

Forests under Siege - What will happen to Nature?

Eastern forests are shrinking quickly under a barrage of clearcut harvests using high-tech machines that offer little employment for people in New Brunswick, Newfoundland or Nova Scotia. The Prince Edward Island government is taking a more careful forestry approach with certification by the Forest Stewardship Council (FSC) of their Crown land holdings. Elsewhere, provincial governments are being pushed hard by large, financially-troubled forest industries. Determined to feed a global wood demand driven by rising human populations, these industries also want to burn wood to produce electricity and lower their energy costs.

Classified as “Acadian”, most naturally-growing forests of Atlantic Canada contain a broad mix of trees with leaves (hardwoods) and with needles (softwoods). Each tree species has preferences regarding soil, moisture, and available light. Young sugar maple, yellow birch, hemlock, red spruce and others can grow on the forest floor in the moisture and shade found under taller trees. Eventually an old tree falls, and a young tree takes a growth spurt in its place. Trees that grow in forest shade may live as long as 450 years and eventually become the dominant species. Their wood is more valuable to humans.

Large-scale environmental disturbances, like fire, insect infestations or hurricane damage, were historically rare in most forests in New Brunswick, Prince Edward Island and Nova Scotia (except for the Cape Breton Highlands). “Fire histories” in an area can often be traced to early logging practices and land-clearing by settlers.

Trees obtain nutrients from soils that have developed since the last ice age ended about 11,000 years ago. Needles and leaves act like solar collectors, also producing more energy for the tree. Favourable site conditions and space for roots in the ground give each tree a chance to thrive. On hot, sunny days a healthy forest offers cool shade, evidence its trees are capturing the sun’s energy and also cooling water in the forest floor that feeds streams.

Forestry in eastern Canada became a force in the 1700's. Land clearing for settlements and farms, shipbuilding and lumber exporting began making significant changes. Tall white pines were marked and reserved as masts for English sailing ships. In the 1800's sawmills used vast amounts of original Acadian forest hardwoods and softwoods. Some 300 years and repeated harvests later, those same sites are being swept clean for pulp, lumber and/or biomass. For centuries wood “biomass” was burned in homes for heating and cooking. Lately biomass includes wood processing byproducts, and cutting forests to use their wood to produce electricity. In 300 years we’ve gone from masts to moonscapes, while industry and government leaders baffle about environmental sustainability. Like many fisheries, the Acadian forest is in trouble from over-exploitation. Rehabilitation will take time.

The industry-preferred, cheap harvest method is clearcutting. A clearcut can be defined as a site where essentially all trees have been removed in one operation, leaving a large, open area that no longer has the forests’ protection from high temperatures and drying winds. The spread of clearcutting over eastern landscapes holds drastic environmental consequences for soils, wildlife

populations, waterways, climate and humans. Leaving thin ribbons of trees along waterways and occasional, see-through clumps of trees on the landscape does not maintain a healthy environment. Large companies use mis-leading names for clearcutting, such as “variable retention” and “seed tree release”, showing only window-dressing regard for the future. They ignore the following:

- 1) Clearcuts encourage short-lived and “open ground” suited seedlings of species like poplar, wire birch, fir and white spruce to take over. Sure, something grows back - but not the same forest.
- 2) The resulting forest is even-aged, has fewer tree species and more vulnerability to insect and disease damage.
- 3) To be “industry” successful, new forests on clearcuts may require herbicides and softwood planting. This has been taxpayer-subsidized for decades.
- 4) Global warming may bring dry, windy climate changes that kill shallow-rooted softwoods.
- 5) Clearcuts make soil nutrients vulnerable to erosion from wind and rain. Nutrients important for tree growth (like phosphates and calcium) are removed with the harvested wood, washed out of the soil or blown away.
- 6) In dry periods, forest soils can regulate flows by gradually releasing their water into brooks and rivers. Clearcut brooks flush like toilets after heavy rainfalls, drying up in summer with widened, eroded channels. That difference can mean life or death for salmon and trout, frogs and other aquatic life. Humans also need cool, clean water. Why are we compromising nature’s ecological services?
- 7) Erosion from clearcuts washes silt into brooks and rivers, filling spaces between the rocks where aquatic life takes refuge and smothering trout and salmon eggs that are laid in autumn and overwinter in gravel bottoms. Laws to protect waterways and adjacent lands are often politically and ecologically compromised, and sparsely enforced. Silt keeps flowing into brooks and on to the sea.
- 8) Exposed, hot, dry conditions on clearcuts kill off microscopic soil inhabitants that break down and recycle forest nutrients from dead wood. That helped build new forests.
- 9) Young clearcuts produce food that white-tailed deer and others can reach. But sprouts on a red maple stump do not have the nutrition value of a twig that grows from seed.
- 10) Many habitats essential for a wide variety of wild animals, plants and lichens formerly found in Acadian forests are missing in “forests” that follow clearcuts. Barred owls, for example, nest in a big tree with a large hole. Inhabitants displaced by clearcutting probably never find nearby “vacant” forests.

11) Biomass used to include leftovers from forest operations, like waste from sawmills. Now it's a commodity. Clearcuts are being "cleaned up" for it, leaving even less for nature. Pulp companies normally cut softwood forests and mixed wood (hardwood and softwood) forests to make their products. Now they are clearcutting hardwood forests for biomass to lower their energy costs, often with taxpayer's subsidies. Wood burning to produce electricity has an efficiency rate of about 30%. Is this wise use?

There are ways to harvest that let nature grow healthy new Acadian forests. Trees are removed using "partial harvest" methods that mimic natural gaps in the forest canopy, creating a more suitable environment for long-lived species of hardwoods and softwoods.

Biologists and other environmental folks are lobbying hard for harvests that maintain most forest communities of wild plants and animals. To be healthy, nature needs ecologically-sound forest management on at least 60% of the land base. Acadian forests represent a diverse portfolio of stable ecological investments whose "accrued interest and capital" since the ice age should not be plundered for quick profit. The current practice of clearcutting mixed Acadian forests will not sustain them.

The industry folks who fund university researchers insist that clearcutting the forest every few decades is no problem - it will magically re-appear. In New Brunswick and Nova Scotia, they aim to increase harvests over larger land bases and channel more of nature's energy into fewer tree species, ignoring the devastating ecological consequences this will have for wildlife and nature as a whole. Forestry professionals seem industry-led and too single-minded about growing trees. And the industry greed extends beyond nature's abilities to provide for all. Large, foreign-owned companies are liquidating our natural heritage while offering fewer jobs and little stability. Their allegiance seems to be to shareholders. They remind me of the tobacco industry decades ago.

It's time to rehabilitate these forests before they deteriorate to scrub or heath. Once a forested country, Scotland now has only 3% of its land base in trees. Half of the 3% is plantation. This process is underway in south-eastern Newfoundland.

Forestry planning needs to become in tune with nature's ways. The word "sustainable" needs to find the forest. Woodland owners, First Nations, scientists, naturalists, river associations, fish and game groups, boaters, watershed associations, and people who just love the woods should clear their heads, consider carefully and stand up together on this issue. To begin with, enact legislation that stops the "vultures" from clearcutting and destroying the remaining mixed Acadian forests for quick, personal profit.

Are we not the stewards or caretakers? Do we have a land ethic? What will be left for future generations? Let's begin managing for ecologically-healthy, working forests.

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