NatureScot Scotland's Nature Agency
NàdarAlba Buidheann Nàdair na h-Alba

Advising on peatland, carbon-rich soils and priority peatland habitats in development management

https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management

Published: June 2023
Revised: November 2023

Contents

Purpose

The purpose of this guidance is to help NatureScot staff provide developers, planning authorities and Scottish Government with consistent advice on the assessment of effects of any development proposals on peatland, carbon-rich soils and priority peatland habitat. This document will evolve as additional information and evidence informs our understanding, including additional NPF4 Policy 3 guidance and outputs from the Peat Expert Advisory Group.

Introduction

The approach set out in this guidance aligns with the National Planning Framework 4 (NPF4) policies which are relevant to development proposals on peatland, carbon-rich soils and priority peatland. A key focus will be on helping to ensure that development is designed and constructed to follow the mitigation hierarchy set out in NPF4 and that, in addition, biodiversity enhancement is delivered through peatland restoration.

The guidance also sets out the framework which will help NatureScot decide when proposals sited on peatland and carbon-rich soils raise natural heritage issues of national interest, and therefore when we may object to development. This is noting that some important features of the natural heritage are not confined to protected sites; they are often more widely distributed, and yet of great importance in terms of the overall quality of Scotland's natural heritage. We will continue to only raise outright objections where a proposal raises issues of national interest relating to priority peatland habitats. Our objections on this basis will be infrequent, however, and subject to the application of our balancing duty, recognising the supportive national policy context for renewables.

The framework involves an appraisal of whether there are peatlands on a development site which have vegetation features which are indicators of being high quality and in a near-natural condition. This assessment is based on the JNCC Guidelines for the selection of biological Site of Special Scientific Interest (SSSI) - Chapter 8 - Bogs, which is a peer reviewed standard that forms our best evidence. Once the condition and quality of the peatland has been determined, the impacts of the proposal on priority habitats are considered.

This guidance is predominantly to be used for proposals affecting land which is not protected for its peatland interest. There is stronger protection for peatland which is designated as part of the interest of a protected area and different tests apply, for example within a Special Area of Conservation (SAC) where Habitats Regulations Appraisal (HRA) must be considered. This guidance is principally focused on renewable developments, but is also applicable to other types of development.

Policy Background

National Planning Framework 4 (NPF4) 2023

The National Planning Framework 4 recognises that significant weight should be given to address both the global climate and nature crises when considering all development proposals (Policy 1). Proposals must also protect, conserve, restore and enhance biodiversity (Policy 3). In addition, the intent of Policy 5 is to protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development.

NPF4 Mitigation hierarchy

All development proposals should adhere to the mitigation hierarchy set out in the NPF4, defined (see bold) as:

- **Avoid – by removing the impact at the outset**.
  Development should first seek to avoid areas of peatland, carbon-rich soils and priority peatland habitat.
- **Minimise – by reducing the impact.**
  Direct and indirect impacts of development should be limited to the minimum.
- **Restore – by repairing damaged habitats.**
  Any habitats that are damaged by the proposal (whether direct or indirect impacts) should be restored as far as is possible.
- **Offset – by compensating for residual impact that remains, with preference to on-site over off-site measures.**
  Effective restoration and management of degraded equivalent habitat should compe[illegible]te for any losses.

In addition to the mitigation hierarchy, under NPF4 Policy 3b, developments are required to provide significant biodiversity enhancements:

- **Enhance – biodiversity, including by restoring degraded habitats and building and strengthening nature networks**
  This is a requirement to provide significant biodiversity enhancements, these measures are **in addition** to the restoration and offsetting requirements.

NPF4 requirements for assessment of impacts and the mitigation hierarchy

NPF4 Policy 5d, requires that '*where development on peatland, carbon-rich soils or priority peatland is proposed, a detailed site specific assessment will be required*'. This should include peat depth surveys (initial, detailed and additional information), Peat Landslide Hazard Risk Assessment (PLHRA), and detailed habitat surveys (NVC), including an assessment of condition.

The assessments and surveys should direct the project design and siting to ensure compliance with the mitigation hierarchy. This should be secured through production of relevant plans, for example a Construction Environmental Management Plan (CEMP), Habitat Management Plan (HMP) and the Peat Management Plan (PMP). The HMP, alongside other plans (e.g. PMP, CEMP, PLHRA), should also demonstrate how restoration, offsetting and enhancement will be achieved. It is often the case that *outline* HMPs, PMPs and CEMPs will be produced at application stage. If so, these should be sufficiently detailed to allow assessments to be carried out.

The avoidance and minimisation aspects of the hierarchy are often demonstrated within the proposal's siting and design rationale, as explained in the Site Selection and Design Evolution (or equivalent) chapter of the EIA report. Information on avoiding, minimising impacts, and restoring peatland damaged by the proposal, may also be contained in the outline CEMP, outline HMP, outline PMP and the PLHRA. For offsetting (compensation) and enhancement, the key information is usually presented in outline HMP.

The Ecology chapter of the EIA report should pull together the relevant strands in order to provide a clear explanation of how the mitigation hierarchy has been followed for peatlands, and how significant biodiversity enhancement is demonstrated.

NatureScot Action

NatureScot will use the site-specific assessment surveys and supporting documents to carry out our appraisal of the impacts of a proposal. This will include assessing whether the iterative design process has been in accordance with the mitigation hierarchy, if standing advice has been followed, and if any impacts raise issues of national interest on priority peatland habitat. Further advice on the information we require to carry out our appraisal is provided in Annex 2.

Defining Carbon-Rich Soil and Priority Peatland Habitat

Carbon-rich Soils

Carbon-rich soils are peat soils and peaty soils. Peat soils in Scotland are defined as soil with a surface peat layer with more than 60% organic matter and of at least 50cm thickness. Peaty soils have a shallower peat layer (<50cm) at the surface. Peat is found in naturally cold, highly acidic and waterlogged environments, which provide ideal conditions for a slow transformation of peatland vegetation into peat material - a form of soil organic matter stable over long period of time if undisturbed.

Carbon-rich soils are the main reservoir of terrestrial organic carbon in Scotland and when degraded are a significant contributor to Scotland's annual CO_2e emissions. Scotland's soils are an important carbon store containing more than 3,000 Megatonnes (Mt), for context this is more than half the UK's soil carbon store and 60 times more than Scotland's vegetation, it is mostly held as organic carbon in peat and peaty soils.

Priority Peatland habitat

Peatlands are areas of land containing peat which support a variety of habitats. Peatlands in Scotland are dominated by blanket bog and montane bog (blanket bog above 600m) with some upland flushes, fens and swamps, with raised bogs and fens in the lowlands. Upland peatlands' main source of water and nutrients is from rain and snow. Blanket bog (including montane bog) is identified as a priority habitat in the UK BAP, Scottish Biodiversity List and Annex 1 of the 'Habitats Directive'.

Peatlands are known to be important for biodiversity and their ability to sequester carbon which slowly accumulates below ground in carbon-rich soils. We know that climate change is likely to threaten peatlands but they can also help alleviate some of the downstream effects by storing water, and reducing peak flows. Peatlands regulate natural processes and are the largest reservoir of long-term accumulated atmospheric carbon.

Peatland can contain a variety of vegetation types, they mainly consist of mixtures of *Calluna vulgaris*, *Eriophorum vaginatum*, *E. angustifolium* and *Sphagnum* species. Priority peatland is peatland that corresponds to the below habitat communities and shows evidence of being undisturbed and actively forming peat. The main peatland National Vegetation Classification (NVC) communities are listed below, split by what our likely advice in relation to them is:

Priority peatland communities that should be completely avoided

- **M1 *Sphagnum denticulatum***, **M2 *Sphagnum fallax/S. cuspidatum*** and **M3 *Eriophorum angustifolium*** bog pools occupy waterlogged depressions, shallow pools and erosion channels on bogs.

Priority peatland communities where impacts have the potential to raise issues of national interest

- **M17 *Trichophorum-Eriophorum*** and **M18 *Erica-Sphagnum*** are communities of wetter peat and have species such as *Molinia caerulea*, *Trichophorum cespitosum*, *Myrica gale* and *Erica tetralix*. The most characteristic Sphagna are *S. papillosum* and *S. capillifolium*, and, in M18, *S. magellanicum*. Species such as *Drosera rotundifolia*, *Dactylorhiza maculata*, *Narthecium ossifragum* and *Potentilla erecta* are common in the wetter M17 and M18 bogs.
- **M19 *Calluna-Eriophorum*** occurs on drier substrates and has more *Vaccinium myrtillus*, *V. vitis-idaea*, *Empetrum nigrum* and *Sphagnum capillifolium*. M19 has a darker, tussocky sward and is the more common type of bog at moderate to high altitudes. Species commonly occurring in this community include *Rubus chamaemorus* and *Melampyrum pratense*.

Priority peatland communities that are unlikely to raise issues of national interest

- **M20 *Eriophorum vaginatum*** is a degraded form of M19 where the heather and most of the Sphagna have been eliminated by heavy grazing, repeated burning and/or atmospheric pollution.
- **M15 *Trichophorum-Erica***, **M16 *Erica-Sphagnum*** and **M25 *Molinia-Potentilla*** are classed as blanket bog when they are on deep peat, as they are almost always a replacement for the original bog vegetation following unfavourable management such as burning on too short a rotation followed by heavy grazing.

Impacts on these communities are unlikely to raise issues of national interest but should still follow the mitigation hierarchy. They could also be important candidates, as well other peatland communities, for measures to offset impacts from development and areas where enhancement measures could be located.

Montane bogs – priority peatland which should be avoided

These are blanket bogs which occur at altitudes above 600m, they are particularly sensitive to damage and are incredibly difficult to restore. NVC communities that are especially impo in this habitat include (detail above):

- M2 – bog pools which are most common on unmodified peatlands.
- M7 – near natural montane flush vegetation.
- M17 – a globally rare habitat therefore an important habitat
- M19 – internationally important habitat and resemble wet tundra vegetation.

The Carbon and Peatland 2016 map

Is a useful guide to screen where areas of peatland are likely to occur, but should not be regarded as definitive. Class 1 and 2 are solely, or are dominated by, land with peat soil and peatland priority habitats. Class 5 is peat soil >50cm but currently without peatland habitats. Class 3 is peaty soil with some/mostly peat forming vegetation. Developments on peat will always require a recent peat and vegetation survey to confirm the quality and distribution of peatland across the whole development area. The Carbon and Peatland 2016 map should be used as a tool for identifying likely locations where these surveys will be required.

Assessing the Impacts of Development on Peatland, Carbon-Rich Soil and Priority Peatland Habitats

Peatland, carbon-rich soils and priority peatland habitats will be affected differently dependant on a number of factors, this includes the type and quality of the habitat, development type, and the ability to recover from impacts. As such when assessing a development proposal the sensitivity and impact should be considered and will inform our position on the case.

Impacts on peatland

Developments may have 'direct' or 'indirect' impacts on peatland. The assessment should include all likely direct and indirect, permanent and temporary impacts. For example:

- The infrastructure within the construction/extraction footprint.
- Other areas intended for storage, re-use of soils and extracted materials.
- Areas for habitat restoration, offsetting and enhancement within and outside the "red-line" boundary.
- Detail as to how the indirect impacts have been assessed and defined including the buffer width. For example, the Peatland Code considers peatland within 30m of an artificial or natural drain (e.g. from a hagg or gully) as drained, therefore the impact would be the drain plus, a minimum of 30m either side. It should be noted that topography, drain size and depth, and the presence of other drainage factors can have an influence on the impact.

Direct impacts

These comprise a **loss of resource**, i.e. peatland habitat from the development 'footprint' and habitat lost or damaged during construction and operation e.g. due to excavation, covering the area in concrete, inundation from impoundment from hydropower storage and storage of topsoil/peat on habitat.

Indirect impacts

These comprise the **loss of function**, and may arise from either temporary or permanent changes in drainage patterns and the quality or quantity of surface and ground water. Peatland habitats are complex hydrological systems, vulnerable to activities occurring beyond the boundaries of individual habitat patches. Examples of indirect impacts include:

- Down-slope droughting or up-slope flooding of peat-based habitat.
- The pollution of wetland habitat through accidental spillage of vehicular fuels and oils, and release of sediments from the deterioration of track surfaces during their usage.
- Reduced stability of peat-based habitat on steep slopes, which in turn may have further impacts on habitat and species should a peat slide event occur.

We assess direct or indirect impacts in the same way, as both result in the loss of peatland.

Sensitivity of the habitat

Some peatland habitats are more sensitive to impacts than others. Raised bogs and montane bogs as well as bog pools have a particularly high sensitivity and so we advise that they should be entirely avoided. This is because any impacts on these habitats are likely to raise issues of national interest which are unlikely to be overcome by offsetting. Other priority peatlands also have a high sensitivity and could raise issues of national interest, the design of a proposal and application of the mitigation hierarchy should detail how these areas have been considered.

Determining when effects are significant

NatureScot Action

Consideration of significance of an effect must take into account the sensitivity and value of the habitat and the magnitude of the impact (both direct and indirect and permanent and temporary). Priority peatland is a sensitive and valued habitat type. Raised bogs and montane bogs are particularly sensitive and so any impacts on these habitat types are very likely to result in significant effects. In addition, if in the PLHRA there is identification of areas of medium or high risk potential then this could have significant impacts on the peat soil and priority pe[illegible]d. The information provided should be reviewed to ensure that the effects have been accu[illegible] identified.

Identifying When Impacts May Raise Issues of National Interest

NatureScot Action

This section outlines the framework that NatureScot will use to consider whether the impact of development on carbon-rich soil and priority peatland habitats may raise issues of national interest, and potentially warrant an objection.

Assessing national interest

To help assess when a proposal could have a significant effect that NatureScot will consider as raising issues of national interest, we have developed an assessment framework based on guidelines for the selection of SSSI for bogs (see **Annex 1** and Template). Our main focus is on priority peatland habitat which is dependent on the supporting carbon-rich soils.

At the scoping stage we should request that the Template is completed by the applicant/developer. We should also request that if the development infrastructure (including a 250m buffer) meets the criteria in the template, an additional map is provided showing these locations (e.g. *Sphagnum* species) in relation to the development. If available, shape files showing the location of infrastructure, NVC communities and peat depths should also be supplied to us to aid our assessment.

The framework is a tool to assess the quality and therefore the sensitivity of a peatland affected by a proposal. It should be noted that the peatland does not need to meet all the criteria to be considered of a quality and sensitivity sufficient for impacts to raise issues of national interest. The combination of responses to these criteria will inform this assessment. The framework will also be used by NatureScot specialist advisers to consider if mitigation is sufficient to overcome the impacts, further detail of this is in the mitigation section below.

When to seek specialist advice

The framework in **Annex 1** must have been completed in the submitted information from the applicant. If following review or completion of the framework it is suspected that there are significant effects which potentially raise issues of national interest, the case officer should seek specialist advice from the Habitats Group (Natural Resource Management) for upland peatlands, the Freshwater and Wetlands Group (Biodiversity and Geodiversity) for lowland raised bogs, or the Geodiversity Group (Biodiversity and Geodiversity) for peat soil and peat geomorphology.

The specialist adviser will determine if there are issues of national interest, decide whether a site visit is required and if impacts can be substantially overcome by mitigation. To complete this assessment, information collated from the proposal's Environmental Impact Assessment Report (mainly in the Ecology chapter and the Geology and Hydrogeology chapter, together with supporting Appendices) complemented by internal information (e.g. geo.View, aerial photography and other relevant data) and additional field observations will be required.

The relevant Head of Operations should be made aware that the case may be one where a NatureScot objection may need to be considered.

Determining when possible or likely national interest is national interest

When reviewing documentation included in proposals alongside the Annex 1 Template, many of the above criteria (impacts and habitats present) can be determined. However there can be gaps in this information (e.g. where there is uncertainty over the condition or species present), it may therefore be difficult for the case officer to form an initial view on the significance of the impacts of the development. In this situation, the specialist adviser should be contacted, and they will also be able to advise as to whether a site visit is required to determine our position. In carrying out a site visit, the Template (Annex 1) can be checked by the specialist adviser. This will confirm the condition of the peatland, as well as allowing consideration of any habitat management plans including restoration areas. Information obtained from the application documentation and the site visit (if carried out) will form the basis of determining our decision on whether the impacts of the proposal raise issues of national interest and our position (in accordance with our National Interest and Balancing Duty guidance).

If, following specialist advice, it is confirmed that the habitat is priority peatland which is actively forming peat with indicator species and features of near natural condition, and taking into account the impacts and the mitigation hierarchy, that there are likely to be adverse impacts on that habitat, then our conclusion is likely to be that the proposal raises issues of national interest. There may also be some cases where not all criteria in the Template are met, but due, for example to the magnitude of the effects, we may conclude that the proposal raises issues of national interest.

Mitigation Measures

NatureScot Action

The extent to which we provide advice on mitigation measures set out in management plans depends on the significance of effects and the type of consultation.

- For planning applications where **impacts raise issues of national interest** (or come close to raising issues of national interest) we should provide site specific advice on the mitigation hierarchy.
- For planning applications where **impacts don't raise issues of national interest** (or don't come close to this level) we should not provide advice on the mitigation hierarchy.
- For **consultations under section 36 or 37 of the Electricity Act** we should provide advice on whether the mitigation hierarchy has been followed and, following our assessment of the impacts on priority peatland habitats, whether impacts have been sufficiently offset, whether or not they raise issues of national interest.

Further advice on how we engage with Electricity Act cases, as opposed to Planning Act cases, can be found at Section 2.2 of the Development Management and the Natural Heritage guidance.

The proposed mitigation measures should be reviewed to determine whether they are sufficient to compensate for the loss of the resource. In addition there should be identification of enhancement measures in the Habitat Management Plan (HMP). Further detail can be found below.

The HMP, or outline HMP, should be sufficiently detailed and should identify restoration areas for offsetting and enhancement, using site survey data to demonstrate the areas are appropriate and are likely to result in the outcomes proposed. Our current recommendation is that restoration to achieve offsetting (i.e. compensation rather than biodiversity enhancement) would be in the order of 1:10 (lost:restored), i.e. 1ha loss of peatland should result in measures to restore 10ha of peatland, **using the same buffer to assess loss and restored areas** (e.g. 30m). The basis of this recommendation is:

- Peatland is an important habitat type, supports biodiversity, and is a key carbon store, especially in a climate and nature crises.
- Peatland cannot be created in areas where it doesn't already exist. Peatlands only exist in limited situations where the physical (climatic, topographic, hydrology) and chemical (pH and low nutrient availability) conditions allow. In addition peat soils accumulate at a rate of approximately 1mm per year, as such take a long time to recover.
- Degraded peatland can still be capable of storing carbon and supporting rare species. If the condition is assessed as being degraded, restoration to improve condition and functioning is recommended.
- Peatland restoration can improve the condition and function of an existing peatland, but crucially it does not increase the extent of peatland. As such, restoration of an area of peatland to offset that which is lost, needs to be greater to that which is lost. It is also important that areas of restoration will restore equivalent habitat to that which will be lost as a result of the development, to ensure that it does not equate to the overall loss of a peatland.
- Improving habitat and hydrological condition and function is a long-term objective as it can take many years to achieve. It is also not possible to guarantee successful restora' n when following best practice.

We advise that applications proposing less than 1:10 restoration should clearly address the factors noted above as part of their reasoning.

In addition, NPF4 Policy 3 introduced a new requirement that proposals for national or major development, or for EIA development, need to demonstrate that significant biodiversity enhancements are provided, in addition to any proposed mitigation. Typical measures include:

- tree and scrub removal
- raising the water level and revegetating bare peat by blocking drains/installing dams/re-profiling peat haggs/peat pan restoration. This should be considered in accordance with the Peatland ACTION - technical compendium;

Measure which are beneficial but which should not be included in calculating the area of restoration are:

- If carried out, the cessation of burning/peat cutting. The Muirburn Code states that burning on peatland should not be carried out, and there should be compliance with GAEC 6 .
- Proposals to only manage/reduce grazing and browsing levels or other impacts on peatland is not considered as offsetting. Damage caused by overgrazing and trampling by livestock and wild deer numbers should be managed through GAEC 5 and Code of Practice on Deer Management. However including this land management measure in combination with restoration would be advisable.

HMPs should follow our guidance on what to consider and include in Habitat Management Plans . It is important that the HMP (or outline HMP) submitted at the application stage is sufficiently detailed to demonstrate that proposals for restoration will be effective, and that significant biodiversity enhancements are provided.

For peatland restoration, detail similar to a Peatland ACTION application should be supplied. This should including detail of the current condition and management of habitats proposed for restoration (to achieve offsetting and enhancement) as well as detail on what the aim of mitigation and enhancement is and how this will be achieved (e.g. peatland condition, past and future grazing levels, identification of ditches to be blocked, methods of restoration, restoration footprint) and any monitoring proposed. Proposals should be informed by best practice advice, including our website guidance on peatland restoration techniques.

Restoration techniques for soil and peatland habitats

It should be noted that a proposal for the re-use of peat on-site as a backfill material is not an effective mitigation or enhancement practice of carbon-rich soil and functional peatland. The reinstatement of general earthworks and excavated areas with layer of re-used peat, even if respecting the structure of acrotelm/catotelm, is not by itself sufficient to achieve functional peatland habitats or protect from further degradation to soil carbon stocks, as such it cannot be considered as offsetting or enhancement. Additional factors, for example related to hydrological properties, connectivity with adjacent peatland system, nature of remaining substrate will need to be considered in devising an effect Peat Management Plan.

The Peatland ACTION - technical compendium principles for use of peat dams make it clear that this technique is only appropriate under narrow set of circumstances related to size, slope and nature of drains and may require additional practices like drain reprofiling. Evidence is required on the type and nature of drain to demonstrate that the proposal is a viable option for the site.

As noted above, our website provides guidance and best practice advice on peatland restoration techniques.

Enhancement

A significant level of enhancement is required in relation to developments considered under NPF4. This enhancement is in addition to work being carried out under the mitigation hierarchy. The end result should be that there are additional benefits to the biodiversity of the habitats and species which are being impacted by the development. **For priority peatland habitats, this would mean that additional restoration measures beyond those required to achieve the 1:10 offsetting ratio (lost:restored) are required for enhancement. We would expect this to be in the region of an additional 10% of the baseline assessment of the extent of priority peatland habitat.**

The Scottish Government is currently exploring options for developing a biodiversity metric or other tool, specifically for use in Scotland. Our guidance will be updated once such a metric/tool becomes available.

We should only provide detailed advice on priority peatland enhancement measures in those cases where impacts on priority peatland habitats raise issues of national interest (or come close to raising issues of national interest).

Working with SEPA

Where there is a joint interest with other agencies, our advice to customers should be complementary. Our approach should involve:

- Identifying areas of potential overlap and associated risk as early as possible.
- Discussing these with each other to help coordinate our respective responses.
- In exceptional circumstances, where an aligned position cannot be agreed, escalating the matter through the appropriate channels of each Agency as quickly as possible.

Guidance

TITLE	DESCRIPTION
Scottish Executive (2017) Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments. (Second edition)	Describes peat failure mechanisms and outlines the requirements for peat stability assessment. Aims to provide guidance on the best methods for identifying, mitigating and managing peat slide hazards and their associated risks.
JNCC (2010) Handbook for Phase 1 Habitat Survey: a technique for environmental audit	Presents a standardised system for planning and undertaking habitat surveys and classifying and mapping wildlife habitat.
The Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland (version 1.2) .	Provides guidance for the ecological impact assessment (EcIA) of all types of development in terrestrial, coastal and freshwater environments. Sets out widely accepted good practice for each stage of the EcIA.
Guidance On The Assessment Of Peat Volumes, Reuse Of Excavated Peat And The Minimisation Of Waste	This document is aimed at businesses engaged in activities that involve developments on peat. It applies to all forms of development on peat, although the examples used are taken from wind farms.

TITLE	DESCRIPTION
Guidance on Developments on peatland: Peatland survey (2017)	This guidance provides key principles for surveying peatland for a wide range of applications such as: ▪ Peat landslide risk assessments ▪ Carbon savings calculations ▪ Waste minimisation & management plans ▪ Site design and layout ▪ Drainage planning and hydrological assessment ▪ Post-construction habitat management/site restoration
NBN atlas BBS Field Guide online pages	This provides further information on the key species identified in Annex 2. *Sphagnum austinii* - NBN - BBS *Sphagnum fuscum* - NBN - BSS *Betula nana* - dwarf birch - NBN *Rhynchospora fusca* - brown beak-sedge - NBN
National Planning framework 4 (NPF4)	Describes the policies under which a development must comply.
The Peatland Code	Details the voluntary certification standard for UK peatland projects wishing to market the climate benefits of peatland restoration and provides assurances to voluntary carbon market buyers that the climate benefits being sold are real, quantifiable, additional and permanent.
Carbon and Peatland Map 2016	Shows the distribution of carbon and peatland classes across the whole of Scotland.
Scottish Forestry's Control of woodland removal policy	Detail on legislation around controlling tree and scrub encroachment.

TITLE	DESCRIPTION
Peatland ACTION technical compendium	Detail on what measures can be used where and how.
Habitats Regulations Appraisal	Detail on carrying out an assessment of impacts on European sites (i.e. SAC's and SPA's)

Annexes

Annex 1 - NatureScot Framework and Template

Case Officers should complete the assessment set out in this Annex to determine whether seeking specialist advice is required. Please use the template in the document download section.

Assessment criteria for all elements of the development mentioned in the EIA report.

1. Raised Bog supporting 'typical' bog vegetation.

Yes: Likely National Interest

2. Montane Bog supporting 'typical' bog vegetation or characteristics (see C&D below).

Yes: Likely National Interest

3. Blanket Bog – (based on quality criteria used in identifying potential SSSI).

3a. Is the proposed development within a continuous unit of blanket bog >25ha?

Yes: Go to B

No: Advise on compliance with the mitigation hierarchy and on mitigation measures for Electricity Act cases. Provide 'no comment' response for Planning Act cases.

3b. Does the proposed development footprint and/or the wider area of blanket bog of which it is a part, support vegetation capable of forming peat?

Yes: Go to C

No: Advise on compliance with the mitigation hierarchy and on mitigation measures for Electricity Act cases. Provide 'no comment' response for Planning Act cases.

3c. Does the proposed development footprint (with a buffer of 250m) support two or mo e following?

- Low frequency of drains and peat cutting
- Presence of plant species indicating peat formation capability and/or lack of disturbance
- An area of natural surface pattern
- Absence of invasion by woodland or scrub

Yes: Possible National Interest - consult adviser

No: Go to D

3d. Does the proposed development footprint (with a buffer of 250m) support one or more of the following?

- An abundance of *Sphagnum*-rich ridges
- Ridges of *Sphagnum* - *Betula nana*
- Hummocks of *S. fuscum* or S. *austinii*
- Peat mounds
- Hollows of *Sphagnum* or bare peat - *Rhynchospora fusca*

Yes: Possible National Interest - consult adviser

No: Advise on mitigation measures

Likely national interest *– These habitats are particularly sensitive to any impacts, and restoration is difficult to achieve so it is expected that there will be impacts on peatland of national interest.*

Possible national interest *– It is possible that there will be an impact to peatland of national interest, specialist advice is required and potentially a site visit.*

Template for the assessment of National interest priority peatland on proposed development sites

Please use this assessment sheet in conjunction with: Advising on peatland, carbon-rich soils and priority peatland habitats in development management.

Annex 2 - what we need to see in an EIAR to be able to

assess whether impacts raise issues of national interest

Site specific assessment - information requirement

NPF4 Policy 5d states that where development on peatland, carbon-rich soils or priority peatland habitats is proposed, a detailed site specific assessment is required. NatureScot will expect that in accordance with this guidance and following other requirements under HRA and EIA regulations, information on extent and condition of carbon-rich soils and peatland habitats should be provided for the whole site proposed within the development 'red line' boundary and should include:

- **Peat depth survey**, this should be an overview of the whole site with a more specific survey where the infrastructure is proposed.
- **Habitat survey & report (NVC)** and interpretation of condition of peatland systems including information on erosion features as well as detail on the presence of topographical factors and species considered in Annex 1 of this guidance.
- **Habitat Management Plan (HMP)**, or outline HMP, should contain enough detail to demonstrate that proposals for peatland restoration are likely to be effective. We advise the provision of information similar to that required for a Peatland Action application. For example, clear mapping of the condition of the peatland habitats (whether Near-Natural, Modified, Drained and Actively Eroding), identification of site-based restoration features (hags, gullies, peat dams etc), identification of a 'restoration footprint' around these features, based on identification of ditches to be blocked for example. The outline HMP should include information on past and current management, and proposals for future management including explanation of how grazing/browsing will be appropriately managed. It should describe the proposed restoration methods informed by best practice advice, including our website guidance on peatland restoration techniques, and particularly our technical compendium.
- **Peat Management Plan (PMP)**, or outline PMP, should include detail on the extent of peat within the proposal, impacts and mitigation adopted to reduce impacts to peat soil and other carbon-rich soils. A table detailing the infrastructure and associated average peat depths, estimated volumes excavated and re-used should be detailed, as defined by SEPA to demonstrate the impacts on peat. The plan should also include detail on the temporary storage of peat soils, the habitat type and condition of the area on which they will be stored, as well as a consideration of the degradation of the quality of the material stored over time, with steps taken to ensure the peat remains in a reusable condition. Detail on the reuse of peat should indicate whether this will be in reinstatement, restoration, on-site offsetting, off-site offsetting or enhancement. Reuse of peat off-site in the offsetting plan will require consultation with SEPA.

- **Peat Landslide Hazard Risk Assessment (PLHRA)**. This will contain detail on the quality and stability of carbon-rich soils, and information on extent and condition of drainage features.
- **Construction Environmental Management Plan (CEMP)**, or outline CEMP. This document should include detail on the design of the proposal, including any mitigation already applied to the project. Detail on the construction of the development as well as any safeguarding and reinstatement measures which will be adopted.

Documentation which can help with the understanding of the development can be found in the following sections: Non-technical summary, Ecology, and Geology and Hydrogeology.

What area to consider

We advise that habitat surveys should cover the entire development site. This will help inform redesign or micro-siting where necessary, and will also help identify potential areas for habitat restoration, offsetting and enhancement. The habitat assessment needs to encompass all areas affected by the development, including for example areas indirectly affected by hydrological changes.

There can be a split in detail that is submitted across the development boundary, for example the peat depth survey should cover the whole of the development boundary at a low resolution, with greater resolution at locations where the infrastructure is proposed.

Document downloads

Site visit template for the assessment of peatland on proposed development sites xlsx,

Last updated:05/02/2024