Woodland Creation at Glen Dye Moor

Productive Woodland

Forests which are planted to produce renewable resources or products are referred to as productive woodlands. These can be made up of conifer species such as spruce, pine, or fir as well as broadleaf species like oak, cherry, birch, or sycamore. The new woodland is designed to ensure the right tree is planted in the right place, taking into account the climate, soils, topography and other sensitivities such as cultural heritage, visual amenity or wildlife populations. Productive woodland will include a minimum 5% of native trees and 10% open ground usually concentrated around areas rich in biodiversity such as watercourses. This ensures a variety of habitats are created within the productive areas and where possible these varied habitats are connected through corridors where plant and animal populations can expand into other areas. Productive woodland contributes to a sustainable economy and toward carbon capture targets to help address the climate emergency.

Native Woodland

Tree species found naturally in Scotland, or native species, include some of our most iconic trees such as the Caledonian Scots pine. These native trees are classed into different native woodland types, Upland birch woods for example, which will include a grouping of associated native species. Each woodland type will provide high quality habitat for a variety of different plants and animals and are often high in biodiversity. When creating new native woodlands, choosing the correct woodland type for each area is important to ensure it provides the most benefit to the environment and establishes rapidly. Designing new woodland around sensitivities such as watercourses, cultural heritage sites, or views from Clachnaben can improve the local setting and enhance these features. Creating new native woodlands can help capture carbon over a long period and over time can expand existing native woodland networks to create a more diverse landscape for everyone to enjoy.

Tree Planting vs Natural Regeneration

Planting trees in the ground ensures a new woodland is composed of the desired species at a given density and spacing as well as ensuring the trees establish rapidly. In most cases planting is done by hand using a spade. Natural regeneration on the other hand ensures local genetics are preserved through seeding however this method offers limited control of the species or quantities which seed in. It can also take much longer for a new woodland to establish naturally. Natural regeneration requires a viable seed source of the desired species which may not always be present within close proximity as seeds can only spread a certain distance from parent trees. In general a combination of planting and natural regeneration are suited to sites with seed trees available, though planting tends to be carried out over a much larger area to ensure the new woodland is as successful as possible.

Ground preparation

In order to create planting positions for trees, the ground must be prepared or cultivated which may involve a variety of techniques. These range from less intensive methods to more intensive methods depending on the conditions found on site such as the wetness, depth and types of soil, ground vegetation, slope/steepness and visual sensitivities. Some types of ground preparation appear linear while others appear more irregular or non-linear. In each situation a weed free planting position is created onto which a tree can then be planted. In some circumstances ground preparation may not be required and trees can be planted directly into the ground or trees may regenerate naturally from seed without any planting. Most ground preparation is carried out using an excavator or digger, though preparation by hand using a spade is sometimes required where there are only a small amount of trees to be planted, where soils are delicate, or where machines cannot access due to steep

slopes for example. The types of ground preparation to be used at Glen Dye Moor are described below along with some of the other terms that may be used to describe them. They are listed in order of intensity with the lowest impact method on top.

- *Manual screefing (hand scarification)* - Removal of vegetation using a spade or mattock by hand to expose bare soil.
- *Patch scarification using an excavator* – Using the machine's bucket, surface vegetation is removed/scraped to expose bare soil
- *Inverted mounding* – Soil is lifted and inverted back into the hole from which it was dug, this can be done by machine or by hand
- *Hinge mounding (dollop mounding)*– Soil is lifted and deposited next to the hole from which it was dug, this can be done by machine or by hand
- *Continuous mounding* – Special cultivation wheels are pulled behind a machine which turn over soil in small regularly spaced patches
- *Trench mounding (drain or spoil-drain mounding)* – A short trench is created and mounds of soil are deposited around the area.

Fencing

Fencing at Glen Dye Moor is used to protect young trees from damage caused by deer, rabbits, hare or livestock. Damage can result in stunted, forked or dead trees. There are different types of fences such as deer fence which is around 2m tall, rabbit netting which is a short netting added to fences, and stock fence which can be either barbed or smooth. The chosen fence will depend on what herbivores are present which need to be excluded from the freshly planted trees. Fencing will include features such as gates and stiles to ensure public access is not restricted. The access structures used will be located at waymarked paths and known crossing points and will provide access for the type of user expected such as cyclists, horse riders, or pedestrians. Fences may be marked by batons in areas where protected ground nesting birds such as black grouse are present to make them more visible to the birds while in flight and aid in avoiding collisions.

Maintenance

Once trees are in the ground and growing, they need good stewardship for the first five to ten years to ensure they successfully establish into a vigorous young woodland, this is commonly referred to as the establishment period or the maintenance period. During this time, some seedlings will die from insects, browsing, competition from weeds, frost or a variety of other stressors. Every year seedlings which die are replanted with new seedlings and this is referred to as 'beating-up'. Where weeds such as grass or bracken are a problem, weeding may be planned either through hand cutting of weeds, strimming, or application of approved herbicides which are not classed as 'highly hazardous'. Application of pesticides may also be required if high levels of pests are found on site such as the great pine weevil which, if an outbreak occurs, may kill a larger number of trees. Use of fertilisers may also be required if seedlings become nutrient deficient. Use of herbicides, pesticides, or fertilisers are avoided where possible and ensuring that the right tree is planted in the right place helps reduce the need to use these types of products.