

The Costs of Clearcutting: Biodiversity & Habitat Losses

The Issue:

Biodiversity is the variety of life on earth. Human-driven climate change is playing havoc with 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.

On land, habitat destruction is the main driver of biodiversity loss. It came into prominence in the 1970's. During the following 50 years, half of Canada's monitored wildlife populations have declined. In Nova Scotia clearcutting has been a leading cause of habitat and biodiversity loss. A remedy lies in reducing clearcutting. We must address the issue of how to bring that reduction about.

Background:

Ecosystems are communities of living organisms (microbes, plants and animals) and the habitats they depend upon for their survival. Food webs evolve and many species create critical habitats depended upon by other species. The more biodiverse an ecosystem, the greater the diversity of functions it supports, the more stably and efficiently it can function.

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, who use them for nesting and hiding during the daytime. The squirrel's diet includes mushrooms, whose fungal spores are subsequently spread throughout the forest floor where they interact with extensive fungal filaments in a process that enables trees to efficiently absorb nutrients. This woodpecker-flying squirrel-mushroom-tree association is vital to ecosystem health.

Federal data from the province of Nova Scotia shows that more than half of NS forested land has been clear-cut in the past three decades. Clear-cutting exposes forest soils to sunlight, causing them to dry out. Nutrients no longer held in place by live tree roots are washed away by heavy rains or blown away on the wind. Mushrooms and fungal filaments in the soil die. These drastic changes are too abrupt for almost all forest species. Displaced animals may set off in a search of other suitable forest habitats. If they find another, it will be occupied by the same species. Territorial battles erupt, which usually end poorly for the refugees.

New, pioneer forests that eventually grow on clear-cut sites are now harvested in 25-40 year cycles, before the trees can develop the size, age and potential for holes to shelter wildlife. No dead trees remain for woodpeckers to feed on carpenter ants, or large trees for nesting. No flying squirrel cavities exist. Fungal systems needed for trees to absorb nutrients disappear. Healthy forest foundations crumble.

Complex food webs inherently possess many intricate interactions and dependencies between organisms. This is just one example of how humans have torn 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 progressively degraded by human activities can suddenly reach a tipping point where many species disappear, creating a cascade of broken alliances and wildlife/plant population collapses.

Recommendations:

Healthy natural ecosystems are both our savings accounts and our life insurance policies. Humans can and should learn to take from nature without destroying its foundations. In Nova Scotia that 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) Lawmakers should support the Biodiversity Act Bill #4. It is an important first step. It provides a coordinated approach for the Province to conserve biodiversity with a set of laws centered on biodiversity and calls for collaboration and pro-active approaches to working with civil society
- 3) Our forests need a rest; implementing ecological forestry on Crown lands is imperative. Ideally, guidelines for ecological forestry should be established for ecological forestry on privately owned woodlots.
- 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 by industrial forestry as it sees fit. The Forests Act should be revised to comply with these public land objectives and to require the forest industry to engage in ecological forestry.

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