Blanket Bog | Curragh Moaney

Biodiversity Action Plan | Cummey Yannoo Beiyn-Feie

Background

Blanket bog is a key peat-forming habitat of high ecological and ecosystem services value. It is likely to have been widespread across upland areas of the Isle of Man (IoM) in the past, as evidenced by remaining deposits of deep blanket peat. In 1995 blanket bog was recorded as covering only 0.3% of the Island, while upland peat over 0.4m in depth has been found to cover approximately 4% of the Island (as of Nov 2023). Further habitat decline is likely due to climate change and a lack of awareness and protection for this valuable habitat.

Description

Blanket bog habitat is typically comprised of Sphagnum mosses; dwarf shrubs, such as Heather, Cross-leaved Heath, Bell Heather, Bilberry and Crowberry; and cotton grasses. Sundew and Bog Asphodel are also frequently found within this habitat. There are five National Vegetation Classification (NVC) blanket bog types and six additional upland habitats which, when found on peat deeper than 0.4m, may indicate degraded bog habitat (see Appendix I for a list of blanket bog NVC types).

British Isles Distribution and Status

Blanket Bog is a UK Biodiversity Action Plan (BAP) Priority Habitat. It is restricted to areas with cool, wet climates and extends from Devon in the south to Shetland in the north. It is typically found in western areas, where precipitation is greater, but also occurs in some eastern upland areas. The total area covered by blanket peat in the UK is thought to be just under 1.5 million hectares, however there is no agreed figure for the extent of blanket bog vegetation.

Isle of Man Distribution and Status

The total area identified as blanket bog, dry modified bog or wet modified bog by the Phase 1 Ecological Habitat Survey (Sayle et al. 1995, which excluded the Calf of Man) is 280 hectares, 188 hectares of which were described as blanket bog. The Isle of Man comprises approximately 57,200 hectares, meaning that blanket bog covered approximately 0.3% (0.4% if modified bog is included) of the Island in 1995. Most of the blanket bog is found in the northern uplands, with scattered patches elsewhere. It is likely that the Phase 1 survey underestimated areas of modified bog, as the depth of underlying peat was unknown at the time of the survey. It is also possible that small areas of blanket bog within habitat mosaics were missed due to the resolution of the survey.

The current condition of blanket bog habitat is largely unknown, except where a habitat condition assessment has been undertaken for peatland restoration plans. Assessment has indicated that in most areas the habitat does **not** meet the Joint Nature Conservation Committee (JNCC) criteria for good condition.

Habitat

Blanket bog habitat covers areas where high rainfall and a low level of evapotranspiration allow peat to develop over extensive areas. Healthy, 'active' blanket bog is mainly comprised of bog vegetation which is normally peat-forming. It is fed only by precipitation and is therefore low in nutrients and acidic. Blanket bog on the Isle of Man is often found alongside blanket mire, which is not exclusively rain-fed, so for the purposes of this plan, both habitats will be regarded as more or less synonymous. This plan covers all areas of blanket bog which support semi-natural blanket bog vegetation, even if they cannot currently be described as 'active'.

The depth of peat under blanket bog is variable on the Isle of Man, but is generally between 0.3m and 2m, with deeper pockets of peat in some areas. Blanket peat on the Isle of Man generally started to form 5000 – 6000 years ago, possibly due to forest clearance and historical climatic factors.

Blanket bogs support a range of terrestrial and aquatic invertebrates, specialist plant species and specialist birds. Isle of Man Wildlife Act Schedule 1 bird species utilising areas of blanket bog include Hen Harrier, Jack Snipe, Curlew, Snipe, Woodcock, Short-eared Owl and Skylark. The latter five species are also Birds of Conservation Concern IoM (BoCCIoM)[1] Red List species, as is Meadow Pipit, which also use blanket bog habitat. Lapwing is a Schedule 1 and Red List species which formerly bred in this habitat but no longer does so. Specialist plant species include Schedule 5 species Cranberry, as well as other bog specialists such as Round-leaved Sundew, Bog Asphodel, Heath-spotted Orchid, cotton-grasses and *Sphagnum* mosses.

Ecology

Blanket bog vegetation is generally found in upland areas of the Island, although can also be found as low as 200m above sea level. It requires high annual rainfall and is more common on north-facing slopes.

Legal protection

- Heath Burning Act 2003 – only covering blanket bog within Registered Heathland
- Wildlife Act 1990 - Peatland is a cited feature for ASSI designation and there are specific criteria for assessing peat substrates.
- Climate Change Act 2021 - Peatland Register (still in planning phase)
- Town & Country Planning Act 1999 - Wildlife Sites criteria recognised under the Strategic Plan include upland habitats (U4 – Areas of flush as part of a mire complex, U5 – active blanket bog, U6 – dry modified bog, U7 – wet modified bog, U8 - valley and basin mire).

[1] Neil G. Morris and Christopher M. Sharpe / September 2021 British Birds – vol. 114, issue 9, pp 526–540

Threats

Factors affecting this habitat in the Isle of Man:

- Historic drainage ditches resulting in a lower water table and peat slides.
- Historic domestic peat cutting for fuel (turbary).
- Current drainage ditches adjacent to roads and tracks (including their ongoing maintenance) resulting in lower water table and slumping and exposure of peat.
- Recreation in sensitive areas (e.g. mountain biking, motorcycles, walking desire lines) resulting in localised erosion or compaction.
- Overgrazing and trampling by livestock.
- Afforestation by non-native conifers, including the self-seeding of conifers.
- Commercial forestry harvesting operations.
- Development for infrastructure e.g. erection of buildings, laying of cables or pipelines.
- Agricultural 'improvement' e.g. drainage, cultivation.
- Burning and wildfires.
- Climate change, including extended warm dry periods.

Area of cut and degraded peat no longer supporting blanket bog habitat (left) and hillside with numerous drainage ditches (right).

Reason for BAP

The area of blanket bog habitat is considerably reduced from its former extent, and what remains is under threat from historic and current land use. Recent surveys of peat depth and condition suggest that remaining blanket bog habitat is unlikely to be in good condition in most cases.

As well as being an important habitat for a number of rare and protected species, blanket bog can also be beneficial to a range of nature-based solutions. In good condition, blanket bog vegetation can sequester and store carbon long-term in the form of peat; it can filter rainwater, reducing the need for water treatment; it increases surface roughness, reducing down-slope flooding; it increases resilience to wildfire.

Aims

- To establish the current extent and condition of blanket bog habitat on the Isle of Man, including by commencing Common Standards Monitoring on the best sites.
- Protect existing blanket bog habitat.
- Positive conservation management to bring blanket bog habitat to favourable condition where possible.
- Restore blanket bog habitat on peatland that has become degraded in order to extend the area covered by blanket bog habitat in favourable condition.

Linked BAPS & species of conservation concern		
Marshy Grassland (in draft for the IoM) Upland Heathland Upland Flushes, fens and Swamps	Curlew Lapwing Jack Snipe Snipe Woodcock Hen Harrier Short-eared Owl	Skylark Meadow Pipit Cranberry Round-leaved Sundew Bog Asphodel *Sphagnum* mosses

Delivery Options	Active	Challenges
Habitat protection through designation		
○ Active blanket bog and modified bog areas are likely to meet the criteria for Wildlife Sites.	No	Manx Wildlife Trust (MWT) capacity for Wildlife Sites designation.
○ Active blanket bog and modified bog areas are likely to meet the criteria for inclusion in the Peatland Register.	Yes	Peatland Register Regulations require Tynwald approval. Inclusion in the Peatland Register requires agreement from the Wildlife Committee.
○ Bog habitats are likely to meet the criteria for ASSI designation based on the extent and depth of peat substrate.	No	DEFA capacity for ASSI designation; requires political and Departmental willingness.
Survey and monitoring		
○ Re-survey of areas identified as blanket bog in the Phase 1 survey (1995) to establish changes in the extent of blanket bog habitat.	No	Lack of capacity.
○ Identification of areas of blanket peatland with a depth of peat >0.4m to establish the full extent of blanket bog / modified bog habitat.	Yes, ongoing	Areas still to be surveyed will require a larger number of trained volunteers.
○ Common Standards Monitoring (CSM) of areas of bog habitat to determine the condition and monitor any changes in condition.	Yes, but limited extent	Lack of capacity to survey areas other than those currently identified for peatland restoration.
Public access and awareness		
○ Raise public awareness of the importance of blanket bog habitat in order to reduce the impact from recreation.	Yes	Engaging key groups and individuals.
○ Minimise disturbance caused by recreation by creating appropriate infrastructure, such as boardwalks.	Yes	Cost of installing suitable infrastructure.
Agri-Environment Scheme		
○ Habitat management plans through the Upland Stewardship Scheme can promote appropriate grazing regimes and land management for habitat protection and recovery.	No	Buy-in from stakeholders and the cost of compensation for changing stocking levels (where required).

Peatland Restoration		
○ Restoration of peatland areas to improve the condition and increase the extent of blanket bog.	Yes, but limited in extent	Current lack of funding for more than 500 hectares of restoration work.
○ **Annual review and update of this document**	**By DEFA**	

Delivery Plan	
○ **Action**	**Lead**
○ Include known blanket bog habitats within the Peatland Register and ensure that landowners and managers comply with the associated code of practice (still to be written).	TIMESCALE: Ongoing, with code of practice to be drafted by spring 2024. PARTNERS: DEFA uplands team, Manx Peat Partnership (MPP).
○ Establish a Manx Peat Partnership to ensure relevant stakeholders are aware and involved in the protection and restoration process. The MPP will seek to further engage members of the public.	TIMESCALE: To be established by end January 2024. PARTNERS: DEFA uplands team, MWT, relevant stakeholders, Climate Change Team.
○ Improve capacity for peatland survey and CSM through the training and establishment of volunteer groups / individuals.	TIMESCALE: Ongoing. PARTNERS: Manx Peat Partnership.
○ Work with landowners / occupiers to establish grazing levels appropriate to maintain / restore blanket bog habitat. To link with Upland Stewardship Scheme habitat survey and peatland restoration surveys.	TIMESCALE: To begin spring / summer 2024. PARTNERS: Manx Peat Partnership, Climate Change Team.
○ Restore degraded areas of peatland (500 hectares initially).	TIMESCALE: To commence winter 2023 / 2024 PARTNERS: Manx Peat Partnership, DEFA uplands team

Appendix I: Blanket Bog NVC Types

There are five NVC blanket bog types:

- M17 *Scirpus cespitosus – Eriophorum vaginatum* blanket mire
- M18 *Erica tetralix – Sphagnum papillosum* raised and blanket mire
- M19 *Calluna vulgaris – Eriophorum vaginatum* blanket mire
- M20 *Eriophorum vaginatum* blanket and raised mire
- M25 *Molinia caerulea – Potentilla erecta* mire.

In addition, where any of the following habitats occur on peat deeper than 0.4m they may indicate degraded bog and are therefore included:

- H9 *Calluna vulgaris – Deschampsia flexuosa* heath
- H12 *Calluna vulgaris – Vaccinium myrtillus* heath
- M15 *Scirpus cespitosus – Erica tetralix* wet heath
- M16 *Erica tetralix – Sphagnum compactum* wet heath
- M25 *Molinia caerulea – Potentilla erecta* mire
- U6 *Juncus squarrosus – Festuca ovina* grassland