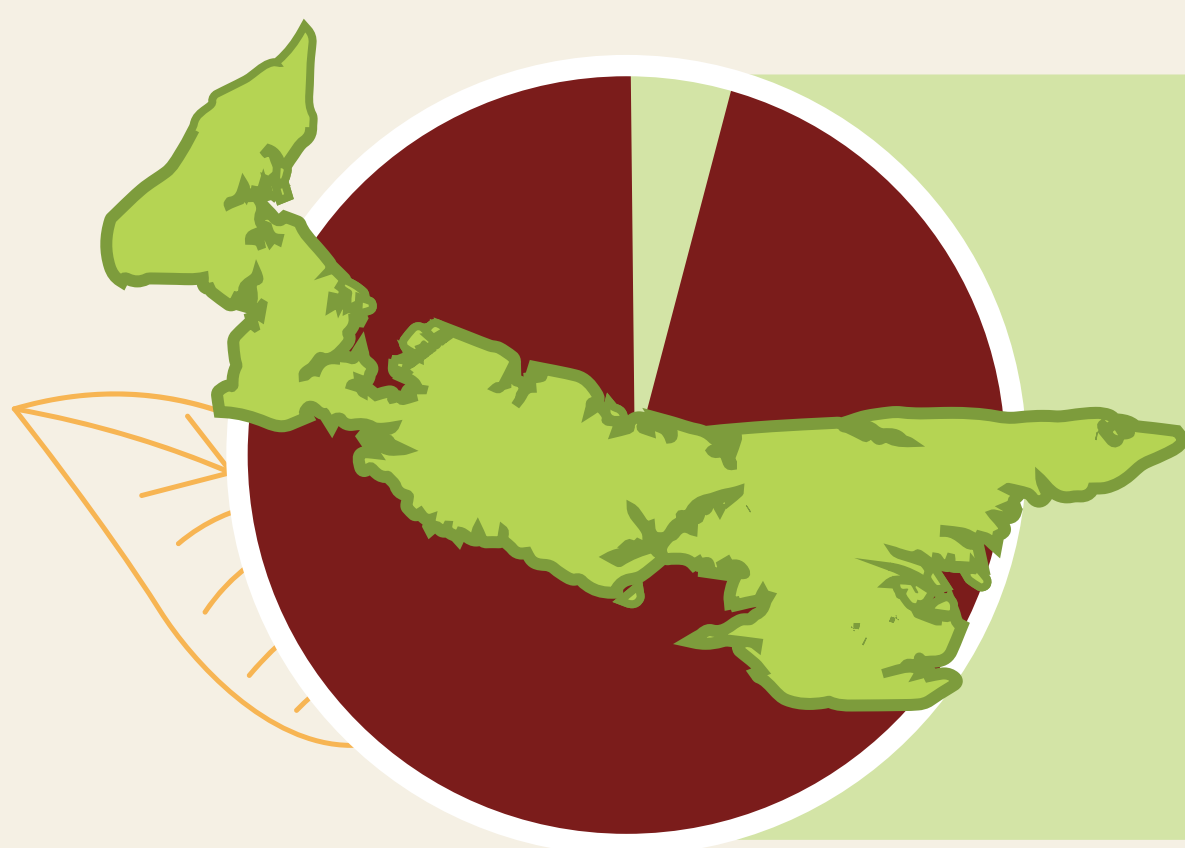


The Changing Face of PEI's Forests



Prince Edward Islands forests today are only a fraction of the precolonial Wabanaki-Acadian Forest that once covered **98%** of the island.

As forests were cleared, they became severely fragmented. These open conditions allowed for early successional boreal tree species such as white spruce and balsam fir to replace the long-lived temperate species.

This process of large-scale replacement of long-lived, temperate forest communities by early successional boreal species is referred to as **borealization.**



Why

have boreal species become so abundant on PEI?

Boreal tree species are well adapted to regenerate in open and exposed conditions, similar to the conditions we see after clearcutting.

Boreal tree species have been selectively planted in conifer plantations and as part of afforestation projects while hardwood species have been harvested from forests for timber products.

How

will climate change impact boreal tree species on PEI?

Borealization has reduced PEI's forests ability to adapt to the rapidly changing climate. The overabundant boreal species are at the southern edge of their climatic limit and therefore likely to experience declining productivity in a warming climate. Cooler exposed areas such as coastal forests will continue to provide suitable habitat for these species, but interior forests are particularly susceptible to increasing temperatures.

How

can we prevent or reverse the borealization of PEI's forests?

Harvesting wood using patch cuts and thinning methods combined with replanting hardwood and shade tolerant species will help diversify and restore natural forests. Managing forests in this manor also increases the carbon storage capacity of forests helping to mitigate global warming.

Where

can I get support to diversify my forest?



Your local watershed group can offer support and advice diversifying your forested areas.



Contact PEI Watershed Alliance at admin@peiwatershedalliance.org.



You can independently diversify your forest by contacting Macphail Woods Forestry Project, Arbor Nursery Ltd., or Havenloft Tree Nursery.



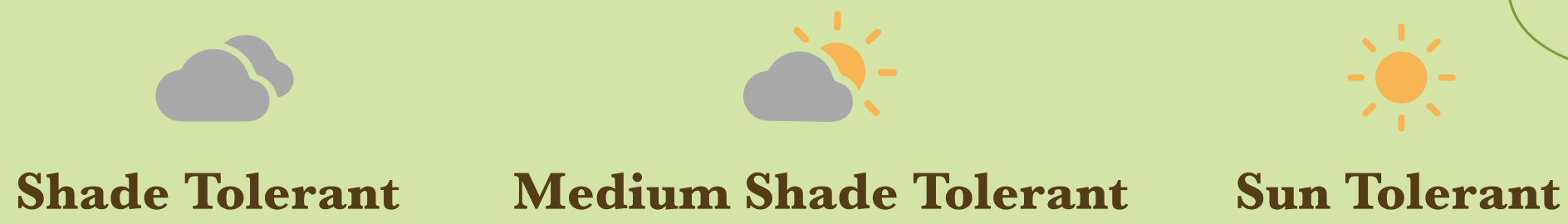
Research has shown that species such as white spruce, and balsam fir are anticipated to decline on PEI as a result of climate change.

These species make up a significant proportion of the forests on PEI, therefore declines in these species represent a serious threat to loss of habitat and ecosystem services.

Examples

of Underrepresented Climate Resilient and Non-Boreal Wabanaki Acadian Tree Species on PEI

Light Tolerance Legend



Common Name

Light Tolerance

Notes

Ironwood (<i>Ostrya virginiana</i>)			Rich well drained soils. The wood and branches are extremely resistant to wind, snow, and ice breakage.
Red Spruce (<i>Picea rubens</i>)			Susceptible to wind damage. Moist to dry soil conditions. Soil moderate to rich in nutrients.
White and Black Ash (<i>Fraxinus americana & nigra</i>)		 	Does not tolerate excessively dry conditions. Moderately nutrient rich soils.
Red Maple (<i>Acer rubrum</i>)			Moist to dry soil condition. Soil moderate to rich in nutrients.
Sugar Maple (<i>Acer saccharum</i>)			Can tolerate shade but grows best in full sun. Does not tolerate saturated or excessively dry soils. Soil moderate to rich in nutrients.
Eastern Hemlock (<i>Tsuga canadensis</i>)			One of the most shade tolerant native tree species. Does not tolerate saturated or excessively dry soils. Requires soil moderate to rich in nutrients.
Yellow Birch (<i>Betula alleghaniensis</i>)			Prefers moist soils but can be grown in upland forests. Soil moderate to rich in nutrients.
Eastern White Cedar (<i>Thuja occidentalis</i>)			Grows best in moist, well-drained soil. Does not typically tolerate dry conditions. Requires at least moderately nutrient rich soils. Partial sun is needed as tree ages.
White Elm (<i>Ulmus americana</i>)			Moderately shade tolerant but grows best in full sun. Tolerates wet and moist sites. Grows best on nutrient rich sites but tolerates a range of soil conditions.
Eastern White Pine (<i>Pinus strobus</i>)			Will tolerate full sun, however, trees grown in partial shade tend to be less prone to white pine weevil damage. Moist to dry soil conditions. Will tolerate poor soils.
Northern Red Oak (<i>Quercus rubra</i>)			Moderate to low tolerance for shade growing well in full sun conditions. Moist to dry soil conditions.

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