of which have been determined to be true “old-growth.”



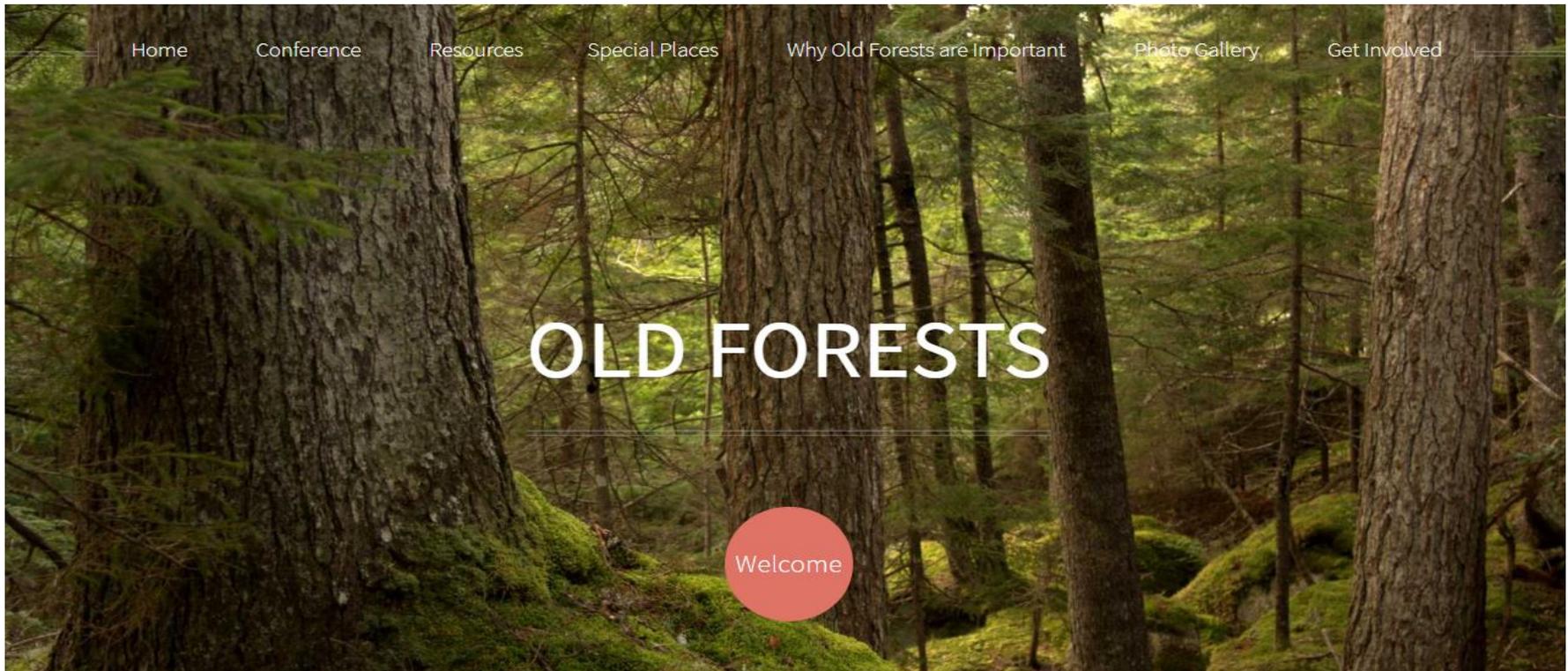
Old Growth: A forest stand where 30% or more of the basal area is in trees 125 years or older, at least half of the basal area is composed of climax species, and total crown closure is a minimum of 30%.

Old Forest Database

MTRI created a database of site locations and score results.



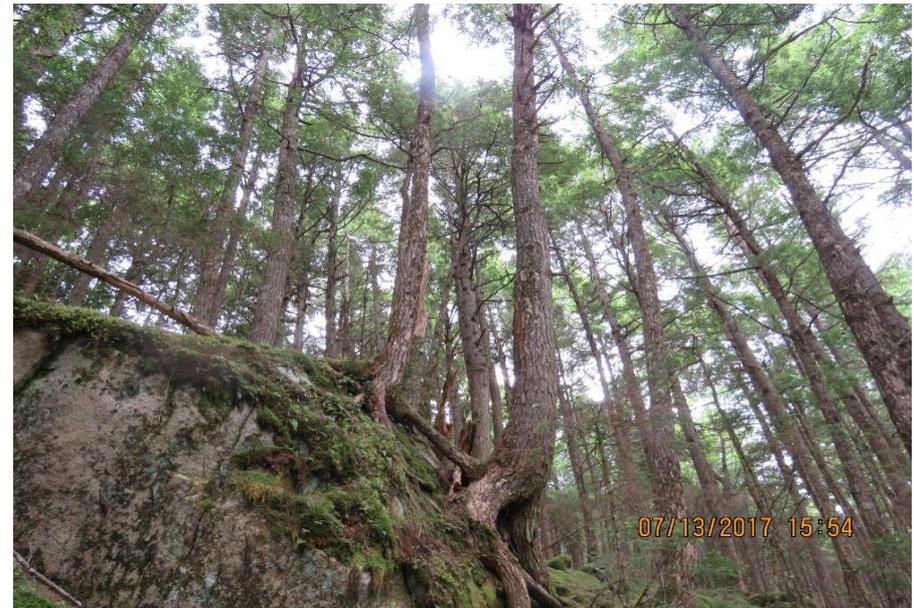
An old forests website was developed to highlight some of the Maritimes special places where old growth forests still exist.



Old-Growth Forest Characteristics

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Old-Growth forests have a complex structure from forest floor to canopy.



Old-Growth Forest Characteristics

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Photo by Alain Belliveau

A primal forest, with little or no signs of human disturbance.

Old-Growth Forest Characteristics

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An abundance of old trees, long trunks free of low branches with deep furrowed bark.

Old-Growth Forest Characteristics

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Fallen logs in all stages of decomposition criss-crossing the forest floor covered with moss, fungi and lichens.

Old-Growth Forest Characteristics

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Plenty of snags, a patchy, multi-layered, multi-species canopy with trees of several age classes. Undulating forest floor expressed in randomly scattered pits and mounds

Wildlife and Older Forests



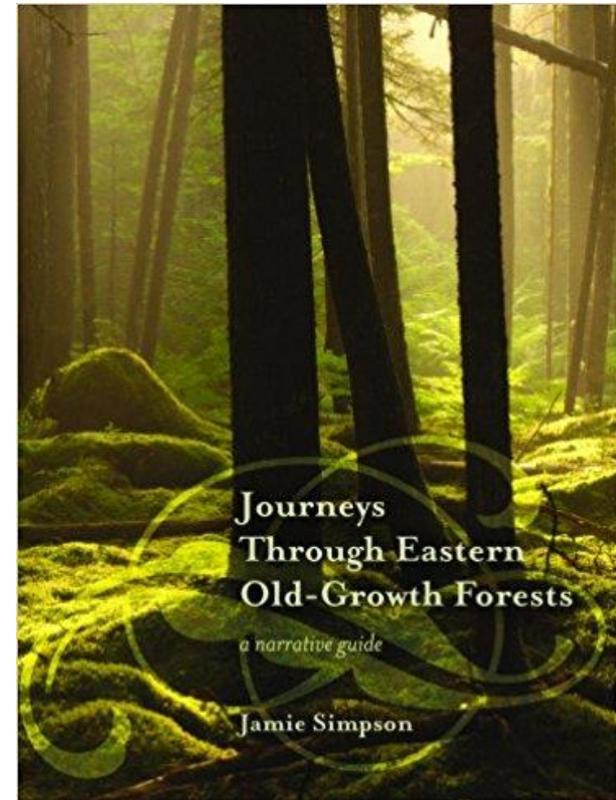
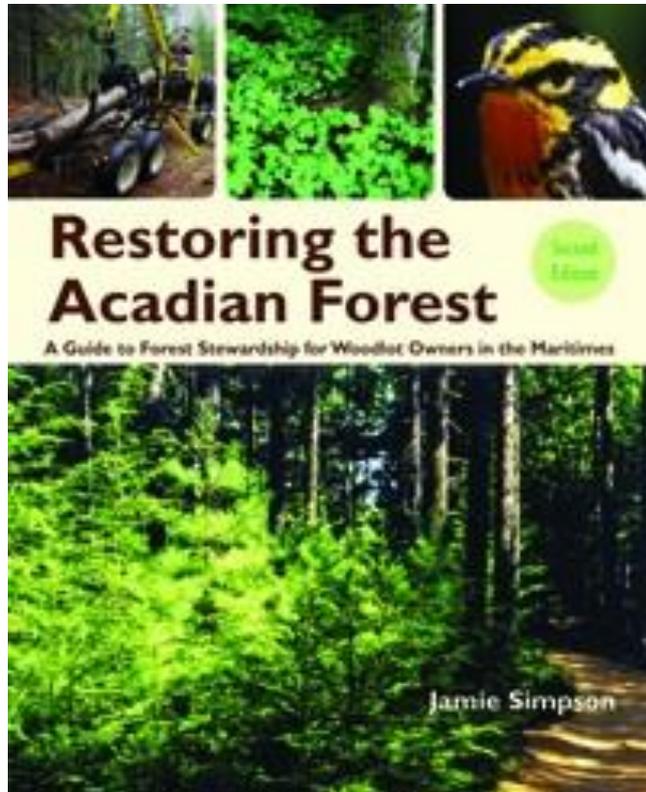
Certain animals exhibit an affinity for some features found in older forests, thriving in the cool microclimate from forest floor to canopy.

Positive Impacts on Private Woodlands

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Lets save a little bit of the best to promote the rest!



A Moment of Reflection



“Nature at the very least is to be embodied as an equal, a being of intrinsic worth, not to be plundered without regard to consequence.” *Martin Buber*

MTRI & Old Forests





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MTRI is a charitable organization that operates a field station for research and education within the Southwest Nova Biosphere Reserve.

MTRI's mission is to promote sustainable use of natural resources in southwestern Nova Scotia through research and education.

Over the last few years, the organization has been developing capacity through its staff, volunteers, members, and directors.

MTRI is currently undertaking projects that focus on species at risk; aquatic health of streams, lakes, rivers, and wetlands; landscape connectivity and forest health; climate change; and invasive alien species.

Learn more on our website at www.merseytobeatic.ca.



Mersey Tobeatic Research Institute, Kempi, Nova Scotia



Southwest Nova Biosphere Reserve



Questions?