



Restoration of Scotland's Forests

The Millennium Forest for Scotland Initiative

Angela Roe

Bagpipes, the Loch Ness, towering mountains, and rolling hills of green are the most common images of Scotland. It is hard to imagine those rolling hills of green blanketed with forest. Over time, Scotland has had an almost complete removal of its native forest. In fact, Scotland is one of the most deforested lands in the world, having lost more than 99% of its original forest ("The re-treeing", 1999). Centuries of felling for fuel, timber and building material depleted this valuable resource while management of deer for sport and unrestricted sheep grazing have prevented natural regeneration. Native forest once covered 1.5 million hectares of Scotland and consisted mainly of Scots Pine (*Pinus sylvestris*), Downy Birch (*Betula pubescens*), Silver Birch (*Betula pendula*), Rowan (*Sorbus aucuparia*), Aspen (*Populus tremula*) and Holly (*Ilex aquifolium*) (Robertson & Reynolds, 1998). The gnarled Scots pine typical of the woodland areas today represent only a small remnant of the vast forest which once covered all but the highest grounds of Scotland. For thousands of years the Great Wood of Caledonia covered the Highlands' entire width (Hand, 1998). The little that remains is home to red squirrels, pine martens (members of the family *Mustelidae* which also includes wolverines, weasels and fishers, and capercaillie (*Tetrao urogallus*). Capercaillie are the biggest grouse in the world and their population is managed as part of the restoration of the Caledonian forests. All of these creatures are becoming more rare as their habitat declines ("WWF: UK in Action", 1996). This century, forest cover has risen back to around 14%, but much of this is in the form of monoculture tree farms. The ancient Caledonian forest has been added to the World Wildlife Fund's (WWF) list of 100 natural forest in Europe that are facing serious threats to their survival Anon., 1997a).

In 1995 the Millennium Forest for Scotland initiative was established to herald the new millennium by restoring Scotland's native forests ("The re-treeing", 1999). The initiative was instigated by the head of the World Wildlife Fund (WWF) of Scotland. It was conceived in response to publicity by the Millennium Commission seeking proposals for projects for national, regional or local significance to mark the close of the second millennium and celebrate the start of the third ("Millennium", 1999). The initiative was intended to occur over a five-year period from 1996-2000 comprising of a number of phases. Within each phase a portfolio of selected projects would be put forward to the Millennium Commission for approval. Monitoring programs would also be proposed to the Millennium Committee for approval. This national initiative joins all realms of Scotland in 77 forest restoration projects covering 500 sites all across Scotland ("The re-treeing", 1999). The initiative involves establishing new plantings, encouraging natural regeneration, developing new and old markets for home-grown timber, and improving people's awareness and use of Scotland's woodland resources for recreational and educational use (Robertson & Reynolds, 1998). The formal aim of the initiative is: "to promote the restoration and regeneration of Scotland's native woodlands as an important part of our natural heritage and to bring them back into long term management for the widest possible public benefit" ("Millennium", 1999). Thus the vision of the initiative is not only to try to restore

some of the vast forest which once covered Scotland but to attempt to re-establish social, cultural and economic links between communities and their local woods.

Before the initiative began there were many efforts to halt the decline of forest but most were inhibited by lack of funding (Anon., 1999). Funding for this initiative comes primarily from the national lottery and is allocated to various proposed projects by the Millennium Commission. There are many different groups, organizations and various stakeholders involved with or collaborating with the initiative. Organizations involved in the restoration aspect of the initiative include: Trees for Life, The Woodland Trust, National Trust for Scotland, John Muir Trust, World Wildlife Fund, and the Forestry Commission. Funding organizations include: the Ministry of Defense, the Forest Authority Woodland Grant Scheme, the Millennium Forest for Scotland Trust, and the National Lottery ("Ecological", 1999).

The restoration of Scotland's forest is being approached in different ways and on different scales. For example, the 'Sunart oakwoods restoration project' has extracted 700 tons of conifer timber to make way for the oakwoods (Anon., 1999). Along with grazing and an invasive rhododendron (*Rhododendron ponticum*), the 1950's conifer plantations pose a major threat to the famous and beautiful oakwoods. The focus of the initial restoration portion of this project is to remove the threats and then to regenerate and replant with oak and other native broad-leaves. With a 20-year management plan in place, this project will take up to a century to complete.

In 1995 the Millennium Forest for Scotland Trust (MFST) approached the Defense Estate Organization to propose the establishment of restoration projects on military sites. The sites would undergo restoration techniques, but still meet military training requirements. The objectives were to re-establish the value of native forests to the people of Scotland, re-build the relationship between human communities and their forests, improve the stewardship of native and other woodlands and significantly extend the cover of native forests (Robertson & Reynolds, 1998). One example is an area found in the Garelochhead Army Training Area. This site is multi-functional and used for a variety of military training purposes with live firing ranges and dry training facilities covering 3,337 hectares of diverse landscape (Robertson & Reynolds, 1998). Of those 3,337 hectares the MFST project covers only 31 hectares. The project's plan was to fence off the area to protect the trees from military stock, and encourage natural regeneration to establish the forest and then supplement some new planting to meet military training requirements. Another example is on a site called Covenanters Wood which serves as a buffer between Dreghorn Barracks and local housing. Management of this site thus far has been low intervention, entailing only the removal of Dutch elm diseased trees. Future aims are to maximize the habitat and species diversity of the site by clearing invasive species and allowing the native flora and fauna to re-establish within the woodland. New planting supplementing natural regeneration using native species such as Oak (*Quercus petraea*), Hazel (*Corylus avellana*) and Ash (*Fraxinus excelsior*) will occur alongside the removal of species such as Sycamore (*Platanus occidentalis*), Beech (*Fagus sylvatica*) and Larch (*Pinus larix*) (Robertson & Reynolds, 1998). The map below shows the various projects taking place on military lands across Scotland that are sponsored by part of the Millennium Initiative (Robertson & Reynolds, 1998).

Defence Estate Organisation Scotland Summary of Conservation Projects



The fact that the Millennium forests for Scotland project is so large makes it difficult to grasp the full spectrum of projects and techniques involved. There seems to be a common strategy for restoration among most of the projects although little information is available on the specifics. Most of the programs entail a 3-phase strategy. Phase I is the removal of threats to the regeneration of the native trees, phase II is the planting of the native species or allowing natural regeneration of the native species, and phase III is the removal of non-native species. The Millennium Commission does not provide money for the planting of non-native species. The commission is not against non-native species in general, they are simply against planting them where they would damage an existing interest in the natural heritage (Kennedy, 1997). The general goal, after an ample amount of time, is to produce healthy stands of self-sustaining native trees. The regeneration goals include reclamation of forests with and without the original Caledonian species composition. In some cases there has been discussion about bringing back species such as the wild boar to aid in regeneration of the forest. Scottish naturalist, Roy Dennis, believes that re-introduction of beavers, wild boars and wolves is necessary because these species are vital to the forest ecosystem (Anon., 1997b). The projects all have education and awareness raising programs along with large amounts of local and community based contributions and inputs. It is because the projects include such programs that there is a great deal of support and funding for them. The five-year introductory period was to entail mainly the phasing out of threats and non-native species and the phasing in of native species. This process can be lengthy, especially for large projects and because of this results can not be seen for many years. Many of the projects are expected to take a century to complete. There is no explicit information regarding what types of monitoring programs will be used by the various projects. Sources only state that details of current monitoring programs will not be available until shortly

after the implementation period ends, which is not until December of the year 2000 ("The re-treering" 1999, "Millennium" 1999).

The Millennium Forest for Scotland initiative is an example of inter-organizational teamwork. Although it is a large project, the goals and desired results appear feasible thus far and will serve to bring together the communities of Scotland for the benefit of future generations and the future of the lands. If research and monitoring programs are conducted and the communities and different organizations continue to participate in this restoration project, the people of Scotland will indeed be able to enter the new millennium by celebrating the return of their native forests.

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