Roamers Wood: digging into soil health

Burying your pants could help restore Scotland's forests, as Claire Moulton-Brown *explains.*

In West Linton, a new movement is taking root—quite literally. A community woodland initiative is bringing scientists, local residents, and environmental sustainability organisations together to transform the landscape, one tree at a time. Roamers Wood, which aims to restore native trees to the region, is not just about reforesting—it is about fostering a sense of connection between people and nature, encouraging community-driven action, and deepening our understanding of Scotland's natural heritage.

Like many locations across the world, the Scottish Borders has suffered significant historical deforestation due to grazing and agriculture. However, the increasing focus on sustainable land use and ecological restoration has shown that reforestation is a vital mechanism to restore biodiversity, improve soil quality and accelerate carbon sequestration. Roamers Wood was launched by Sustainable West Linton & District with these goals in mind—but has subsequently grown to embody much more.

The fostering of environmental stewardship supports both mental and physical well-being by creating vibrant social and learning spaces. Now, almost three years since the first of over 6,000 trees were planted, Roamers Wood is realising this mission.

Local residents and families, many with little prior experience in conservation, have been rolling up their sleeves and getting their hands dirty by planting saplings, digging furrows and creating habitats for native wildlife, thus actively participating in environmental stewardship whilst simultaneously gaining practical skills such as tree planting, ecosystem monitoring and wildlife identification. In turn, the scientists involved in the project have found meaningful ways to engage with the public outside academia, sparking conversations about the importance of biodiversity, soil health and climate resilience.

Educational workshops are also essential, with scientists and volunteers from Sustainable West Linton & District running activity days at Roamers Wood for young

Top: Children's educational workshop.
Right: Young tree planters. Photos: Boyd Wild.

people from West Linton Primary School and the local Scout and Cub groups. Recognising that young people are the future custodians of Roamers Wood, activity days are designed to foster a sense of curiosity about and responsibility for the value of woodlands. Activities are designed to bring class topics to life, which last year saw sessions on shelter building, tracking, using natural resources and Mesolithic-style art for the primary 6 class—all inspired by the novel *Wolf Brother* by Michelle Paver.

As well as learning new skills and creativity, Roamers Wood is also a resource for learning about biodiversity, via wildlife surveys, invertebrate habitat preference experiments, and creating above- and below-ground homes for animals. The primary school even hosts a tree nursery where the young people are raising trees from seed to plant in Roamers Wood to mark celebratory events such as the graduation from primary school for each primary 7 class.

Roamers Wood also showcases the art and lore of the ancient Celtic tree alphabet. In parallel with the Gaelic festivals and the rich history of the site dating back to the Romans, it offers a unique way to connect with Scotland's rich cultural heritage. The Celtic tree alphabet symbolises the different qualities and uses of the trees and is linked to the natural cycles celebrated in Gaelic festivals. By integrating displays and artwork inspired by these themes, the woodland becomes a living tribute to Scotland's traditions, inviting visitors to learn about the historical and practical importance of trees like oak, birch and rowan. These cultural installations create a deeper sense of place, linking the woodland's modern-day ecological role with ancient wisdom, seasonal celebrations, and Scotland's unique linguistic and environmental heritage.

Robert & Roamers Wood

One of the generous sources of support for Roamers Wood is the woodland fund set up in memory of Reforesting Scotland volunteer, Robert Chalmers (issue 61, page 27). Entering Roamers Wood from The Loan or The Catwalk, tracks rising up into the Pentland Hills from West Linton, one is greeted by Robert's Orchard. Apple, plum, pear, cherry and damson: a community orchard of 65 trees, each one commemorating a year since Robert's birth in 1959. Sitting on a handcrafted bench overlooking the newly-established orchard is a favourite pastime, especially of Robert's wife, Rachel.

Robert's Orchard with wife Rachel Farey. Photo: Rebekah Gibby.

Venturing down the main avenue through Robert's Orchard, the extent of Roamers Wood becomes apparent, with its network of paths criss-crossing through the young native saplings of rowan, holly, oak, beech, willow to name but a few. Beautifully illustrated information boards abound, describing projects like Soil My Pants or answering questions like, "Who's Robert?" For the inquisitive, in situ QR codes provide access to further information and audio files on the Roamers Wood website.

Running along from Robert's Orchard, extending to a third entrance where access for disabled people is being created, is Berry Lane. Supported by Robert's woodland fund and planted by West Linton Primary School pupils and local volunteers, a diverse collection of berry-bearing plants will benefit wildlife and foraging passers-by alike. Alongside the traditional and wild varieties, honeyberries, aronia berries, saskatoon berries and Japanese wineberries are being trialled.

From Berry Lane, Roamers Wood runs alongside the old Roman Road (which forms part of The Pentland Way). Gazing upwards as the land rises, boards silhouetted like standing stones catch the eye: Art Avenue. This path, hosting an outdoor exhibition space for our local youngsters' paintings, leads to two circular structures—reminiscent of 'crop circles'—the Gaelic Tree Alphabet and our Ceilidh Circle. Also made possible by Robert's woodland fund, the Ceilidh Circle—a hand-built oak seating arena—multitasks as a focal point for social gatherings, an outdoor classroom, theatre space, and a host of things not yet imagined. Robert's band, Cauldstane Slap (named after a geographical feature in the Pentland Hills just a few miles upstream from Roamers Wood), can often be heard here, paying tribute to Robert.

From the Ceilidh Circle, paths emanate in all directions but taking the high road back to Robert's Orchard, a path under a canopy of mature trees with a panoramic view over the Scottish Borders, one feels the essence of the woodland which future generations will enjoy.

For Robert, his passions for music and woodlands are melded in Roamers Wood. Hearing the sounds resonating from his band across this special corner of Scotland, conjures the joy that most certainly would have been Robert's.

Rebekah Gibby

Microbial magic

One innovative aspect of Roamers Wood is the soil health research being conducted by soil microbial ecologists from the Institute of Ecology and Evolution at the University of Edinburgh. They are working alongside volunteers to measure indicators of soil quality such as microbial diversity, pH, soil organic carbon and nitrogen. These data help the community understand how forest restoration can improve soil health, benefiting not only trees but also the local environment by reducing soil erosion. For the volunteers, seeing the scientific process firsthand has been inspiring, demystifying what 'healthy soil' means and bringing its importance to life.

Primary school pupils and Scouts are also getting hands-on with soil science by burying pure cotton underpants in the ground and digging them up several months later to examine the results. This unconventional Soil My Pants experiment is a memorable way to see the hidden life in the soil firsthand and learn about soil microbial biodiversity and its role in ecosystem health. Soil microbial biodiversity refers to the variety of invisible, and often overlooked, life in the soil, including bacteria, amoebae and fungi. When unearthed, the holes in the pants are visible evidence that the cotton has been degraded by microbes, as well as larger invertebrates like nematode worms and millepedes. More holes equate to more microbial activity, an indicator of healthier, more biodiverse soil. This simple yet effective activity helps young people understand that microorganisms are constantly breaking down organic material, which is essential for nutrient cycling and soil health.

To complement the Soil My Pants experiment, scientists at the University of Edinburgh are using advanced molecular biology barcoding techniques to gain deeper insights into soil biodiversity. With up to ten billion microbes in just a single gram of soil, barcoding allows researchers to analyse the DNA of countless microorganisms without needing to grow them in a lab, providing a detailed snapshot of the microbial community's composition and genetic diversity. Soil is collected every two months from 23 specific locations that form a transect over Roamers Wood and preserved in a soil archive. DNA is then extracted from the soil in the lab and the genetic codes are read using DNA sequencing.

By comparing soil DNA sequences to extensive databases, scientists can identify the diverse microbial species involved in crucial processes like nutrient cycling and carbon storage. This type of molecular analysis provides a detailed view of soil health in ways traditional methods cannot capture. Since soil microbes drive essential ecosystem functions, such as carbon sequestration and nitrogen fixation, understanding how the planting and growth of trees affect these subsurface communities is critical for effective ecological restoration and sustainable land management. As a result of this engagement, local people are gaining a deeper understanding of ecological systems and the complexities of forest management, perhaps even sowing the seeds for future careers in ecology and environmental science as well.

Roamers Wood is not only bringing ecological benefits to the Scottish Borders but is also encouraging a sense of shared purpose and achievement within the community. It serves as a model for how community-led reforestation projects can thrive through collaboration between scientists and local people, blending academic knowledge with hands-on experience. By being part of the Roamers Wood community residents and scientists alike are working towards a future where both people and nature can thrive together.

roamerswood.org.uk

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Top left: Aerial view of our Gaelic Tree Alphabet and Ceilidh Circle. Photo: Kate Neville.

Top right: Roamers Wood in autumn. Photo: Rebekah Gibby.