

St Helena's Millennium Forest: A Symbol of the Fight to Defend Fragile Eco-Systems

by Vince Thompson

14 million years ago volcanic activity gave birth to a small island in the middle of the South Atlantic. For 0.003% of this time the island was left to its own devices. Its existence was not known until its discovery on 21 May 1502, when the Portuguese named it St Helena. While the Portuguese did not establish any permanent settlements, the British colonised it in 1659, immediately establishing a permanent settlement. Just fifty years later the island's Governor had to report that

The Island in 20 years time will be utterly ruined for want of wood, for no man can say there is one tree in the Great Wood, or other wood less than 20 years old. Consequently it will die with age.

The Great Wood was the largest expanse of forest within St Helena's 47 square miles. As such, it was home to an unknown number of birds, plants and insects now extinct. The Great Wood was entirely destroyed as settlers cut down trees for firewood, used the bark for tanning, thereby unnecessarily killing them, and by allowing goats and other introduced animals to graze on the saplings. The site of the Great Wood became semi-desert. In the summer months particularly, the hot south westerly winds sucked all the moisture from the ground turning the soil to sand. Soil erosion is still a big problem on this windward side of the island.

In the late 1990s, a few years before the new millennium, it was decided to build on some previous work at the site of the Great Wood. Gumwoods (*Commidendrum robustum*) had been planted in limited numbers to find out if they could survive in the relatively new harsh conditions. Some didn't, but the survival rate was considered encouraging. Gumwoods are one of the many species of flora and fauna in St Helena, which cannot be found anywhere else in the

world. Gumwoods were also the most common tree type in the Great Wood before it was destroyed. Other endemic species in the same family are False Gumwoods (*Commidendrum spurium*) and Bastard Gumwoods (*Commidendrum rotundifolium*). Bastard Gumwoods are extinct in the wild, the small surviving population being cultivated in nursery conditions. False and Bastard Gumwoods will also be planted in the Millennium Forest in areas which limit the chances of hybridisation.

The decision was made to embark upon an enormous reforestation project, which would inevitably need to continue for decades, if most of the area previously occupied by the Great Wood was again to become an established forest. The enormity of the task is magnified by the miniscule size of St Helena and the resources available on the island for a project of this sort. The area designated for reforestation was named The Millennium Forest. The project was launched in 2000 with tremendous energy from the island community. Almost every islander paid for a tree, with many of them planting their tree themselves. During this first phase about 3,000 trees were planted, a visitors' car park laid out and a gatehouse built. Eight years on much has been achieved and, of course, there is still much to do. About 25 hectares have been planted so far and the total land area designated for reforestation has been extended in the course of the last eight years and is now 250 hectares.

Dr Rebecca Cairns-Wicks was heavily involved in getting the scheme launched and continues her involvement through the community group overseeing the project. Cairns-Wicks highlighted a perverse strand woven into this reforestation scheme when she commented: "What makes reforestation even more difficult is that we are doing things in reverse." The natural process, of course, is for volcanic slopes to be slowly colonised by extremely hardy vegetation, which in turn attracts insects and lower life forms. The vegetation and insects die and rot down, supplying nutrients which over a considerable time transforms sand and volcanic dust into rich organic soil; soil rich enough to support the growth of trees.

At the Millennium Forest this process, which took millions of years to



evolve; was completely reversed in 200 hundred or so years. We are now in a position where we are planting trees in heavily eroded, nutrient starved acid soil/sand. However, when the trees are established, they will create a canopy and take moisture from the mists drifting across the volcanic plain. Gumwoods have evolved to take their main source of moisture through the leaves rather than the roots. An established forest will retard the rate of soil erosion, attract birds and insects and eventually return to the soil the sources of nutrients it now lacks.

The reforestation work now in hand is the toughest phase of the entire cycle of events. The project currently supports just two forestry workers, who are constantly involved with watering and feeding trees, as well as planting in new areas. They have to combat problems caused by infestation, particularly mealy bug, and invasive growth of alien species which can overrun saplings. The failure rate in newly planted areas can be high, and re-planting is another sizeable aspect of the workload. Currently there are 6,000 gumwoods growing in the

Millennium Forest. An estimated 55,000 further plantings are required to cover the entire area designated for forest.

Chadwyn Scipio and Clarence Youde work in the forest every weekday in all weathers; mostly in sunshine and with a hot south easterly breeze coming straight in from the South Atlantic. In temperatures of about 30°C, clearing alien invasive vegetation and digging holes for trees becomes hot, hard work. When I visit the forest to give them a hand on a particular job, I can drink a 2 litre bottle of water without even noticing. Chadwyn is the older of the two workers. He can, and does, tell me how things were done 'before days'. In other words, the kind of things he was used to when he was a boy. Of the many things he has told me, it seems there is more of a problem with invasive plants today, because islanders do not see them as a source of food – as they did before days. The prolific 'Creeper', a vine-like plant which spreads along the ground and has thick, juicy and fibrous leaves, was used to make a 'cake', cooked in a special way over a wood fire. The base of the flower of the Creeper has a sweet, treacly centre. People used to pick the flowers too, split open the base and suck out the tasty contents. It is possible that the flower-picking helped to limit the spread of Creeper. On the other hand, another invasive commonly called 'Poison Peach' is better left alone. Even the cows have the sense to do that.

Another invasive called 'Wild Mango' grows into a small tree if left alone. If it is cut down, it will quickly shoot again in several places and become a dense shrub. The roots of the Wild Mango spread far and wide, re-surfacing elsewhere. This plant can only be controlled effectively by repeated spraying with herbicides strong enough to debilitate human beings as well. Spraying is done with extreme caution in the forest. The wind could take the herbicide to gumwood trees, and too much spraying will leave an unwelcome level of poison in the parched and almost nutrient free sand-cum-soil. Despite all this, Chadwyn tells me picking and eating the tasty seeds of the Wild Mango used to be the usual thing to do. I haven't yet tried them out for myself.

A plentiful supply of cheap water is a necessity in this arid area.

Fortunately this is available. However, when the water supply temporarily fails, planting has to stop, causing the overall rate of forest expansion to slow down. Compost is another main requirement. Ideally, the forest would have its own compost facility and accept green and bio-waste by the truckload. This ideal is not achievable at present and supplies of compost are variable both in quantity and quality.

Funding for the Millennium Forest is from three main sources. Firstly from the UK government's Overseas Territories Environmental Programme which pays for a series of tasks to be completed by March 2009, secondly from St Helena's Agriculture and Natural Resources Department, and thirdly from people who pay for a tree to be planted or who make a general donation. Donations from overseas visitors form an especially important and significant element of the funding. These three income sources provide about £38,000 per year, but an alternative source of funding to replace the largest contribution, from the UK government, will need to be found by April next year. Funding from the UK government's Overseas Territories Environment Programme also supports a smaller reforestation scheme just below the island's central ridge. The area is called Peak Dale and lies on the southern, windward side of 'The Peaks', overlooking the spectacularly beautiful and memorable Sandy Bay.

Peak Dale is the last remaining site in St Helena where gumwoods have survived in significant numbers since before human settlement. However, in recent years self-regeneration on this site has been unsuccessful. The cause is unknown, but damage caused by rabbits and stray sheep and cows is at least part of the problem, so saplings are planted between the existing stands of mature gumwood trees and protected by tree guards to help them through the first few years.

For those of us working on a daily basis through the particular problems faced by small islands with fragile eco-systems and few resources, the problems can be all that we see. It is hence always heartening when a visitor to the island, who takes an interest in the work at the Millennium Forest, returns a few years later and tells us how far things have moved on. ∞