

# Sustainable Forestry

## Cloudbridge Nature Reserve - Nature Notes No. 4

### The Demonstration Project

Some of the trees have been planted with the idea of creating a small mixed plantation as a model of sustainable forestry which will provide local employment. These species are faster-growing and marketable. At the same time they must be trees that contribute to the surrounding forest and benefit the local flora and fauna. The initial selection comprises *Cupressus lusitanica* (cypress, cipres) and *Alnus acuminata* (alder, jaúl). These have been planted in three rows on either side of the Bridge Trail that runs between the entrance and the covered bridge.

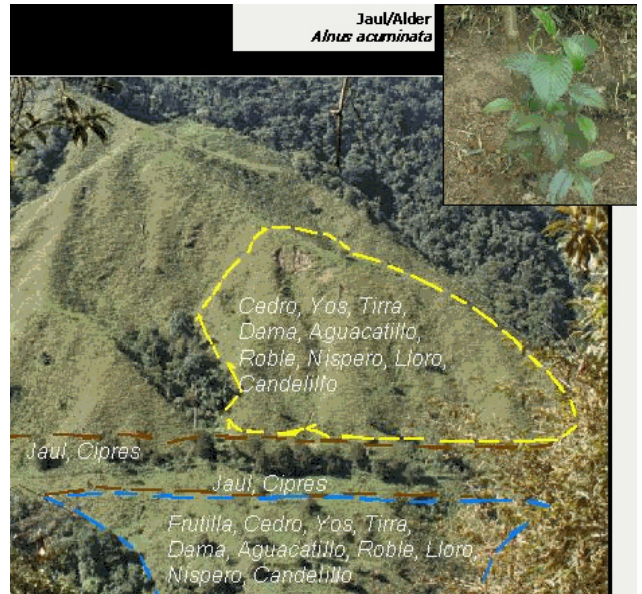
*Alnus acuminata* (picture) is valued for its wood, watershed protection and soil improvement. It is nitrogen-fixing, thus fertilizing the soil as it grows. It is a fast-growing native pioneer species that regenerates naturally in open, disturbed areas, and helps control soil erosion and improves soil quality.

It flourishes in zones such as cool, tropical highlands, with abundant rainfall where mist and cloud cover can be a source of fog-drip precipitation. Thus even during Costa Rica's "verano" (dry season) it grows well. The trees regenerate from their own stumps. The timber is easy to work and widely used in construction and even for making musical instruments.

This conifer, *Cupressus lusitanica*, is native to Mexico and Guatemala but now widely planted at high elevations throughout the tropical world. Height may exceed 100 ft (30m) with a bole diameter of 2 to 3 ft (1m). Like alder, it is one of the few fast-growing, marketable trees that will grow at this altitude, except for exotic species such as eucalyptus.

The first few months of a tree's in-the-ground life are crucial. In the rainy season, from July to November, the grass and weeds grow quickly and can overwhelm the young trees if left unattended. Not only must there be a clear circle ("rueda") around the sapling, but also the ground must be free of encroaching roots. Fertilization must be continued throughout the first three years, and clearing, with a machete, is required at least once every 4-6 weeks in the lush "invierno" or rainy season.

After a few years all this work is no longer necessary. By then the trees are tall and strong enough to survive on their own. Selective harvesting of individual trees will be done with the aid of horses or oxen at time intervals to avoid any danger of erosion or damage to the ecosystem, and to maintain the forest.



*Cupressus lusitanica*



*Alnus acuminata*