

Bogs Action Plan

Scottish Biodiversity List habitat:	Yes
UK Biodiversity List of Priority Habitats:	Yes

Summary

This Habitat Action Plan outlines the conservation status of all lowland raised, intermediate and blanket bogs in North Lanarkshire, known locally as Mosses. Both lowland raised bog and blanket bog are a UK Biodiversity Group priority habitat and are considered the most nationally and internationally important habitat in North Lanarkshire.

Lowland raised bogs are peatland ecosystems that usually develop in lowland areas such as the head of estuaries, along river flood plains, and in depressions in the landscape left by the last glaciation.

Blanket bogs are largely found in upland areas of the world with cool, wet and typically oceanic climates. Most extensively found in the north and west areas of Scotland's uplands.

Raised bogs tend to be deeper than blanket bog but have a lower bulk density.

Approximately 10% of the mosses found locally are in an undisturbed condition; the rest of the resource is in a poor condition.

In Scotland, much of the blanket and raised bog has been damaged by activities such as afforestation, drainage, and agriculture. This has resulted in the extent and benefits of this important habitat being much reduced. Degraded bogs do not sequester carbon and fail to act as a carbon sink.

In Scotland, it is estimated that up to 70% of blanket bog and 90% of active raised bog has been damaged.

The 2020 Challenge for Scotland's Biodiversity includes a key imperative to restore Scotland's peatlands. Extensive areas of peatland will be managed to conserve their wildlife and to improve their capacity for storing carbon.

The Scottish Government has funded a programme of peatland restoration (Peatland Action) to mitigate against climate change. Delivered by NatureScot, Peatland Action aims to;

- restore and manage peatlands to maintain carbon stores and encourage carbon sequestration;
- restore peatland ecosystem functions;
- enhance ecosystem resilience to climate change; and
- build peatland restoration capacity and understanding amongst land managers, contractors, advisors and the public.

Habitat Profile

Lowland raised/intermediate bogs are recognisable within the landscape as gently sloping raised mounds of peat. They consist of a deep accumulation (up to 10m) of water-logged peat and, when intact, their surface is covered by a living layer of plants and mosses. As the surface of the moss is raised above the local water table the only source of water and nutrients feeding the bog comes from direct rainfall (ombrotrophic systems). Lowland raised/intermediate bogs can be classified as primary or secondary depending on the degree of damage the bog has been subjected to.

Primary raised bogs are those in which the dome is intact and are usually dominated by actively growing, undisturbed Sphagnum moss-rich vegetation. A secondary moss is one, which has been damaged due to peat extraction, afforestation, agricultural intensification, built or other development, but where the water table has stabilised because the drainage pattern has become blocked. Under these conditions, the surface vegetation may be dominated by a secondary growth of Sphagnum moss species and Cottongrass. Secondary bogs may be either active or degraded (ie: laying down peat, or capable of restoration). Both types are considered to be of European conservation importance.

The characteristic plants of raised/intermediate bogs, such as Heather species, Cotton Grasses, bog (Sphagnum) mosses, Cranberry and Sundews are all specially adapted to live in water-logged, nutrient poor conditions. The abundance of some Sphagnum species is of critical importance to the development of the bog (typically Sphagnum papillosum together with species such as Sphagnum magellanicum). The growth of Sphagnum species helps to create the strongly acidic conditions of ombrotrophic peat and associated bog pools.

Lowland bogs support a distinctive range of animals including many wetland birds such as curlew, and invertebrates such as dragonflies and beetles. Rare and localised invertebrates such as the Large Heath Butterfly may also be found on lowland raised/intermediate mosses. In North Lanarkshire, Longriggend Moss, is noted for its rare spider fauna.

Around 2.25 million ha of blanket bog is found in the UK, most of it in Scotland. Blanket bog is one of Scotland's most common semi-natural habitats, covering some 1.8 million hectares – 23% of our land area. Scotland holds a significant amount of the European and world resource of this rare habitat. Blanket Bogs are generally an upland habitat, it can be found from 1000m down to sea level where peat has accumulated to a depth of at least 0.5m - generally on flat or gently sloping ground where drainage is poor.

Peat accumulation preserves a unique and irreplaceable record of plant and animal remains and some atmospheric deposits from which it is possible to assess historical patterns of vegetation, climate change, and human land use. Many bogs in North Lanarkshire, such as Greenhead Moss, can provide information on such aspects over a period of up to 6000 years.

Current Status

Intact lowland raised/intermediate bogs are one of Europe's rarest and most threatened habitats. They occur throughout the UK and account for less than 5% of the UK's total peatland area, with 87% blanket bog (commonly found in the uplands). Scotland's peat soils cover more than 20 % of the country and store around 1600

million tonnes of carbon. However, it is estimated that over 80 % of our peatlands are degraded. Peatlands in good condition actively form peat, removing CO² from the atmosphere and storing carbon in the soil.

In North Lanarkshire, bogs are most commonly found around Shotts, Eastern Monklands and in the Kelvin Valley. Most of the bogs within North Lanarkshire are lowland raised/intermediate bogs. Blanket bogs are not as common; however, several are located within the district. These types of bog are mostly found in upland areas of Scotland.

Since the start of the 19th century, the area of undisturbed lowland raised bog in the UK has declined from around 95,000 hectares (ha) to around 6,000 ha, a loss of 94%. In Scotland this represents a decline from 28,000 ha to 2,500 ha, a loss of 91% of the original resource with the remaining resource scattered across numerous small sites. In North Lanarkshire, the approximate area of the resource is 187ha, which represents 7% and 5% of the primary lowland raised bog cover in Scotland and Great Britain respectively.

Seven bogs are designated as Sites of Special Scientific Interest and some have the additional cSACs designation (candidate Special Areas of Conservation – a European designation). All have been surveyed for their habitat quality. The sites, site condition and survey dates are shown below:

West Fannyside Moss (SAC) – 34ha. Favourable maintained condition (2017).

Black Loch Moss (SAC) – 95ha. Favourable recovered condition (2012).

Hassockriggs – 45ha. Unfavourable condition (2008).

North Shotts Mosses (SAC) – 35ha. Favourable maintained condition (2013).

Lady Bell's Moss – 54ha. Unfavourable no change (2013).

North Bellstane Plantation – 3ha. Unfavourable condition due to competing designated features on one site (2009).

Longriggend Moss – (around 37ha). Favourable maintained condition (2005).

Legal Status

A number of UK and Scottish lowland raised/intermediate bogs have been notified as Sites of Special Scientific Interest (SSSI's). A number of sites have also been declared as National Nature Reserves (NNRs), although none as of yet in North Lanarkshire.

In Scotland there is a continuing programme of notification to ensure that all key areas which meet the SSSI selection guidelines are notified. Raised bogs, both active and degraded, are listed on Annex 1 of the EC Habitats Directive and the UK Government is presently determining areas that qualify as Special Areas of Conservation (SAC's) under this Directive.

In North Lanarkshire, 7 bogs have been notified as SSSI's by NatureScot, of which 3 are also SAC's. In addition to this there are also 72 bogs, which are, at least in part, designated as Sites of Importance for Nature Conservation (SINC's) by North Lanarkshire Council, including all of the SSSIs. Kingshill, Greenhead Moss and

Brownsburn have been designated as Local Nature Reserves. However, despite these designations, many sites are vulnerable to destruction, damage or neglect.

Current Factors Affecting This Habitat

- Peat extraction - the extraction of peat and/or underlying mineral deposits for horticultural and fuel uses.
- Forestry - in addition to the direct impacts of existing plantations on deep peat, successive rotations dry out neighbouring areas and act as an invasive seed source. Current procedures ensure that new woodland schemes avoid peatland of value in North Lanarkshire.
- Built development - Opencast and built development can result in the total destruction of bogs or in serious damage to their hydrology. Another 4 areas are potentially threatened through extensions to quarrying operations and opencast.
- Agricultural Intensification - Livestock management/ rough grazing on bogs is common in North Lanarkshire. This is frequently accompanied by drainage, trampling, burning and surface contamination with feed and droppings.
- Dereliction/Neglect - Many North Lanarkshire sites suffer from neglect and are being currently drained (either directly or indirectly) and will degenerate without conservation management. Many bogs are burnt as a result of vandalism or accidents.
- Pollution - contamination from adjacent landfill, opencast or agricultural drainage. Deposition of atmospheric pollutants, fertiliser drift during its application, or the legacy of past deposition, may be significant at certain sites.
- Windfarms – Development on sensitive bog areas.

Current Action

- The Forestry Commission (FC) has produced a guidance note on “Forests and Peatland Habitats”. This signals a presumption against new planting on active raised bog and degraded raised bog capable of restoration. It also describes the criteria, which the FC will use to consider supporting the restoration of lowland raised bog from existing woodlands.
- The UK Peatland Strategy 2018 – 2040 aims to drive and co-ordinate action across the UK, supported by country level plans that will establish a course for peatland conservation and management at a more detailed level.
- NatureScot published Scotland’s National Peatland Plan in 2015, This sets out the many benefits of healthy peatlands and how we can improve peatland that is in poor condition
- NatureScot – Peatland Restoration Fund has been made available since 2012

- North Lanarkshire Council are encouraging composting initiatives as part of a waste minimisation strategy. This is a valuable component for education in reducing horticultural peat use.
- Joint SNH/FC/Central Scotland Forest Trust (CSFT) Guidance: The Assessment of Peatland for Woodland Establishment in the Central Scotland Forest Area has been produced in order to assist in the planning of afforestation schemes.
- Large scale Peatland restoration projects occurred at Fannyside Muir within the Slamannan Plateau by Buglife, NLC, FCS and CSGNT. At least 230 hectares of lowland raised bog was restored through this project with funding from WREN Biodiversity Action Fund, NatureScot and the contribution of the LIFE financial instrument of the European Community delivered as part of the EcoCo LIFE project: LIFE13 BIO/UK/000428.
- Since 2015, Greenspace Development have applied and been granted £89,000 funding from NatureScot's Peatland Action Fund for the restoration of four sites across North Lanarkshire:
 - Greenhead Moss,
 - Broadwood Moss,
 - Cathburn Moss and
 - North Shotts Moss.
- All of our restored bogs have an interpretation panel associated with them reflecting the interest of the sites. Small scale volunteer work at Brownsburn bog by the Butterfly Conservation's Bog Squad – installation of dams and scrub removal.
- Feasibility studies were undertaken on 3 urban bogs within Cumbernauld in 2019 and 2020. Works were due to start on these bogs in 2021. Owing to restrictions during the pandemic this has been delayed until to 2022 - 2023. This project is in partnership with CLL.
- Buglife are currently working with landowners at Easter Greenrigg and within a new area of Fannyside Muir to complete a feasibility study for a Peatland Action application.

Proposed Objectives, Targets and Actions.

Objectives

1. Maintain existing area of active peatlands.
2. Improve the condition of degraded peatlands.
3. Increase awareness of peatlands and their importance.

Action	Meets objective number	Action by	Target
Policy and legislation			
1.1 Seek to reduce consumptive use of peat by all NLBAP Steering Group organisations, including contracted work.	1,2	All	A written statement for each organisation by end of 2024.
Habitat management and protection			
2.1 SSSI sites to be in a local bogs management scheme	1	NatureScot, NLC	All eligible sites to be in scheme by 2024 where private landowners are cooperative.
2.2 Refuse new applications for extraction consents on all European, national and locally designated peatlands.	1	NLC	Ongoing.
2.3 Create and maintain favourable conditions for the conservation and enhancement of Council owned bogs.	1,2	NLC, NatureScot	All four sites to have benefitted from restoration work by 2024.
2.4 Key Forestry Commission sites to be identified for restoration	1	FC	Three sites to be identified by 2023 and resorted by 2025
2.5 Create and maintain favourable conditions for the conservation and enhancement of key Forestry Commission sites	1,2	FC, NatureScot	Three sites to be 2025
2.6 All primary sites and their owners to be identified.	1	NLC, NatureScot	All sites by 2023
2.7 All primary, undisturbed sites (P1) to be in a positive management agreement	1,2	NLC, NatureScot	All sites by 2024 where private landowners are cooperative.
Communications and awareness raising			
3.1 Promote awareness of the biological and cultural importance of Mosses to five local communities adjacent to lowland raised/intermediate bogs.	1, 3	NLC, NatureScot, SWT	A talk, walk, leaflet, interpretation or practical involvement in restoration, or accessibility to mosses, to be provided annually from 2022, after agreeing an education and awareness strategy
3.2 Encourage survey of plants and invertebrates on key sites.	1, 3	NLC, NatureScot, SWT	Invite and support specialist to carry out surveys on key sites. Develop volunteer opportunities. Survey events at 3 bogs by 2024.

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