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Dear Old-growth Strategic Review Panel,

January 31, 2019

As chair of the BC Big Tree Committee, forest guide, and both a professional and academic with expertise in coastal old-growth forests, I have interacted with many British Columbians who passionately care about our coastal old-growth forests. I have had profound experiences recreating and working in old-growth forests. Such experiences instill me with a very deep sense of respect and responsibility toward old-growth and I firmly believe that sustaining the values provided by old-growth forests is an intergenerational responsibility, intrinsic to our cultural identity, and an important step toward reconciliation.

Currently the level of protection provided for old-growth forests, especially those in South west BC is extremely inadequate. Hence, I am very pleased that the government has created this commission to hear perspectives on what responsible stewardship of BC's very special and increasingly rare coastal old-growth forests and the multiple values they provide should look like. I congratulate your involvement in this historic opportunity. This is a chance to establish a new, exemplary direction for how the government can strive to identify, understand, and manage the multiple values provided by old-growth forests and our public forests, in general. I hope that my perspective and the literature I cite in this letter is useful toward fulfilling this potential.

1. Now is the time for real change

I have sent dozens of letters to government in the past expressing the need for better management of old-growth forests, both as a concerned citizen and as Chair of the BC Big Tree Committee which has been a stakeholder during the development of a big tree protection policy (now nine years in the making...). I can tell you that this is the first letter I submit feeling optimistic for real, historic change.

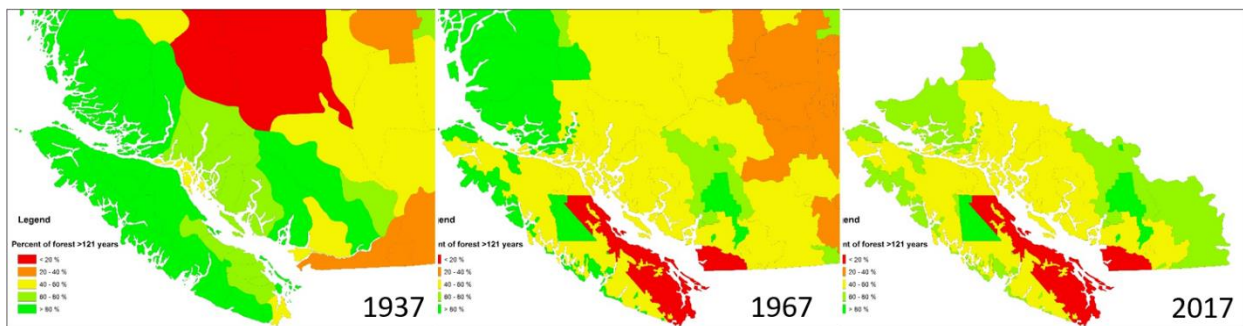


Figure 1 Historic losses of mature forests (>121 years old) across Southwest BC. Unpublished data related to my PhD thesis produced by digitizing historical forest inventories of BC and VRI data. Please do not reproduce this graphic without my permission. Copyright Ira Sutherland 2020.

150 years of clear-cut logging have drastically reduced the extent of old-growth forests, particularly, on the southwest coast of BC (see figure 1). Aside from some major successes for old-growth forest protection, such as the Carmanah and the Great Bear Rainforest, the majority of recent set asides have protected rock and ice, unproductive high-elevation forests, or achieved conservation only for small token groves (e.g., Avatar Grove, Port Renfrew, BC) and isolated individual trees (e.g., the 54 trees from the Big Tree Registry preserved July 2019¹). The history of BC forest management is one of a few generations rapidly liquidating the province's natural capital, which had accumulated over thousands of years of forest development.

However, the history of BC forest management has also been punctuated by relatively rapid policy evolutions. These transformations were generally preceded by decades of public uproar and demand for change, which manifested in commissions being struck, similar to the Old-growth Strategic Review today (Hagerman et al. 2010²). For instance, Royal Commissions during the 20th century propelled better utilization standards of the public forest (Fulton 1910³), sustained yield forestry (Sloan 1945⁴), community forestry and using forest inventories to monitor and respond to timber scarcity issues (Pearce 1976⁵), and landuse planning alongside a dramatic increase in conservation areas (Resource Commission 1991⁶). Now is a critical opportunity for transformation in BC forest policy. Following the mountain pine beetle, record wildfire years, and the end of a 16-year Liberal regime, change is in the eyes of foresters, policy makers, and the general public. It is time to end the 'Talk and Log approach' of avoiding the old-growth question and to now deliver meaningful, science-based management of our old-growth forests and the multiple values they provide.

It is critical that we change the ways of the past now to protect the increasingly rare values associated with old-growth forests. As old-growth forests become scarcer, the values associated with such forests have become increasingly important to protect. For instance, it has become nearly impossible for many First Nations to find access to a large redcedar of sufficient quality for making a canoe⁷. The province's call for an old-growth strategy is the culmination of decades of forest loss and a persistent public dissatisfaction with how old-growth forests have been managed. I urge the commission to maintain an awareness of how this review is embedded in a much longer story of how people in this land, have and always will, interact with old-growth forests.

¹ **Government takes action on old growth, protects 54 groves with iconic trees. News Release July 17, 2019.**
https://archive.news.gov.bc.ca/releases/news_releases_2017-2021/2019FLNR0189-001452.htm

² Hagerman, S. M., Dowlatabadi, H., & Satterfield, T. (2010). Observations on drivers and dynamics of environmental policy change: Insights from 150 years of forest management in British Columbia. *Ecology and Society*, 15(1).

³ Fulton, F. J. (1910). Royal Commission of Inquiry on Timber and Forestry. *Prov. Of BC Victoria*.

⁴ Sloan, G. (1945). Royal Commission on Forest Resources of British Columbia. *Report of the Commissioner the Honorable Gordon McG. Sloan, Chief Justice of British Columbia, Relating to the Forest Resources of British Columbia*

⁵ Pearce, P. H. (1976). *Timber rights and forest policy in British Columbia: report of the Royal Commission on Forest Resources* (Vol. 1). Royal Commission on Forest Resources.

⁶ BC Forest Resources Commission. (1991). *The Future of Our Forests. British Columbia, Canada.*

⁷⁷ <https://socialwork.ubc.ca/awakening-the-spirit-revitalization-of-ocean-going-canoeing-in-musqueam-indian-band/>

2. Conserve old-growth forests that provide high levels of multiple ecosystem services

I do not wish to condemn all forestry operations in old-growth forests. Instead, I believe that old-growth forests should be preserved in instances where they are worth more left standing, now and in the future. I believe that this should be a guiding principle in the province's new old-growth strategy. However, no effective system of evaluating and answering this question is currently in place in BC. The direction we need to grow forest management is toward better planning and decision-making to protect forests with particularly high economic, ecological and cultural values. In other regions of the world, resource policy has shifted to better understand, monitor, and sustain the multiple goods and services provided by ecosystems that sustain human wellbeing, commonly called ecosystem services. BC should adopt an approach for balancing multiple ecosystem services such as those that have been implemented in the US Forest Service.

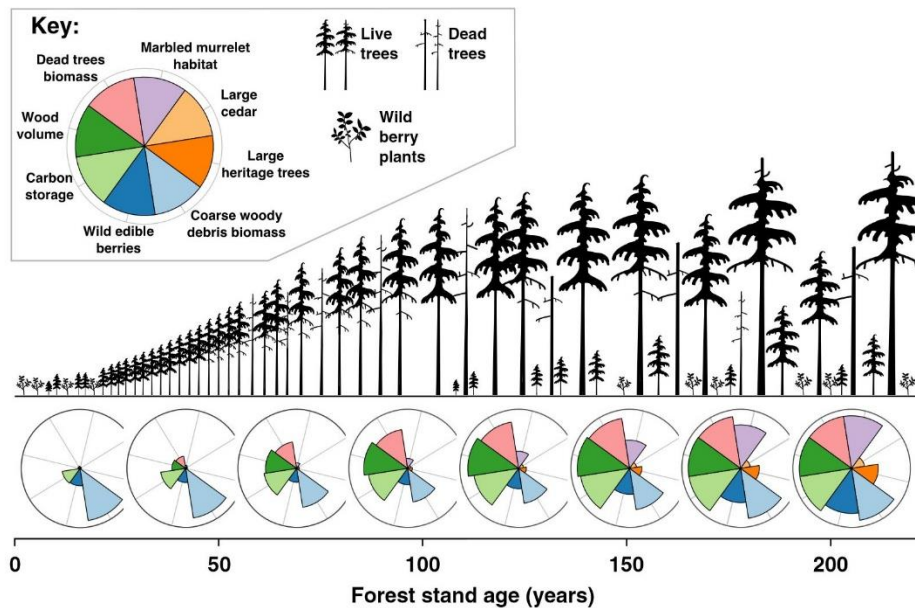


Figure 2 The long-term recovery of multiple ecosystem services reveals the long-term tradeoff of harvesting old-growth forests (Sutherland et al. 2016). This figure is based on an empirical analysis of forest stand dynamics. This figure is lawfully replicated with Author Right's Creative Commons CC-BY-NC- ND <https://doi.org/10.1016/j.foreco.2016.04.037>

Careful assessment of the values provided by old-growth forests is needed because impacts on wild edible berries, habitat provided by large old trees, large-woody debris, carbon storage, cultural heritage values, and large cedar for First Nations have long and often very delayed trajectories of recovery (Sutherland et al. 2016 is a must read; see Figure 2⁸). The long-term impacts to ecosystem services provided by old-growth forests calls for a proactive approach to identify and understand these values before they are gone. For instance, a key ecosystem service of intrinsic value for coastal First Nations is the large cedar used in traditional carving⁹ and in nearly every aspect of coastal First Nation's culture¹⁰. Furthermore, the capacity of old-growth forests to store carbon and thus help mitigate global

⁸ Sutherland, I. J., Bennett, E. M., & Gergel, S. E. (2016). Recovery trends for multiple ecosystem services reveal non-linear responses and long-term tradeoffs from temperate forest harvesting. *Forest Ecology and Management*, 374, 61-70

⁹ Sutherland, I. J., Bennett, E. M., & Gergel, S. E. (2016). Recovery trends for multiple ecosystem services reveal non-linear responses and long-term tradeoffs from temperate forest harvesting. *Forest Ecology and Management*, 374, 61-70.

¹⁰ <https://thetvye.ca/Opinion/2020/01/28/Province-Accepting-Old-Growth-Management-Feedback/>

climate change is another compelling reason where old-growth forests may be worth more left standing. Many of the non-timber ecosystem services provided by forests are tangible, measurable features of the forest¹¹ yet they are not currently included in forest management planning in any quantifiable and verifiable way. I am confident that the science is there to implement a quantifiable, verifiable approach toward measuring the risks faced by old-growth forest values.

There is a rich academic literature showing, generally, how to measure the biophysical capacity of ecosystems to provide ecosystem services (e.g., Sutherland et al. 2016), as well as the social demand and preferences of local stakeholders for ecosystem services (Constanza 2008)¹², and the flows of ecosystem services from the forest to where these benefits are experienced by people (Villamagna et al. 2013). Much of the debate around old-growth forests has been centered around the notion of values, but 'values' are never adequately defined for meaningful discussion and analysis. Values need to be defined in a robust and consistent framework, such as the ecosystem services framework. I believe that developing a scientific and transparent framework to assess old-growth values is the best way to balance the multiple interests in BC's old-growth forests. The government must develop a robust, transparent, and defensible assessment of the value of old-growth forests before more old-growth values are permanently lost.

3. Ensure adequate old-growth representation across ecosystem types

Remaining old-growth in some parts of BC are restricted to unproductive ecosystem classifications. The large amount of old-growth in high elevation forests and low productivity bogs conflates the estimates of old-growth left. A meaningful assessment of old-growth on the coast should be reported by ecologically-meaningful strata such as the BEC site series. However, the government has repeatedly presented old-growth statistics by the entire coast region or by BEC Zone, thus obscuring the loss of old-growth to more productive areas where the largest trees and highest levels of ecosystem services are located (Sutherland et al. 2016). In low-elevation high productivity areas of the CWH and CDF old-growth values are most at risk and lost in many circumstances. In strata where old-growth forests are immediately at risk, old-growth logging should be completely banned and where possible restored in order to maintain the ecosystem services and biodiversity restricted to these areas.

These are a few thoughts I have concerning old-growth forests in BC. Once again, I feel very hopeful that this review results in more than incremental change. As a result, please do not hesitate to be in touch with me if I can help in any way.

Sincerely,

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¹¹ Sutherland, I. J., Gergel, S. E., & Bennett, E. M. (2016). Seeing the forest for its multiple ecosystem services: indicators for cultural services in heterogeneous forests. *Ecological indicators*, 71, 123-133.

¹² Costanza, R. (2008). Ecosystem services: multiple classification systems are needed. *Biol Conservat*, 141, 350-352.