

With Garry Merkel and Al Gorley and project manager Steve Katchanoski

On line survey at <https://engage.gov.bc.ca/oldgrowth>

- *What old growth means to you and how you value it*
- *Your perspective on how old growth is managed now*
- *How you think old growth could be managed more effectively in the future*

As trappers, our primary concern is the maintenance of nesting sites and food supplies for fur bearers, but we recognise that there are far more issues relating to “values of Old Growth forests”.

Many trap lines have NO stands of old growth/mature forests remaining to support wildlife populations. It is a major concern for the livelihood of some individuals.

The cumulative effects of such extensive resource extraction over a relatively short period of time on BC fur bearers has never been properly assessed.

A detailed map with hectare numbers showing what forests are protected and where would be beneficial in our providing feedback to your requests. Original statistics on forest cover, before any harvest, are required to ascertain the true estimates of industrial activity that has occurred in BC.

Wildlife corridors are necessary to link all old growth areas. Large isolated forests are not beneficial and huge clearcuts are particularly destructive to wildlife populations. Most people have no concept of the extent of logging activity. Trappers as your “eyes on the land” have a genuine perspective. Their information is not based on anecdotal evidence but actual visualized physical events.

Mike Morris’s 2011 report on Trapping would be a useful resource for you.

Personally I was lucky enough to see the destruction of forests in this region from an aerial perspective, as up until 4 years ago we had a light aircraft that allowed us to do this.

1. **Definition of “old growth”?**

There are striking variations especially in regional variations.

Research ecologists began using the term “old growth” to describe forests at least 150 years old that developed a complex structure characterized by large, live and dead trees; distinctive habitats; and a diverse group of plants, fungi, and animals.

Environmental groups use the term “old growth” to describe forests with large, old trees and no clearly visible human influences.

Forest scientists do not see the absence of human activity as a necessary criterion for old-growth, but there is no consensus on this in the scientific community.

No “one” definition represents the full diversity of old-growth ecosystems, they are areas of forest that have attained great age and exhibit unique biological features.

To trapper’s the meaning of “old growth” are contiguous areas of mature forests that have the complex environment to support the survival of many species of terrestrial animals.

WHAT DEFINITION ARE YOU USING for this survey?

2. Canada’s boreal forests are disappearing at a higher rate than tropical rainforests. Enough is enough. Despite promises by the BC government to sustainably manage old growth/mature forests, industrial scale logging in these critically important ecosystems continues. By 2020 MOST of the remaining stands will be gone in BC, except for a few protected areas. These old-growth forests are precious in ways that cannot be measured. Due to public pressure, the Canadian Forest Service organized a national symposium in 2001 to discuss the old-growth issue from a science perspective.

<http://www.fao.org/3/xii/0042-b1.htm>

The conclusion was that “this is an important issue with implications for ecological science, the long-term health of our forest economy, and our quality-of-life. It is important to dispel the notion that concerns about the disappearance of old-growth forests from our landscape are simply the preoccupation of environmentalists. It is time for the wider forestry community - the forest sector as a whole - to embrace this issue in a more serious way and to take up the cause of old-growth conservation.” Why has BC taken 18 years to address this? Old Growth is NOT managed in BC.

There is no management at present. To maintain any value of old growth/mature forests. BC needs to legally protect these forests IMMEDIATELY and not wait until the results OF THIS REVIEW in 2020. The Government must stop issuing BC Timber Sales permits in old growth/mature forests and in caribou winter range.

3. Mature and old growth forests are home to lichens, plants, amphibians, birds, bats, and animals that would not otherwise exist. They are biologically diverse ecosystems. In a forest that has not been disturbed for hundreds of years some trees will develop hollow cavities. These cavities become important nesting places for birds and fur bearing animals. In an undisturbed forest some large trees will die and fall, creating even more

habitat. Numerous insects, fungi, reptiles and amphibians benefit from the fallen trees. Far from being a waste of wood, the fallen trees enter a new stage of the natural cycle. The rotting wood itself is further broken down by fungi and bacteria. The wood is gradually converted to humus, replenishing the soil and completing the natural nutrient cycle. Each fallen log becomes its own mini-ecosystem, complete with an array of termites, ants, beetles, centipedes, millipedes and other invertebrates. These in turn become food for salamanders, shrews, mice and other occupants of the forest floor. These then become the food for the next chain in the animal world. Trappers are concerned with the destruction of old growth forests because without the protection of nesting sites and forage, BC is losing more species than caribou, moose and fisher. All forest stages have an important ecological role to play. The old-growth stage is especially important because of its unique structure. Various canopy layers and berry-producing plants are beneficial for many bird species which are disappearing at an alarming rate.

Forests have more value than simply the provision of logs particularly nesting sites and food supplies for birds and wildlife. Management should protect all.

4. The destruction of BC's carbon rich forests significantly contributes to BC's CO₂ emissions. This is further aggravated by the burning of wood piles releasing CO₂ after logging. Forests store vast quantities of carbon and play a huge role in the world's carbon cycle. All forest stages have an important ecological role to play. The old-growth stage is especially important because of its unique structure. Old-growth forests are one of the few land uses where topsoil is created instead of destroyed. More carbon and nitrogen is retained in an old-growth forest than in forests of other age classes. For improving water quality and air quality there is nothing better than an old-growth forest. Old-growth forest systems are highly retentive of nutrients. Large amounts are tied up in living and dead organic material and are released only slowly. Internal recycling is rapid. Nutrient levels leaching into ground water and appearing in streams are, therefore, very low. Soil erosion is also typically low compared to the earliest stages in forest succession. The combination of low losses of dissolved nutrients and of particulate matter explains the high quality of water characteristic of old-growth watersheds

The protection of carbon storage, air and water quality should be part of how old growth is managed.

5. BC originally had a richness and abundance of mature and old-growth forests in the Pacific Northwest that did not exist elsewhere in the world's temperate forests but Old-growth forests are extremely rare. They can serve as "living laboratories" where students,

scientists, and the public can learn more about forest development, tree genetics and climate change. At present, industrial forestry is liquidating the last interior old growth, operating as if there is limitless primary forest. We have less than a decade's worth of old growth left in the north. That which is left are a global resource for learning about old growth and how to maintain large areas of forests with high natural values in a generally human-dominated landscape. These old-growth forests are precious in ways that cannot be measured.

Management needs to be supervised by government and not individual companies monitoring themselves. Old Growth must be protected IMMEDIATELY.

6. Economic benefits of old growth are varied, not just when logged for lumber, paper and other commodities but also when trees are left standing.

Determining the value of the services derived from old-growth forests is generally far more difficult than measuring the value of the commodity goods, such as logs and lumber, derived from these forests. Most forest-related services are not easily traded in markets and do not have financial value attached to them. This difference does not, however, mean that the services are necessarily less valuable. Instead, it means the use a variety of techniques to determine the value of the services.

i.e.

a. Habitat for more than 1,000 terrestrial species closely associated with Old-Growth Forests, including mammals, birds, amphibians, mollusks, vascular plants Lichens, Bryophytes and fungi.

b. Habitat for at-risk species.

c. Habitat for Water-Related Species. Salmonids are especially dependent on having high-quality freshwater in streams. Protect and enhance salmon habitat the economic benefits would be large.

d. Improved water quality, controlled runoff and reduced flood risk.

e. Recreational value of additional hiking trails in old- growth forests boost the economies of local communities.

f. Protection of productive soils reducing the costs local government would incur during the period to remove the sediment from municipal water supplies and roadside drainage ditches.

g. Forests store carbon in both live and dead organic matter, both above ground and in the soil. Some research confirms that old-growth forests, exhibit greater stores of carbon: in tree stems, tree roots, organisms other than trees, and dead organic matter. The amount of carbon stored by sustaining an old-growth forest probably

would exceed the amount that would be stored by logging the mature trees and replacing them with seedlings.

h. Old-growth forests maintain a hydrological and ecological balance. Destruction results in the conversion of a moist, cool, forested ecosystem into a more drought prone, and warmer ecosystem with a greater risk for fire.

i. Older forests may serve as important gene pools for the dispersal and maintenance of tree species across a landscape

Management requires research into the above and other economic benefits in making decisions.

6. Future management requires

- a. Insist on maintenance and restoration of current old growth forests. An Old growth forest is not an end point, but a continuum. The forest will enter a steady state where trees are continuously dying and growing, and it is a very uneven-aged forest. This is the ultimate old-growth forest. Wood accumulations in old-growth forests are usually stable over the long run.
- b. Ensure the development of future old growth forests. What are the essential characteristics we want to encourage in developing forests? What conditions do we want to create, that will encourage natural processes to develop old-growth forests? This means an area of forest that has attained great age and exhibits unique biological features, making a home to many threatened plant and animal species.
- c. Ultimately sustain these old-growth forests to protect biodiversity and provides fertile soils which gives life to new trees and other plants. These areas need to be contiguous and not in isolated areas in order to provide adequate wildlife corridors.
- d. Ensure the Migratory Bird Treaty Act regulations that apply to forested areas are adhered too by all industries and individuals and that penalties are imposed for violating the act. <https://laws-lois.justice.gc.ca/eng/acts/m-7.01/FullText.html>
- e. Recent research is showing that the nutritional value of food in 10-20 year old stands of timber (after clear cutting) are depleted because of more tannin rendering nitrogen unavailable. The research was implemented because a moose survey showed that 21% of collared moose died of acute malnutrition in an area where it appeared as though there was adequate feed. Monoculture, (primarily pine) and trees planted too close together is the worst case scenario for food production. Variable spacing and variable density is mandatory. Nutrition for all terrestrial species is a major consideration in re-establishing old growth characteristics in the future.

- f. Other research is being conducted on the retention of glyphosate in plants that survive the original spraying. This results in malformation of the plants and reduction in the pollen and therefore reproduction of the plant, again reducing food supplies.
- g. Calculate how many jobs have been lost in the forestry sector over the past 30 years. Losses caused by the large equipment that can harvest a huge area with very few people. Losses caused by the construction of mega mills/improvement of mills with the ability to process large amounts of lumber with very few personnel. The economic benefits no longer go to the people or the Province, but to the owners and investors.

Suggestions for implementation

- a. Stop logging in old growth/mature forests immediately.
- b. Stop clearcut logging and return to more sustainable methods thus leaving adequate trees to enhance recovery to old growth criteria and to provide continuous habitat and food for all species.
- c. The Annual Allowable cut needs to be drastically reduced to make logging sustainable (although it might already be too late for this). Future harvesting of trees that have not reached maturity prevents the development of any old growth areas.
- d. Change the Forestry and Range Practices Act and bring back the government forestry department to oversee practices. Companies should not be self regulating and audits should be done externally. Forest management has ignored ecology and heterogeneity for the past 50 years. Significant fines need to be imposed for violations.
- e. Free to grow criteria need to be changed to allow the use of chemical herbicides to be stopped. The cumulative effects of these toxic chemicals are still being evaluated.
- f. Ensure new plantations are mixed (suitable to the soil conditions) with variable spacing and variable density.
- g. Commercial thinning of plantations that are planted too close to encourage under canopy growth.
- h. Fertilizers should be kept well away from any water body (streams, swamps, rivers and ponds) and not used indiscriminately. Primarily used in agriculture and recently in the forest industry, fertilizers have been proven to alter the fertility of the soil by increasing the acid levels in it. Plants which are given fertilizers do not live for too long compared to the plants which grow naturally. Forests have streams, swamps, rivers, ponds and fertilizers entering the water bodies cause nutrient enrichment and eutrophication lead to the excessive growth of algae. Decreased oxygen leads to the death of fish and other aquatic fauna and flora. Eventually the ground water and our

water supply is contaminated. Treating the soil with too much nitrogen also leads to loss of certain plant species especially those with less nitrogen needs.

- i. Consistent logging practices throughout the Province.
- i. Stop raw logs being exported overseas and focus on higher-value products that are made locally (but not from old growth trees)
- j. Provide financial support to train forestry workers into these secondary value added industries.
- k. Develop a strategy to maintain old growth areas. In other words, once harvested and successfully regenerated, a portion of the landscape should be allowed to develop through to the old-growth stage, based on ecology and heterogeneity of plant and animal species. Protect these areas, untouched except by natural processes, to serve as benchmarks and reserves for study.
- l. Consider that climate changes can affect which tree species grow at which elevations and latitudes, how fast the trees grow, which insects and diseases affect trees, and frequencies of wildfires, ice storms, and other weather-related disturbances. All impacting the old growth forests. All new planting should be mixed forest and suitable to the soil in which the species are planted. I have seen areas of pine that just die after 20-30 years, because planted in the wrong soil and climate locations.
- m. Consider financing conservation and other economic drivers.

Formulate a plan to maintain all remaining Old Growth forests and provide guidelines for the future development of Old Growth forests.

Attached separately are excerpts from a document published in 2005 by the Pembina Institute and include a reference to the website for the complete document. Please note that the figures are based on information from 2002.

https://www.pembina.org/reports/Boreal_FINAL.pdf

The amount of trees that have been lost to industry in BC between 2002 and 2019 (the years that supersede the document) is astronomical.

Assess the value of Canada's Boreal ecosystem, including estimates of its non market value.

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