The Flow Country: A Naturally Unique Global Treasure

By Brigid Primrose, Audrey Parsons and Cara Donald

The Flow Country World Heritage Site, spanning 190,000 hectares of Caithness and Sutherland in Northern mainland Scotland, is home to one of the largest and most intact areas of blanket bog in the world. This exceptional habitat, renowned for its ecological and environmental importance, was designated a UNESCO World Heritage Site for its outstanding universal value as an actively accumulating blanket bog.

The Flow Country is the world's first, and currently only, peatland World Heritage Site.

In Scotland, it is the first entirely natural inscribed Site (St Kilda being a mixed natural and cultural Site) and is also only the third natural Site within the UK.

Blanket bog is a rare type of peatland found in the cool temperate zones of the world.

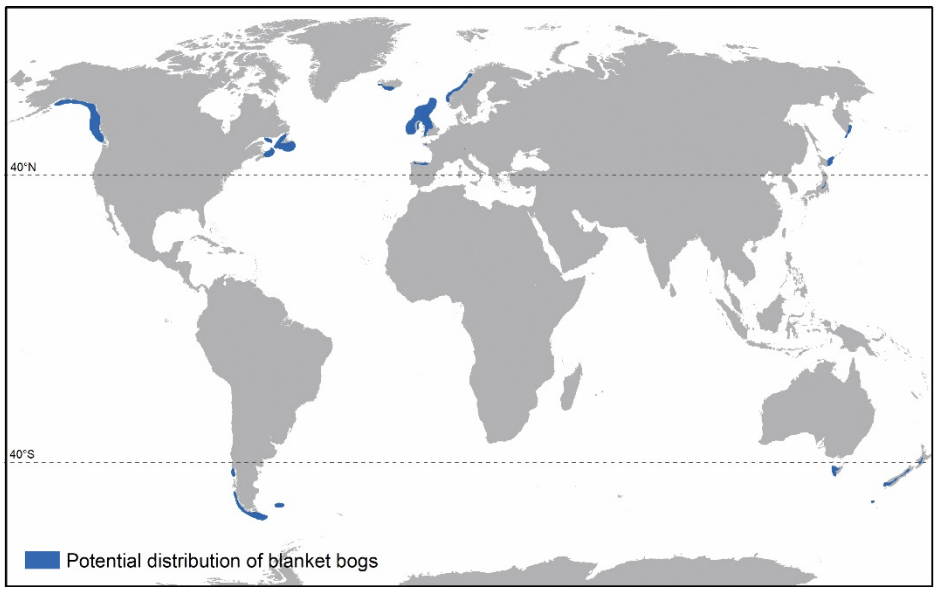

Fig 1. Potential global of blanket bogs, modified after Lindsay et al. (1988). This prediction is based on where the climate is suitable for blanket bog formation.

The landscape is typically treeless, forming dense, spongy mats over undulating terrain. The Flow Country's blanket bogs are particularly unique due to the region's varied climatic conditions and topography, which create a diversity of habitats. Pools, hummocks, mosses (especially *Sphagnum* spp.), and lichens form an intricate landscape, in varied patterns when viewed from above.

These geographical and climatic conditions are vital for the development of blanket bog and for supporting the many species that call the Flow Country home.

Fig 2. Colourful hummocks of Sphagnums, lichens, sundews and heather in a bog pool. © Sam Rose, 2023

The Site also holds an archive of environmental history and because the peat has been growing for around 9000 years it reaches over 8m depth in places preserving within it features such as pollen, plant fossils such as hazelnuts and pinecones; and microscopic shards of volcanic ash, known as tephra, transported from ancient Icelandic volcanic eruptions and deposited here on the bogs; and charcoal shows early signs of human occupation.

The Role of the Flow Country in Climate Regulation

The Flow Country's blanket bogs play a critical role in regulating the global climate. Peatlands are known for their ability to capture and store carbon, and The Flow Country bogs have been doing this for around 9,000 years. The carbon sequestration process is essential for mitigating climate change, as millions of tonnes of carbon dioxide are stored here. Alongside this the site also helps with water regulation and purification for example. Protecting these peatlands is therefore crucial not only for local biodiversity but also for global climate stability.

Fig 3. Some of the most important and specialised bog plants are Sphagnum mosses which are important for building the peat but also soak up and filter enormous amounts of water. © NatureScot

A Treasure to Protect

While The Flow Country is globally significant for its ecological and environmental value, it also serves as an essential resource for local communities. The people of Caithness and Sutherland rely on the land, with the wider Flow Country area offering both work and leisure opportunities. Breathtaking landscapes attract visitors from around the world, who come to experience its natural beauty and learn about its significance. Conservation efforts and the growing recognition of the Site's World Heritage status also bring economic benefits to local communities.

The Flow Country's blanket bog provides crucial insights into the role of peatlands in climate regulation and biodiversity conservation. The site offers a unique example of the delicate balance between habitat, species, and ecosystem services, underscoring the need to protect such areas for the health of our planet.

This vast landscape can sometimes be considered as miles of blank nothingness, but when seen at close quarters viewing its wonders in detail, or from above, up a hill or the Flows viewing tower, you can fully appreciate its majestic vastness and see the characteristic patterns of the countless small pools dotted across the landscape glittering as they catch the light from those wide open skies.

Fig 4. Aerial view of Flow Country landscape with pool systems, lochans and lochs, and distant hills. © NatureScot

Fig 5. Aerial view of Flow Country blanket bog © Sam Rose 2023

Fig 6. Oblong-leaved sundew (Drosera intermedia) A species specialised at living in the acidic and nutrient poor bogs which traps insects on its sticky leaves and derives nutrients from them.
© NatureScot.

Working for World Heritage Status

The idea to nominate The Flow Country as a World Heritage Site was first voiced in the late 1980s, when conservationists began to recognise both its extraordinary biodiversity, and its role in carbon storage. Work to make this a reality began in earnest in 2012. After much hard work from a dedicated Team and Partnership approach The Flow Country was finally inscribed as a World Heritage Site under criterion ix for the significance of its ecosystem quality, on 26th July 2024, at the 46th session of the UNESCO World Heritage Committee in New Delhi.

Find out more about the Flow Country at https://theflowcountry.org.uk/

Author biographies:

Brigid Primrose has been involved with The Flow Country for the past 13 years through work with SNH/NatureScot (as part of the Partnership), contributing from the early stages of technical evaluations through to inscription and beyond. With expertise as an ecologist, areas of focus include ecosystems, biodiversity, and invertebrates—particularly Lepidoptera.

Audrey Parsons works with the Flow Country Partnership (FCP) in a role that spans both the World Heritage Site and the Flow Country Green Finance Initiative. Bringing a background in community development, this work helps connect conservation priorities with local and regional engagement.

Cara Donald supports the World Heritage Site as part of the NatureScot North Operations area. With a background in biology and conservation, this role contributes to the long-term stewardship and management of the site.

The Partnership is currently building a dedicated FCP and WHS team. The FCP has a broader remit in the area beyond the WHS, and a Flow Country Partnership Manager will be joining in early July, followed by a full-time WHS Coordinator.