

The Environmental Costs of Clearcutting: Biodiversity & Habitat Losses

The Issue:

Biodiversity is the variety of life on earth. Human-driven climate change is playing havoc with air and water temperatures, water flows, wind intensities and nature's seasonal timings. Humans have directly altered about 75% of the terrestrial land base on the planet. Globally one million species are currently under the threat of extinction.

Habitat destruction on land came into prominence in the 1970's and has become the main driver of biodiversity loss. In the last 50 years, half of Canada's monitored wildlife populations have declined. In Nova Scotia clear-cutting has been a leading cause of habitat and biodiversity loss. A remedy is simple: reduce clear-cutting. We must address the issue of how to make that reduction happen.

Background:

Ecosystems are communities of living organisms (microbes, plants and animals) and the habitats they depend upon for survival. Food webs evolve and many species create critical habitats that are required by other species. Biodiverse ecosystems have a greater diversity of functions, support more species and have more inherent stability.

A simple example of this interdependence begins when woodpeckers excavate fresh nesting holes in standing dead trees. Subsequently abandoned, these cavities are sought after by many mammal and bird species, including flying squirrels that use them for nesting and hiding during the daytime. The squirrel's diet includes mushrooms, and the resulting poop carries fungal spores that are subsequently spread throughout the forest floor. Fungal filaments that grow in the soil begin to interact with tree roots. The trees and fungi help each other to absorb nutrients more efficiently. This woodpecker-flying squirrel-mushroom-tree association is vital to ecosystem health.

Federal data from the province of Nova Scotia shows that roughly half of the forested land has been clear-cut in the past three decades. Clear-cutting exposes forest soils to sunlight, causing them to dry out. Soil nutrients that are no longer held in place by live tree roots are washed away by heavy rains or blown away on the wind. Mushrooms and their fungal filaments in the soil die. Clear-cutting's drastic changes are too abrupt for most forest species. Displaced animals may search for other, similar forest habitats. If they find them, they most certainly will be occupied by the same species. Territorial battles erupt, which usually end poorly for the refugees.

New, pioneer forests that eventually grow on old clear-cut sites are now harvested in 25-40 year cycles, before the trees have the size, age and developed holes to shelter wildlife. Dead trees for woodpeckers to feed on carpenter ants are gone, and few if any large trees for nesting remain. Flying squirrel cavities do not exist. The fungal associations that enable trees to better absorb nutrients disappear. Healthy forest foundations crumble.

Complex food webs facilitate many intricate interactions and dependencies between organisms. This is just one example of how humans are tearing them asunder.

The 37 species currently listed under the Endangered Species Act in Nova Scotia include Boreal Felt Lichen, Ram's Head Ladyslipper, Eastern Wood Pewee, Canada warbler, Black Ash and Mainland Moose. Similar declines in wildlife across Canada are being documented.

Habitats degraded over time by human activities can reach a tipping point where many species disappear, creating wildlife/plant population collapses.

Recommendations:

Healthy natural ecosystems are part of our “savings accounts” and our “life insurance” policies. Humans can and should learn to take from nature without destroying its foundations. In Nova Scotia learning from nature should involve the following:

- 1) Government should obey provincial and federal laws. The Species at Risk Act obliges governments to act to protect biodiversity. As the Supreme Court of Nova Scotia has recently ruled, this province has been seriously derelict in meeting this responsibility. Proper management plans for species at risk, including Mainland Moose, need to be developed and applied. The Migratory Bird Convention, which prohibits disturbances during the nesting period of migratory birds, should be fully enforced.
- 2) The Biodiversity Act Bill #4 was an important first step, but it was gutted by politicians after wide-spread public fear-mongering led by the forest industry. A coordinated approach for the Province is needed to conserve biodiversity with a set of laws, more collaboration and pro-active approaches.
- 3) Forests need a rest; implementing ecological forestry on Crown lands is imperative. Ideally, guidelines for ecological forestry should be established on privately owned woodlots. By the government’s own definition, clear-cutting continues on public lands as “variable retention”.
- 4) The Crown Lands Act should be revised to reflect Crown land’s status as public land that should be available for a range of uses, and not be used for private profit by industrial forestry. The Forests Act should be revised to comply with public land objectives.
- 5) Wildlife has been inadequately considered in the haste to flatten forests for profit. Politicians should have more respect for nature and do more to conserve wildlife habitats. It’s time to end the industry-led greed that has degraded forested public lands.

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