

The challenge of establishing trees at Carrifran

The decision to plant 300 hectares of new native woodland on steep, rocky and remote hillsides, with Forestry Commission grant support, was taken early on in the project. The paucity of seed sources on site (including absence of sessile oak, wych elm and alder) precluded reliance on natural regeneration, which would not have produced appropriately diverse woodland on a foreseeable timescale.

Between 2000 and 2006, over 400,000 saplings (30 cm) were planted, one tenth of them by volunteers. They were derived from locally collected seed and cell-grown in compost plugs by a reputable nursery. Establishment of these saplings, which are spread over 250 hectares, is now the major concern. The Forestry Commission defines establishment of trees as when *'trees are in a condition capable of further growth given no further weeding and subject to normal ongoing maintenance operations such as protection from inappropriate grazing by wild or domestic animals.'* Five years is the period normally considered necessary to reach establishment.

At Carrifran the substrate has not been disturbed (except at tree-line where some manual cultivation is used) and herbicide use has normally been restricted to a pre-planting spot spray of glyphosate. However, where tree growth is initially slow or browsing is severe, the saplings can be smothered by grass or bracken. Rigorous monitoring is necessary, followed by hand cutting of bracken and replacement of dead trees (sometimes in 60 cm tubes). In some case a fertiliser application is used to boost growth of struggling trees.

Herbivore attack is a continual threat. Vole guards (20 cm) have been used throughout the site and have clearly saved the lives of many trees. Incursions by stray sheep have occasionally been troublesome. Rabbits are absent and damage by brown and mountain hares has been slight, perhaps because of the prevalence of foxes. No 'vermin control' is used at Carrifran.

Roe deer (the only deer species normally present) became abundant after a few years of planting and caused substantial damage in spite of a deer control programme. In 2004 more intensive culling (including night shooting) was instituted, with encouragement from the Deer Commission for Scotland. This quickly reduced damage to a very low level, though extreme vigilance is still necessary.