

September 2019

At the end of August and into September I went back to Canada to explore more of British Columbia, specifically the Great Bear Rainforest around Bella Coola. To get there I travelled through the Chilcotins which bore the charred remains of devastating forest fires that have been hitting British Columbia over the past decade.



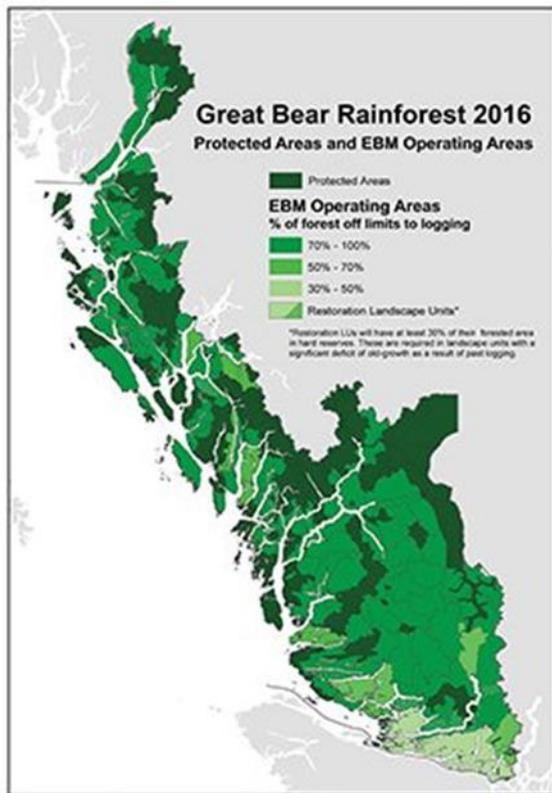
Figure 1: Burnt Chilcotin plateau

2019 was a rare year of respite but the fires of 2017 and 2018 were both record breakers with a combined 2.5 million hectares (an area 25% larger than Wales) scorched. One forester stated that some fires burned so hot that the seed bed on the forest floor was completely incinerated, delaying any regeneration significantly.

Descending towards the coast Engelmann spruce (*Picea engelmannii*) and lodgepole pine (*Pinus contorta var. latifolia*) gave way to the dominant Douglas fir (*Pseudotsuga menziesii*) and western red cedar (*Thuja plicata*) of the Great Bear Rainforest. Established in 2006, the Great Bear Rainforest was the result of a campaign launched in 1995 which united First Nations, environmentalists and timber companies to halt unsustainable logging in this rare ecosystem.

Market pressure, including British customers cancelling contracts with coastal lumber suppliers, forced a change from clear-fell techniques to an eco-system based management method. This involves retaining a sliding scale percentage of each cut zone as old growth depending on the vulnerability of the area. For example, no more than 50% of riparian forest can be harvested compared to 10% next to an estuary. Between this lighter touch approach, and setting some areas as off-limits completely, as of 2016 85% of the entire region is now protected from harvesting.

Conservancies were created in the 2006 land use plan agreements to protect First Nation land rights and to allow them to have greater autonomy over their natural resources. Along with art and lumber, the Nuxalk of Bella Coola have also diversified their activities into non-timber forest products such as [essential oils](#) from conifer trees. The [Bella Coola Community Forest](#) also seeks to use the forest more sustainably, for example through using waste from timber harvesting as fuel for local homes.



Along with the immense trees the most amazing feature of the area was the feeling of the ancient civilisation that has inhabited the region, as displayed in 10,000 year old granite petroglyphs and [culturally modified trees](#). The picture below shows how the heart wood of a *Thuja plicata* was sensitively examined to see whether it was suitable for either canoe or totem pole construction.

Figure 2: Extent of Great Bear Rainforest (Source Sierra Club BC)

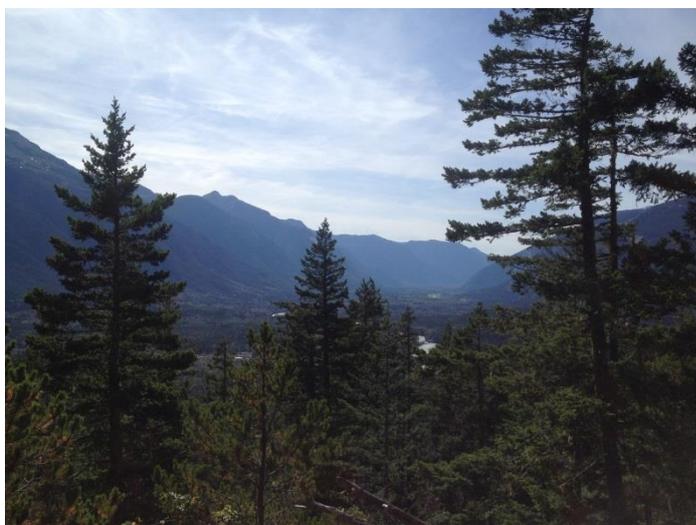


Figure 3: Bella Coola Valley



Figure 4: Culturally modified *Thuja plicata*



Further down the coast on Vancouver Island the spectre of climate change was evident in the dusty grey statues of *Thuja plicata* either as isolated individuals or groups as shown left. These moisture-loving trees have suffered from continued droughts and are consequently perishing in significant numbers in the rain shadow of the east coast of Vancouver Island and the south west coast of the mainland.

Figure 5: Dead *Thuja plicata*

This month I also attended a fencing course in Cannock where Kevin showed us how to put up deer fencing to protect a soon-to-be established plantation. Though the soil was sandy, the construction of a box frame ensured stability while the stock fence should protect any crop from becoming breakfast.

Back at Bedgebury grass cutting was in full swing on my return with swards that were left for wildflowers either flailed, or flailed and collected to minimise nutrient build up and therefore maintain the soil for rarer flora.



Figure 6: Deer fencing



Figure 7: Box frame



Figure 8: Flaied vegetation

The [IUCN Red list of European trees](#) was released this month providing grim reading : 42% of our species are threatened, evidence that species extinction is not a problem of far-flung exotic places but on our doorstep. Invasive species, pests and diseases, deforestation and urbanisation are highlighted as major factors. On a positive note, 80% of the threatened species are found in protected areas. Species of particular concern were three quarters of the entire *Sorbus* genus, Horse chestnut (*Aesculus hippocastanum*) and Serbian spruce (*Picea omorika*). Bedgebury's work collecting wild seed of the latter was highlighted as important in protecting the species since less than a quarter of ex-situ collections hold seeds of wild origin. This demonstrates why trips such as the recent one to Japan are vital in preserving tree genetics.