Why are the forests in the Dublin Mountains getting a makeover?

07 July 2020

Natural regeneration coming into a small canopy gap at Ticknock Forest in 2018. Photo: Edward Wilson

The pandemic lockdown created a great deal of uncertainty. Top of the list has been concern for our health, and that of family and friends. It has also been a time to contemplate how life will be different in the future. One topic that has come to the fore is the environment. We have started to appreciate our natural world and wildlife around us more than ever.

In the capital, eyes have been raised to the woodlands that hug the Dublin Mountains. Nine forests are in easy reach of the city, including Cruagh, Ticknock and Carrickgollogan, and these have been places to escape to enjoy (socially-distanced) exercise and recharge emotional batteries.

Owned by Coillte, the semi-state forestry company, they total over 900ha and form a green backdrop to the city. Until recently, they have been managed on a commercial basis. However, with around 600,000 visits each year there have been calls for change. In 2019, a not-for-profit organisation called Coillte Nature was created to steward the nine forests in a new direction. Recreation and nature will now come first ahead of commercial considerations. The vision is to give the woodlands a "makeover" so they better serve the community and conservation.

A key element in Coillte Nature's strategy is an approach called continuous cover forestry. Some of the most famous forests in Europe, such as the Black Forest in Germany, have been managed on these principles for over a century, but it's a relatively new concept in Ireland.

The type of forestry familiar to most people is where trees are planted, grown and then clearfelled when they reach maturity. Clearfelling is a silvicultural system akin to crop rotation in agriculture, except a tree crop takes decades to mature and the landscape impact can be more obvious. Once the forest is cleared, the bare land is replanted and another rotation starts.

The essence of continuous cover forestry is that a woodland will maintain a permanent forest cover once established. With a focus on individual trees, the concept of rotation no longer applies. The forester assesses individuals that have the best features, and nurtures them until they achieve their optimum value. When they are removed, they leave only a small gap in the canopy. Light streams into the understorey providing energy for seedlings to become established.

The use of natural regeneration is important. By gauging the size of gaps and the timing of tree felling, the forester can work with natural processes to develop a complex, diverse and species-rich forest. Through time, a multigenerational forest emerges, where young trees, their parents and grandparents all occupy the same space.

The key to continuous cover forestry is planning regular interventions where only a small number of trees are removed. These thinning operations take place on a three to five year cycle, depending on forest productivity. There is a continuous output of timber (covering management costs) while the forester monitors the regeneration.

Continuous cover forestry involves a dialogue between the forester and nature with information about the development of the forest helping to guide each thinning. It requires ecological knowledge, a passion for the forest and a great deal of patience. Ireland's windy environment requires care not to upset the stability of the forest. Gaps must be opened carefully and slowly so that trees develop strong roots and become more independently stable.

There is already evidence of natural regeneration in the Dublin Mountains, and more should be visible in just a few years. Amongst the Sitka spruce that dominates much of the area will be more oaks, rowans, birch and other native broadleaves. It is this increased diversity that supports more wildlife.

Presently, less than 5% of Ireland's productive forest is being managed on continuous cover forestry principles, but there is burgeoning interest. The dialogue is being led by Pro Silva Ireland, a group of foresters, woodland owners and conservationists.

For continuous cover forestry to be successful in Ireland, research must work hand-in-hand with the best practice and adapt successful techniques from elsewhere. Teagasc Forestry Development Department and UCD are leading this effort and trials have been established in forests around Ireland, partnering with Coillte, foresters and forest owners. Currently the focus is transformation of Sitka spruce woodlands to continuous cover forestry, but other woodland types are being considered. Training is enabling foresters to embrace the new approach.

A move to continuous cover forestry may help us address another key concern: climate change. Continuous cover forests can lock up a lot of carbon in the woody component of the trees, vegetation and the soil. They can also slow run-off of rainwater during storm events, acting as a natural flood management mechanism. Research in years to come will determine the full range of environmental benefits.

For Dubliners, the forest makeover will provide new opportunities to enjoy nature and appreciate its diversity. Whether it is walking, running, cycling, or watching wildlife, continuous cover forestry will bring a natural health service to our doorsteps.

Source: https://www.rte.ie/brainstorm/2020/0706/1151597-dublin-mountains-forests-makeover-climate-change-health/