SUSTAINABILITY IN THE CORTES COMMUNITY FOREST

Sustainability and ageing of the forests growing on the Cortes Community Forest land base are high priorities for the community in the management of the CF tenure.

How do we achieve this? It seems to be very challenging to develop a sustainable management approach when the complexity of the makeup of a healthy forest ecosystem is considered.

However, fundamentally, it comes down to a relatively simple question - how much can we take out of our forest ecosystem without reducing its ability to remain healthy and sustain itself over long periods of time? In fact, the same question can be asked in relation to any ecosystem, even if it exists on a very different scale.

It makes sense that a healthy living system can tolerate the removal of some portion of its accumulating nutrients but that it also requires that a substantial amount remains within the system to ensure its ongoing health.

In Nature there are many sustainable “consumptive” dynamics operating within a “closed system” for many thousands or millions of years that might give us useful clues for developing management guidelines for harvesting in our Community Forest.

Studies of the relationship between polar bears/ring seals, peregrine falcons/ancient murrelets and leaf cutter ants/vegetation grown in the territory of the colony all reflect a “consumption rate” of between 12 and 22% of the Annual Incremental Growth (AIG) of the of the “consumed”. Further investigations are underway to see if there are similar studies and findings for the relationship between koala bears/gum trees in Australia and panda bears/bamboo in China.

Harvesting timber from a forest is similarly a “consumptive activity”, although more impacting, as it entirely removes from the forest ecosystem the nutrients required to grow the timber bucked and trucked away.

In a young forest, most of the nutrients needed for the growth of younger trees initially comes from accumulations in the soil of the landscape. As a forest ages, biodiversity and photosynthesis increase and mychorrhizal fungi begin to re-establish themselves, (taking upwards of 250 years). Greater amounts of nutrients and minerals are made available from the increasing biological activity within the ecosystem for the growth of trees and and the accumulation of greater amounts in the soil.

It is also known that the greater the biodiversity, the more robust and resilient is the ecosystem to respond to the vagaries of changes over time.

CONCLUSION

Giving consideration to the indicators from the studies of sustainable “consumptive relationships” mentioned above and given that timber harvesting activity is not a “closed loop” paradigm where nutrients remain within the ecosystem, the annual harvest taken from the Cortes Community Forest (CF) should be limited to not more than 15% of the AIG of the forest on the tenure land base.

BENEFITS

Primarily, that the CF forests will, barring catastrophic changes, most likely be truly sustainable in perpetuity.

The forests will age relatively quickly as the “rotation age” for the timber harvested will likely be in the 300 - 350 year range.

The annual harvest will be responsive to changes of the AIG found through regular checks in permanent sample plots.

The forest will be gaining “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” trees and rotation age trees.

The forest will become more robust and resilient as it ages, improving its ability to respond to changing circumstances and the impacts of climate change.

The size and quality of timber harvested and available to local businesses for processing and value-adding will become increasingly impressive and more valuable.

Local economic benefits have the potential to grow significantly over time as business people become involved in the processing of and adding of value to the timber harvested from the CF.

Provides a solid foundation for the implementation and execution of Ecosystem Based Management in the planning and harvesting of timber within the CF.