



Figure 1: Streamside alder on Carmanah Creek

Why I Love Alder

*Ice began to melt
Glaciers let go of the land
Rivers were swollen
A new soil began
Plant seeds blew in on the wind
Some were annuals
And some were shrubs too
Young trees all over the place
And so came alder.*

WHAT IS SO GREAT ABOUT ALDER (RED ALDER, *alnus rubra*)? It enhances soil; it has many unique and valuable uses; it epitomizes the lessons to be learned about coastal forest management.

SOILS

Some say the rich ecosystems were due to the input of nitrogen from salmon carcasses into riparian ecosystems by bears and birds. But rich ecosystems occur both near and away from large streams and along stream reaches unreachable by fish. The richness of riparian ecosystems can also be explained by the ubiquity of riparian alder (Figure 1).

At the end of the last glaciation, most of the lower elevation parent-materials were derived from glacio-marine sediments. That is, sediments transported by the ice sheets, disgorged by rivers into coastal seas and deposited over the submerged land. Though they had the capacity these soils



Figure 2: Glacier retreating and encroaching vegetation and alder in Bute Inlet



Figure 3: Alder with a patch of bark removed showing the edible sap wood

did not carry many nutrients. (Figure 2)

Along with the initial influx of life came people and with them an increase of fires. Fire brought an alternating forest of alder and Douglas-fir.

The rich ecosystems on the coast of BC are due to, I believe, the frequency of alder growth due to fire which produced, through the nitrogen-fixing bacteria on its roots, up

to 320kg of nitrogen per hectare per year (Pojar and MacKinnon, 1994). Nitrogen is the main limiting nutrient in coastal soils.

PRODUCTS

For years, my brother and I cut down alder on our property in rural Lower Fraser Valley and used it for fire wood. It burned quicker and gave off less heat than many of the other,



harder woods, but was easy to cut and split and dried quickly.

Alder wood is light-weight, strong, soft, easy-to-work and stains well; it makes great lumber for furniture; both the structural and cosmetic components.

The price of alder sky-rocketed in the last 15 years primarily because of the increased marketing of the wood by US forest companies

on a good site Douglas-fir will reach the same height as alder in about 50 years. This is only correct when the alder is in a pure stand.

Because open-growing alders abandon speedy height growth early on, by about ten years in the life of a planted Douglas-fir stand, the Douglas-fir is often the same height as the alder. And since the alder is more shade intolerant, it quickly dies-off. By year 30 most

without planting. This was partly because the logging was high-grading and was often followed by fire.

We could simulate this if we left more live trees behind and started broadcast burning again.

Through the extensive use of natural regeneration we could out-compete manufacturers in countries with cheaper costs



Figure 4: Roadside alder in an eight to 12 year old stand on Vancouver Island



Figure 5: Roadside alder in a 20 to 30 year old stand on Vancouver Island



Figure 6: Natural 3rd growth alder in Tree Farm Licence 47

Photo: Colin Buss, RPF

to the furniture-making industry.

Alder bark was used throughout the northwest coastal region of North America as a dye and medicine by First Nations people. It is the preferred wood for smoking salmon. In the spring the inner bark and outer wood are edible (Figure 3).

THE EPITOME OF OUR FAILINGS

An alder tree I planted in an open area in the 1980s had stopped putting on much height growth after about ten years. It demonstrated a phenomenon I have seen since in alder.

Unlike most evergreens, which have height that is hardwired to site, alder height growth is a function of density and shading and secondarily by site. Unless it is growing in a stand with other alder, the tree stops putting on height.

The yield tables for alder and Douglas-fir, which do not take into account the impact of density or shading on alder height, show that

of the live alder are along roads and creeks, all places where the competition is reduced (Figure 4 and 5).

If the high density alder (2,000 or more stems per hectare) is eliminated early in a stand's life (in the first four years) most surviving Douglas-fir will be quite vigorous and make it to free growing and beyond. Therefore, killing alder after four years in a stand with a full stocking of conifers is a waste of time and money.

Regeneration in coastal BC is now predominantly achieved through planting. Most of these investments are poor but are justified on the basis that this is mandatory in order to guarantee regeneration.

But this is not correct or necessary; regeneration occurs without planting.

Given that we now consider alder a crop tree, there was close to 100% natural regeneration of the second growth forest on the south coast after the first pass harvesting

like China. No one can grow our tree species cheaper than us if we do it naturally.

Alder is the leading example to verify the legitimacy of this assertion. The vast majority of the second-growth harvest in coastal BC is from natural regeneration that only cost the price of a match! (Figure 6)

I love alder because it is a natural soil enhancer and the reason we have rich ecosystems (and big trees). It is easy to use as firewood; it produces great lumber, and it can be used for medicine, fish-smoking, dyes and food. Also, the new and increasing value of alder teaches us that we should not presume to know what will be valued in the future and we should rely more on natural regeneration. 🌿

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