

BCC Forest Tenures Branch, PMFL Review

To Whom it May Concern,

The BC Government must take action as a result of this review process and **seriously** tighten up on the regulations that control the rate of harvesting on PMFL lands.

The escalation of the rate of harvesting to the point where, for example, all the standing timber inventory on the private lands bought by Brascan/Island Timberlands/Mosaic is heading for removal in 30 years since they were purchased from Weyerhaeuser.

I know that major shareholders of that evolving Investment Income Trust corporation are Pension Funds and they are looking for the best return on their shares but that does not justify the rapid degradation of all those forest ecosystems and the “services” they provide to all the lives, both human and non-human, that are dependent on those ecosystems remaining healthy.

When added to the climate change impacts that are increasingly being felt, we are rapidly heading for a Mediterranean climate on this Coast.

In order to reduce the likelihood of this happening, both PMFL lands as well as the Crown Forests should be managed under the same sustainable regulations with much longer harvest rotations that allow our forests to capture much more CO₂, grow much more valuable quality wood, recover “Old Growth” characteristics and dynamics that keep forests healthy, resilient and able to sustain themselves.

Combined with a phased-in ban on raw log exports and major support for Value-Added industries in our Province, our forest related economic sector and all of us, including our descendants, will be the beneficiaries.

I attach a proposal for changes to the way our forests are managed along with a justification for it that is based upon the sustainable dynamics that are found in natural ecosystems. They are a proven indicator of long term sustainability and we would do well to pay attention. I don't know of any “man-made” management approach that has produced such sustainable results.

With hope for our shared future,

Yours truly,
Bruce Ellingsen.

CLARIFYING THE MEANING OF “SUSTAINABILITY” IN THE MANAGEMENT OF THE CORTES COMMUNITY FOREST

Obtaining a Community Forest (CF) tenure on the Crown Forest lands and managing it sustainably, while allowing for a modest harvest to occur for the development of a local forest products related economic sector, has consistently, since the 1990's, been a top priority for the great majority within the Cortes community.

Question:

How can we determine a rate of timber harvesting that will result in a reasonable assurance that our Community Forest ecosystems will be sustainable over time? On the surface it appears very challenging, considering the complexities inherent in a healthy forest ecosystem and the variable impacts of the many different possible approaches to harvesting and management.

However, if we step back from those complexities and look at the underlying dynamics of any healthy ecosystem, we find that, large or small, complex or simple, it must be able to acquire or generate the nutrients required to maintain its complex metabolic functions and health plus a “surplus” to cushion the system through lean times.

Mature forest ecosystems generate more than enough nutrients to thrive, with excess being stored structurally or in the forest soils. The Pacific Coast Temperate rain forests were sustainable, following the last glaciation, with the harvesting levels that supplied the needs of Indigenous people. However, as demands for timber grew, exports rose, technology advanced and harvesting rotation periods diminished, extraction rates have risen to the point where these ecosystems are increasingly being degraded and are patently no longer sustainable.

Post harvest, most of the nutrients needed by the slowly regenerating young forest are derived from accumulations stored in the landscape from previous generations. Over time, a wide diversity of organisms re-establish themselves in complex, interconnected and interdependent relationships that are increasingly able to generate the nutrients necessary for sustaining a complex forest ecosystem.

Forest soils accumulate very slowly, suggesting that the “surplus” nutrients are a small proportion of the total that is produced, with the larger proportion supporting the ongoing requirements of all the organisms living within the ecosystem.

A healthy, fully-functioning ecosystem can tolerate losing some portion of its regularly accumulating nutrients but it also requires that a substantial portion remains within the system to ensure its ongoing health. Unless ecosystems are managed to grow beyond the age when the nutrients are being extracted by the newly growing forest and well into

the later stages when nutrients are being accumulated, the forest system and landscape will be repeatedly degraded by each short rotation harvest.

Unfortunately this is what is happening in British Columbia. There is growing recognition that the impact of conventional forest management, exacerbated by the shortening of the “rotation age” (often now down to 30 - 60 years between harvests), is removing far too many of the nutrients from these forest landscapes for them to be sustainable.

The fundamental question remains - how much of the accumulating nutrients in the ecosystem can be extracted in any form, timber or biomass, without slowly or rapidly reducing its ability to remain healthy and sustain itself over time?

The answer is in nature and its sustainable ecosystems.

It is difficult to find any examples of human managed forests that have proven to be sustainable over millennia. However, in the natural world, there are many “consumptive” dynamics that have been functioning sustainably within ecosystems for thousands or millions of years that can **provide a useful indicator** as to what proportion of the accumulating nutrients might be sustainably removed under the management guidelines set for our Community Forest.

Looking at the examples found (see below) of those sustainable relationships that have been quantitatively studied, a consumption rate of between 15 and 22% of the Annual Incremental Growth of the consumed has been demonstrated.

Harvesting timber from a forest is also a consumptive activity but, even more, is an extractive one, as it mostly removes from the forest ecosystem the nutrients required to grow the timber harvested. In a natural system almost all of the consumed nutrients remain in and are recycled within the ecosystem.

CONCLUSION

Giving consideration to the indicators from the studies of sustainable “consumptive” relationships mentioned below and given that timber harvesting is not a closed loop paradigm where nutrients remain within the ecosystem, the average harvest taken, over any five years, from the Cortes Community Forest should be limited to **15% of the Mean Annual Incremental** growth (MAI) of the forest within the tenure land base.

The MAI initially assumed by the Ministry of Forests to occur within the Cortes Community Forest needs refinement over time through **establishing and regularly monitoring permanent sample plots** throughout the landscape. These findings will reflect the actual forest growth occurring in our Community Forest ecosystems. From that, recommended harvest volumes will automatically adjust to reflect conditions .

BENEFITS of the 15% of MAI APPROACH

- The Community Forest will, barring unforeseen catastrophic changes, be sustainable in perpetuity, satisfying the community's top priority. **Eighty-five percent of the annual accumulation of nutrients will remain in the ecosystem to maintain its health.**
- The **harvest volume will be responsive** to positive or negative changes of the MAI within the CF found through regular updating of data from permanent sample plots.
- This provides a **simple, understandable and measurable foundation** for the creation and implementation of an Ecosystem Based Management plan for our CF.
- The regular annual harvest of timber from the Community Forest will provide a stable foundation for further development of local forest sector economic activity.
- Size, quality and value of timber harvested and made available to local entrepreneurs for processing and value-adding will increase over time. Local economic benefits will grow significantly as competing large, high quality timber from other sources diminishes.
- The **forests will age** relatively quickly as the "rotation age" for the timber harvested will be in the 250 - 300 year range.
- The Community Forest will **gain many "old growth" characteristics** as the portion of the forest that is outside the Timber Harvesting Land Base (THLB) ages and areas within the THLB will incorporate "full cycle" and rotation age trees.
- Epiphytes and mycorrhizal fungi, potential major sources of nutrients for an older ecosystem, will have adequate time to re-establish healthy populations.
- The forest will become more biodiverse and robust as it ages, improving resilience and its ability to respond to the impacts of global warming and climate change.
- Salmon runs will increasingly benefit from the re-establishment of more natural hydrological cycles through the landscape and streams of Cortes.
- The tourism sector of the Cortes economy should benefit from the increasing attraction of an ageing and sustainably managed forest.
- It will initiate and demonstrate a dramatically different and "justified-by-Nature" approach to forest management; for our community, visitors to Cortes Island and for people from outside Cortes wishing to see a forest managed sustainably.

Reference material:

1. Verbal report about a 1989 CBC “Nature of Things” program on 17 year studies of the Peregrine Falcon/Ancient Murrelet relationship in Haida Gwaii. The scientist found a predation rate by the falcons of ~ 15 - 20% of the annual growth of the Ancient Murrelet population, which reflected a sustainable relationship over time.
2. Prof. Ian Stirling, Univ. of Alberta, polar bear specialist, has found predation rates by polar bears of ring seals (95% of the bears food) to range between 15 and 22% of the annual incremental growth of the seal population.
3. An article in the New York Times on Aug 3, 1999 by Nicholas Wade stated that:

“Biologists believe some 15 percent of the leaf production of tropical forest disappears down the nests of leaf-cutter ants”. Leaf cutter ants have existed for over 50 million years, providing an excellent example of a sustainable consumptive relationship.
4. Prof. Tom Reimchen, U.Vic., quotes in his article entitled “Some Considerations in Salmon Management”, studies by A.R.E. Sinclair of the population dynamics in the Serengeti that conclude “In the Serengeti, the social and solitary cats take about 16% of the total prey biomass”.
5. Opinion of Herb Hammond, RPF (Silva Forest Foundation) and referencing Prof. Jerry Franklin, (University of Washington), March, 2014.

“I have thought about this issue for 3 decades and had many discussions with practitioners and scientists about this question. Jerry Franklin, new forestry guru at U of W, and I have discussed this on many occasions. Our intuitive belief is that not more than 25% of the MAI is "surplus" to ecological function over the long term. Having said that, before forestry got started, natural forest ecosystems utilized all of the MAI annually to maintain the system. So, removing a maximum of 15-20% of the MAI is a sound, conservation-based approach.”