

New life blossoms on poisoned Peak moors

Straddled by Manchester and Sheffield, the Peak District moors are the most accessible near-wild land in England. Their genesis and almost total destruction is an epic tale stretching back to the retreat of the ice sheets from Britain. Then, forest covered this now nearly treeless landscape. Millennia of grazing and burning opened up the vast expanse of moors. To Daniel Defoe in 1724, the Peak District moors were the “most desolate, wild, and abandoned country in all England”. The moorlands known to Defoe were, however, in better shape than they were to become. Two hundred and fifty years of

industrial pollution from the chimneys of northern cities cloaked the Peak District hills in a toxic poison which rained down on the moors, stripping them of life. They were doused with rain more acidic than vinegar and the upland soils were fouled with arsenic, lead and cadmium. In the 100 years or so up to 1990, 6.5 tons of sulphur fell from the sky on each hectare of moor, hundreds of times the amount considered safe for agricultural use.

Shepherds speak of brushing dusty soot off the backs of sheep and replacing fences after just a handful of years because the galvanised wire had rusted.

The last few decades have been kinder. *Moors for the Future*, an impressive partnership, has grasped the scale of the restoration job and pulled together landowners, agencies and moorland science experts. Repair work has started on 30 sites from Nidderdale in North Yorkshire to Kinder Scout in Derbyshire. With greater control over burning, grazing and air pollution, further destruction has been halted. In a conservation project of colossal scale, thousands of eroded channels

have been blocked, peat soil has been stabilised and new vegetation introduced across an area larger than 3,000 football pitches. The great environmental scar on the south Pennines is beginning to heal.

Healing the wounds

The environmental catastrophe in the Peak District moors destroyed the surface layer of the bogs, leaving endless tracts of bare peat. Plants such as bog asphodel, (pictured left), cranberry and royal fern were common in the early 19th century but absent 100 years later.

The biggest loss was to the apparently insignificant bog mosses, or sphagnum, which are particularly vulnerable to pollution. Few plants are as important to peat as sphagnum. It is the life-giver which holds water on the land and even when it dies, bequeaths life to the moorlands. In the wet oxygen-free bog environment, plant decay and recycling of minerals is suppressed. Instead of combining with oxygen and being released as a greenhouse gas, the carbon in dead moss remains locked in the mire, and accumulates as peat.

Muriel Sanders captured in one of her poems how sphagnum moss was used for dressing battlefield wounds: “Where the red life blood flows, then spreading, swelling in its might, it checks the fatal loss, and kills the



Sphagnum moss is vital to peat lands

germ, and heals the hurt — the kindly sphagnum moss.”

Much as sphagnum healed soldiers’ wounds, so too it is the reviver of the upland soils today. Now that the eroded moors have been stabilised, the first sphagnum moss reintroduction has begun. Unlike seed-bearing plants, propagating mosses is inherently difficult and needed some serious lateral thinking.

Laboratory studies by Leicester-based Micro-Propagation Services led to the first trials spreading sphagnum fragments in gel beads. The gel protects the moss fragments and allows them to be distributed over the moor evenly. More than a billion fragments have been scattered across the restoration sites. The next stage in a long-term plan to

bring life back to the moors has begun.

Flowing into the future

The River Bollin rises on the western flank of the Peak District in Macclesfield Forest. It tumbles through steep gorges and follows a course through affluent Cheshire towns and countryside before its confluence with the Mersey. At Styal, the river gouges a channel through the Cheshire plain. Here, in 1784, Samuel Greg built Quarry Bank Mill. Greg was inspired by Richard Arkwright who in 1771 combined his newly-patented cotton processing technologies with labour and buildings in the world’s first factory at Cromford.

Greg chose his location as Arkwright had done, to harness the energy of water falling by gravity en route from the hills to the sea. Rural cotton mills were the northern powerhouse of the early industrial revolution but were eclipsed by steam and became industrial backwaters.

Today, the National Trust cares for Quarry Bank Mill and in a nod to the mill’s origins, a newly-installed hydro-generation scheme powers the mill machinery. A new fish ladder allows eels and salmon to pass up past the weir for the first time since it was built in the 18th century. Otters and kingfishers are seen on the once-polluted but now clean river.