

## Appendix 7.1 Extended Phase 1 Habitat Survey



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# **ORKNEY NORTH**

## EXTENDED PHASE 1 HABITAT SURVEY

## INFINERGY LTD





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## **Executive Summary**

Contents	Summary			
Site Location	The site is located to the North of Orkney Mainland, approximately 24 km to the north east of Stromness and is centred on Ordnance Survey (OS) grid reference (HY 30437 27082).			
Proposals	To develop a wind farm, comprising of four turbines and associated tracks and infrastructure. The full design of the development is not currently available.			
Survey Scope	<ul> <li>The objectives of the report are to carry out:</li> <li>A desk study, to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the site and its zone of influence;</li> <li>An Extended Phase 1 Habitat Survey of the site to map and record habitat types and dominant vegetation, including any invasive species, and an assessment for evidence of protected fauna or habitats capable of supporting such species;</li> <li>An assessment of the potential ecological features present, any constraints they pose to development of the site and any recommendations for further surveys, avoidance, mitigation, compensation or enhancement measures that are needed (as appropriate).</li> </ul>			
Results	<ul> <li>Designated Sites: Six designated sites were recorded within 5 km of the site boundary; Orkney Mainland Moors SPA, Loch of Ibister SAC, West Mainland Moorlands SSSI, Glims Moss &amp; Durka Dale SSSI, Loch of Banks SSSI and Eynhallow SSSI.</li> <li>Habitats: Blanket bog, wet heath, wet heath/acidic grassland mosaic, improved grassland, marshy grassland, quarry and running water were all recorded within the site.</li> <li>Protected and/or notable species: Suitable habitats to support invertebrates, otter and Orkney vole were recorded on site. The site is considered low potential to support foraging and commuting bats, with no potential for roosting bats recorded. Suitable habitats to support fish were recorded adjacent to the site.</li> </ul>			
Recommendations	<ul> <li>support fish were recorded adjacent to the site.</li> <li>Designated Sites: Further design details are required to assess the impact of the proposals on West Mainland Moorlands SSSI.</li> <li>Habitats: Development should be designed to avoid the high value habitats (blanket bog &amp; wet heath) and likely peat deposits. If these habitats cannot be avoided, a full peat assessment (peat depth and condition) and National Vegetation Classification (NVC) mapping should be completed to assess the potential impact of the development on these habitats. The development should be constructed under a CEMP to protect Loch of Swannay and any retained habitats</li> <li>Otter: Maintain a minimum of 50 m buffer between construction activities and the edge of Loch of Swannay to prevent disturbance to foraging/commuting otter.</li> <li>Orkney Vole: A minimum of 10 m buffer should be maintained from the drainage channels to prevent disturbance to vole population.</li> <li>General Mitigation: Toolbox Talks to cover otter and voles; covering open excavations or open-ended pipes to prevent accidental ingress of animals; lighting used during construction or permanent lighting should be directional and avoid lighting the shore of Loch of Swannay or drainage channels to prevent disturbance to nocturnal foraging animals.</li> </ul>			

## **1** Introduction

### 1.1 Introduction

Nevis Environmental Ltd (Nevis) was commissioned by Infinergy in September 2021, to carry out an Extended Phase 1 Habitat Survey of the site known as Orkney North, hereafter referred to as 'the site'.

This report has been prepared by Nevis Senior Ecologist, Karen Aldridge, MCIEEM.

## **1.2** Site Location

The site is located to the North of Orkney Mainland, approximately 24 km to the north east of Stromness and is centred on Ordnance Survey (OS) grid reference (HY 30437 27082). The site boundary is shown on Figure 1 and comprises agricultural grasslandland, wet heath and blanket bog used to rear livestock, mainly cattle. In the centre of the site is a single existing wind turbine. Loch of Swannay borders the site to the east, and the wider landscape comprises of similar habitats with scattered residential properties.

## **1.3 Development Proposals**

It is proposed to construct a small wind farm, comprising of four wind turbines and associated infrastructure. The full design, including turbine heights, is not yet available.

#### 1.4 Purpose of the Report

The objectives of the report are to carry out:

- A desk study, to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the site and its zone of influence;
- An Extended Phase 1 Habitat Survey of the site to map and record habitat types and dominant vegetation, including any invasive non-native species (INNS), and an assessment for evidence of protected fauna or habitats capable of supporting such species;
- An assessment of the potential ecological features present, any constraints they pose to development of the site and any recommendations for further surveys, avoidance, mitigation, compensation or enhancement measures that are needed (as appropriate).

## 2 Methods

## 2.1 Desk Study

### 2.1.1 Previous Reports

The Orkney Islands Council website was used to search for submitted planning applications in the vicinity of the site, to determine whether previous ecological studies have been carried out locally.

## 2.1.2 Online Resources

The following web-based databases were also accessed:

- V NatureScot SiteLink for information on statutory designated sites within 5 km of the site.
- Department for Environment Food and Rural Affairs (DEFRA) MAGIC, for information on statutory designated sites and Habitats of Principal Importance (HPI) within 5 km of the site.
- National Biodiversity Network (NBN) Atlas for details of protected and notable species within 2 km of the site.

#### 2.2 Field Survey

The Extended Phase 1 Habitat Survey was undertaken on the site on 23<sup>rd</sup> September 2021 by Nevis Senior Ecologist, Karen Aldridge, MCIEEM. The weather conditions were clear with an air temperature of around 17°C, moderate and persistent wind and no precipitation.

The following methodologies were used to inform the assessment of habitat types and protected and notable species during the Extended Phase 1 Habitat Survey.

## 2.2.1 Habitats and Flora

The broad habitat types within the site were mapped in accordance with the categories specified in the *Handbook for Phase 1 Habitat Survey* (Joint Nature Conservancy Committee, 2016). Dominant plant species were recorded for each habitat present using nomenclature according to the 4<sup>th</sup> edition of New Flora of the British Isles (Stace, 2019). The site was also appraised for its potential to support notable flora.

## 2.2.2 Invasive Plant Species

The site was searched for invasive plant species, primarily those included on Schedule 9 Wildlife and Countryside Act 1981 (as amended), such as Japanese knotweed *Reynoutria japonica*, Himalayan balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum*, wall cotoneaster *Cotoneaster horizontalis* and rhododendron *Rhodendron ponticum*.

## 2.2.3 Protected and Notable Species

Using the information from the desk study, the site was assessed for the possible presence of, and the likely importance of its habitats for, protected or notable species, especially those listed under the Schedule 2 of the Habitats Regulations 1994, Schedule 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland), those

given extra protection under The Nature Conservation (Scotland) Act 2004, those listed on the Scottish Biodiversity List (SBL) and species included in The Orkney Local Biodiversity Action Plan (LBAP).

#### **Bats**

#### **Roosting Bats**

Buildings, structures and trees on site were assessed from the ground for their suitability to support breeding, resting and hibernating bats, with reference to the methods outlined in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed, 2016)* (Collins, 2016); hereafter referred to as the 'BCT Guidelines'. The following system has therefore been used to categorise the bat roost suitability of any features found:

#### **Table 1 Bat Roost Suitability Categories**

Suitability	Description of Potential Roosting Habitats			
Negligible	Negligible habitat features on site likely to be used by roosting bats.			
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.			
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).			
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis & potentially for longer periods of time due to their size, shelter, protection, conditions & surrounding habitat.			

#### Foraging/commuting bats

In accordance with the BCT Guidelines, the following criteria have been used to categorise the potential value of site habitats and features for use by foraging and commuting bats (Table 2)

Suitability	Description of Potential Foraging Habitats	
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.	
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.	
	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.	
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	
	Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.	

#### **Table 2 Bat Foraging Habitat Categories**

High	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.
	High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.
	Site is close to and connected to known roosts.

#### Otter

The site was surveyed for its suitability for otter, based on guidance outlined in *Monitoring the otter* (Chanin, 2003).

#### **Other Species**

The site was also appraised for its suitability to support other protected or notable fauna including mammals, amphibians, and invertebrates with regard to CIEEM's Guidelines for Preliminary Ecological Appraisal (Chartered Institute for Ecology and Environmental Management, 2017) and BS42020:2013 Biodiversity – Code of Practice for Planning and Development. Evidence of any current or historical presence of such species was recorded.

#### **Species Scoped out**

Species which are not known to occur on the Orkney Isles were scoped out of the field survey, such as badger *Meles meles*, terrestrial reptiles, great crested newt *Triturus cristatus* and water vole *Arvicola amphibius*.

Breeding and winter/migratory bird species will be assessed in a separate ornithology report.

#### 2.3 Limitations

The optimal period to undertake an Extended Phase 1 Habitat Survey is April-September. The survey was completed in September which is inside the optimal survey window. It is therefore considered that there were no seasonal constraints to the survey.

To determine presence or likely absence of notable flora and protected species usually requires multiple visits at suitable times of the year. This survey focuses on assessing the <u>potential of the site</u> to support such ecological features, particularly those given protection under European or UK wildlife legislation or which are considered to be of principal importance for the conservation of biodiversity. Where there are significant limitations to the assessment in respect of any ecological features then further ecological survey work is recommended.

The details of this report are considered to valid for a period of two years from the date of the survey. After two years, the assessment should be reviewed to determine whether any further updates are necessary. The recommendations within this report should also be reviewed (and reassessed if necessary) should there be any changes to the development proposals available at the time of writing.

## **3** Baseline Conditions

All relevant ecological data provided by the consultees was reviewed and the results from these investigations are summarised below. The original desk study data is available upon request. A summary of planning policy and legislation relating to the species highlighted by the desk study and field survey is presented in Appendix 1.

#### 3.1 Desk Study

#### **3.1.1 Previous Reports**

There are no current applications for any wind farms within 5 km of the site with only several small developments (residential) noted within the buffer and these applications have not been subject to any ecological surveys.

#### 3.1.2 Designated Sites

One Special Protection Area (SPA), one Special Area of Conservation and five Sites of Special Scientific Interest (SSSI) are present within 5 km of the site (Table 3, Figure 1).

Site Name and Designation	Proximity and Direction to the Site	Designated Features	
Orkney Mainland Moors SPA	0 km – adjacent to southern boundary of site.	<ul> <li>Orkney Mainland Moors SPA is designated for supporting populations of European importance of the Annex 1 Species of:</li> <li>✓ Hen Harrier <i>Circus cyaneus</i></li> <li>✓ Red-Throated Diver <i>Gavia stellata</i></li> <li>✓ Short-eared owl <i>Asio flammeus</i>.</li> </ul>	
West Mainland Moorlands SSSI	0 km – adjacent to southern boundary of site.	<ul> <li>West Mainland Moorlands SSSI is designated for:</li> <li>Blanket bog</li> <li>Breeding bird assemblages including hen harrier, red throated diver and short eared owl.</li> </ul>	
Glims Moss and Durka Dale SSSI	1.5 km south of site boundary.	Glims Moss and Durka Dale SSSI is designated for: ✓ Mire habitats ✓ Valley fen habitats ✓ Raised bog	
Loch of Banks SSSI	3.9 km south west of site boundary	Loch of Banks SSSI is designated for:♥Basin fen habitats♥Breeding bird assemblages♥Hen harrier (non-breeding)	
Loch of Isbister Special SAC	4.6 km south west of site boundary.	<ul> <li>The qualifying features for Loch of Isbister SAC are:</li> <li>✓ Otter Lutra lutra</li> <li>✓ Eutrophic lakes</li> <li>✓ Transition mires and quaking bogs.</li> </ul>	

#### Table 3: Designated Sites within 5km of the site

Site Name and Designation	Proximity and Direction to the Site	Designated Features	
Loch of Isbister and the Loons SSSI	4.6 km south west of site boundary	<ul> <li>Loch of Isbister and the Loons is designated for:</li> <li>✓ Basin fen</li> <li>✓ Breeding bird assemblages</li> <li>✓ Breeding pintail Anas acuta</li> </ul>	
Eynhallow SSSI	4.7 km north east of site boundary	Eynhallow SSSI is designated for: V Common seal <i>Phoca vitulina</i> – important haul out site.	

#### 3.1.3 Local Records

records of protected and notable species returned by NBN Atlas for a 2 km radius of the site are presented in Table 4.

#### Table 4: NBN Atlas results within 2 km of site

Species	No. of Records	Most Recent Record	Proximity to Site	Species of Principal Importance (SBL Species)	Legislation/Conservation Status.
Great Yellow Bumblebee Bombus distinguendus	4	2015	Approximately 850 m east	√	
Otter	4	1991	> 1.5km west	✓	HabRegs2, WCA5
Brown Hare Lepus europaeus	3	1998	Approximately 1 km south	✓	WCA5A
Key: HabRegs2: Schedule 2 of The Conse	•		, , c	ons 1994 (as am	ended),

WAC5 - Schedule 5 of Wildlife and Countryside Act (1981)

WAC5A – Schedule 5A of Wildlife and Countryside Act (1981) – Close season protection.

Full legislation details can be found in Appendix 1.

#### 3.2 Field Survey

#### 3.2.1 Habitats

The results of the Phase 1 Habitat Survey are shown in Figure 2. The main habitats noted during the field survey included:

- Main Improved Grassland
- Marshy Grassland
- ✓ Wet dwarf shrub heath
- ✓ Wet heath/acidic grassland mosaic
- ✓ Blanket bog

#### V Quarry

#### **Improved Grassland**

The majority of the site is dominated by improved grassland used for grazing and supporting cattle. The fields are dominated by Yorkshire fog *Holcus lanatus* and perennial rye grass *Lolium perenne*, with the swards being very short due to grazing pressure.

#### **Marshy Grassland**

The marshy grassland in the south and west of the site are dominated by soft rush *Juncus effusus* with frequent *Carex nigra*, Yorkshire fog and devil's-bit scabious *Succisa pratensis* (Photo 1).

#### Wet Dwarf-shrub Heath

Hundland Hill is dominated by heather *Calluna vulgaris* with abundant patches of common cotton-grass *Eriophorum angustifolium* and cross-leaved heath *Erica tetralix* with frequent *Sphagnum tenellum*. Other species recorded this frequently included wavy hair grass *Deschampsia flexuosa*, tormentil *Potentilla erecta* and devil's-bit scabious.

#### Wet Heath / Acid Grassland Mosaic

The field to the east of the site, adjacent to Loch of Swannay, has been subject to modification as part of historical agricultural practices which has resulted in a mosaic of habitats. The habitat is dominated by heather, cross-leaved heath and wavy hair grass. Soft rush, creeping thistle and heath rush are recorded frequently with less frequent heath bedstraw *Galium saxatile*.

#### **Blanket Bog**

The wet heath/acid grassland transitions into blanket bog to the south east of the field (Photo 2) where the habitat is dominated by heather, cross-leaved heath and hare's-tail cotton-grass *Eriophorum vaginatum* with frequent *Sphagnum capillifolium* and *Sphagnum palustre*. Other species recorded less frequently include tormentil and common cotton-grass.

#### **Running Water**

Drainage ditches are present to the north east of the site, running east into Loch of Swannay. These drainage ditches are relatively steep sided and vegetated and were running clear at the time of the survey.

#### Quarry

A small stone quarry is present in the north east of the site (Photo 3). The quarry has been used to install and maintain the tracks throughout the site, including for the existing wind turbine.



Photo 1: Marshy grassland dominated by soft rush



Photo 2: Blanket bog dominated by hare's tail cotton-grass, heather and cross-leaved heath



Photo 3: Quarry - active

#### **3.2.2** Protected and Notable Species

#### **Plants**

No notable plant species, or invasive plant species were recorded during the field survey and no records were returned during the desk study.

#### Fungi

No notable records of fungi were returned during the desk study or recorded on site.

#### Invertebrates

Four records of great yellow bumblebee were returned during the desk study, approximately 850 east of the site boundary, on the opposite side of Loch of Swannay. No flower-rich meadows or machair were noted within the survey area, which are the habitats typical of supporting this SBL species of bumblebee.

#### Fish

No notable records of fish were returned during the desk study. No significant watercourses are recorded within the site boundary, however Loch of Swannay is present along the boundary to the east. SEPA Water Environment Hub<sup>1</sup> shows the loch has high suitability for fish migration and good water quality.

<sup>&</sup>lt;sup>1</sup> <u>https://www.sepa.org.uk/data-visualisation/water-environment-hub/</u> (accessed 22/09/2021)

#### **Bats**

#### **Roosting Bats**

No suitable buildings or trees offering potential for roosting bats were recorded within the site boundary.

#### Commuting and Foraging Bats

The on site habitats offer little in the way of linear features, which commuting bats are typically associated with, and therefore much of the habitat, although suitable for supporting prey species, is relatively open and exposed offering low suitability for foraging or commuting bats.

#### Otter

No signs of otter were recorded during the survey. Historical records (>10 years old) of otter were returned in the desk study; these were associated mainly with Loch of Hundland, approximately 1.5 km south west of the site. Loch of Swannay offers potential to support foraging otter, with the loch likely supporting a population of fish. No suitable holt sites were recorded within 200 m of the site, with the banks of the loch, mainly flat, along the site boundary (Photo 4).

#### **Other Notable Species**

#### Orkney Vole

No results were returned during the desk study, however four mammal burrows (Target Note 1) were noted along the banks of the drainage channel (Photo 5) in the north east of the site which were approximately 6 cm in diameter so large enough to potentially be burrows of Orkney vole *Microtus arvalis orcadensis*. No other field signs were noted around the burrow.



Photo 4: Shoreline of Loch of Swannay - flat with limited potential for otter holts.



Photo 5: Drainage channel with grassy banks and mammal holes present

## **3.3** Importance of Ecological Features

In accordance with the CIEEM Guidelines and based on the above baseline information, each ecological feature recorded within the study area is considered to have the following importance (Table 5)

Feature	Importance	Rationale	
Orkney Mainland Moors SPA	International value	Designated SPA for Annex 1 Species;	
		Hen harrier, red throated diver and short eared owl.	
Loch of Isbister SAC	International value	Designated SAC for otter, eutrophic lakes and mire habitats	
West Mainland Moorlands SSSI	National value	Designated SSSI for blanket bog and breeding hen harrier, red throated diver and short eared owl.	
Glims Moss and Durka Dale SSSI	National value	Designated SSSI for mire habitats, fen habitats and raised bog.	
Loch of Banks SSSI	National value	Designated SSSI for fen habitats, breeding birds and non- breeding hen harrier roosts.	
Loch of Isbister and the Loons SSSI	National value	Designated SSSI for fen habitats and breeding birds, including pintail.	
Eynhallow SSSI	National value	Designated SSSI, and an important haul out site for common seal.	
Improved grassland	Site value	The grassland lacks species diversity and is well grazed through the site, however it may offer the potential to support common invertebrates.	

#### Table 5: Importance of Ecological Features

Feature	Importance	Rationale	
Marshy Grassland	Site value	The grasslands offer damp habitats typically associated with common invertebrates and may be suitable to support a small population.	
Wet Heath	Local value	Annex 1 and SBL priority habitat and a consideration of principal importance for planning conditions.	
Wet heath/Acid Grassland Mosaic	Site value	The mosaic habitat offers more plant diversity that the surrounding grassland habitats, therefore offering greater potential to support invertebrates.	
Blanket Bog	County value	Annex 1 and SBL priority habitat and a consideration principal importance for planning conditions.	
Fish	Likely Local value	Loch of Swannay has the potential to support fish populations and currently has high suitability for migratory fish species.	
Bats	Likely Local value	The site offers low potential to support commuting and foraging bats with the typical features utilised by bats being absent (e.g. hedgerows or tree lines). However, the site offers the potential to support prey species typically favoured by bats e.g. midges and moths.	
Otter	Likely site value	Loch of Swannay offers suitable habitat for foraging otter, although habitat suitable for holts is lacking.	
Orkney Vole	Likely site value	Orkney vole are present throughout mainland Orkney and the ditches which offer potential for supporting voles are common and widespread in the immediate landscape of the site. Potential food item for birds of prey.	

## 4 **Discussion**

## 4.1 Designated Sites

West Mainland Moorlands SSSI is designated for blanket bog and shares a boundary with the site (to the south). Although there will be no development within the SSSI, there is potential for indirect impacts on the SSSI through the loss of buffering habitats (blanket bog) and through drainage effects as a result of the development. Full details on the proposed development are required to assess the scale and magnitude of impact on West Mainland Moorlands SSSI.

Orkney Mainland Moors SPA and the ornithological features of the other designated sites listed in Table 3 are discussed in a separate ornithological report.

No adverse negative impacts are expected on the non-avian features of Loch of Banks SSSI, Loch of Isbister SAC/SSSI and Eynhallow SSSI, due to the distance from the proposed development and lack connectivity to their designated features.

## 4.2 Habitats

The improved grassland fields are of relatively low ecological value as they are common and widespread throughout the island and are not included on conservation priority lists such as the SBL and Orkney LBAP. The Annex 1 and SBL priority habitats; blanket bog in the south, wet heath mosaic habitat, wet heath on Hundland Hill and marshy rush pasture offer higher ecological value and it is recommended that the development avoids these areas.

If these habitats cannot be avoided, further surveys will be required. Subject to consultation with NatureScot, the surveys will likely entail a full peat assessment (peat depth and condition) and National Vegetation Classification (NVC) mapping, to assess the potential impact of the development on these habitats.

## 4.3 Protected and Notable Species

#### Fish

Loch Swannay has potential to support migratory fish as well as resident populations of fish. No fish population surveys are recommended but construction should take place under a Construction Environmental Management Plan (CEMP) to manage the potential for pollution or surface water run-off which may impact the water quality within the loch.

#### Bats

Due to the limited habitats on site capable of supporting bats and the lack of bat records, it is considered that the development will have a negligible effect on bats. Subject to consultation with NatureScot, no further bats surveys are recommended.

#### Otter

Otter are a fully protected species under the Habitat Regulations 1994 (as amended). No records of otter using Loch of Swannay were returned and no field signs were recorded during the survey. There is a lack of suitable holt habitat within the site boundary, and it is considered that the effects of the development will be limited to potential disturbance of otter foraging or commuting through Loch of Swannay during construction. As mitigation against disturbance of foraging or commuting otter, the proposed development should maintain at least a 50 m buffer from the loch edge.

#### **Orkney Vole**

The drainage channels on site offer potential to support Orkney vole which occurs within grassy ditches and grazed pastures. Orkney vole are not protected, however, they are regarded as an endemic sub-species of common vole *Microtus arvalis* and an important prey species for hen harriers and short eared owl (Reynolds, 2002). No further surveys are recommended and a standard buffer of 10 m from each of the drainage channels is recommended to protect the vole population during construction.

## 4.4 General Mitigation

As a minimum the following good practice mitigation measures, should also be adhered to during the construction phase to avoid impacts on the identified ecological features:

- All construction staff should be briefed on the potential presence of protected and notable species e.g. otter and Orkney vole prior to works commencing. The Toolbox Talk should include any mitigation measures and what to do if species are observed.
- Any excavations should be covered or fitted with ramps when unattended, to ensure any animals which may accidentally fall into the excavation can escape. Wooden boards or planks that are a minimum of 0.5 m wide should be positioned at an angle of no more than 45° to act as an escape ramp.
- Any open pipes shall be covered to prevent accidental ingress by animals/
- Any lighting used on site, either temporary or permanent will be directional and avoid lighting the shoreline of Loch of Swannay and the drainage ditches to prevent disturbance to foraging mammals.

## 4.5 Siting of the Proposed Development

In keeping with the Orkney LBAP (Appendix 1), which aims to preserve and maintain areas of blanket bog, the development should be designed to avoid impacts on the identified area of blanket bog. Similarly, the area of wet heath on Hundland Hill should be avoided to preserve this important peatland habitat.

## 5 References

Amphibian and Reptile Groups UK. (2010). *ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index.* Amphibian and Reptile Groups of the United Kingdom. Retrieved from https://www.arguk.org/info-advice/advicenotes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/

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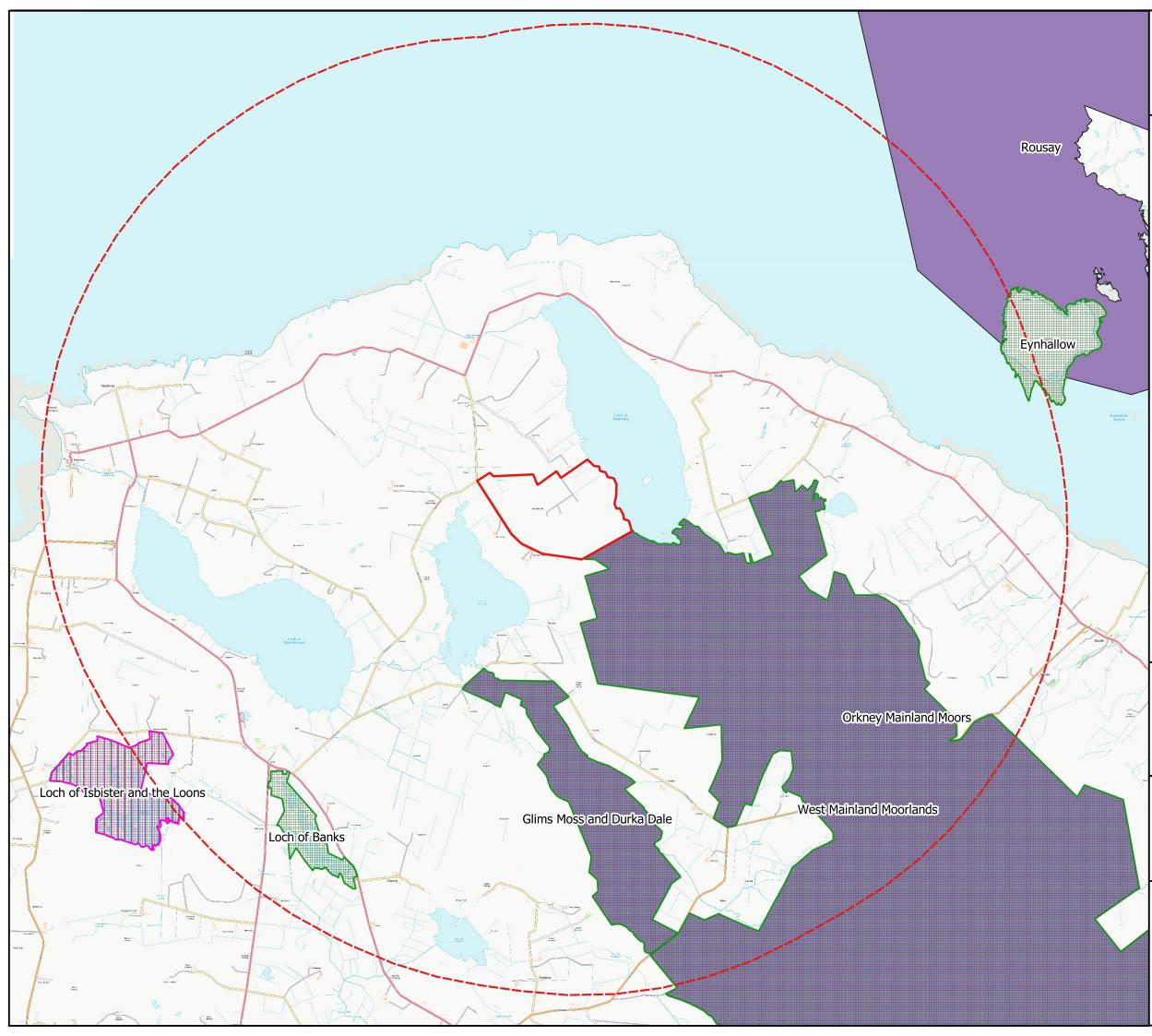
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## **Figures**

Figure No.	Title	
Figure 1	Site Location & Designated Sites	
Figure 2	Phase 1 Habitat Survey Results	



## **Orkney North**

Legend

Site Boundary

5 km buffer

Special Area of Conservation

Special Protection Area

Site of Special Scientific Interest

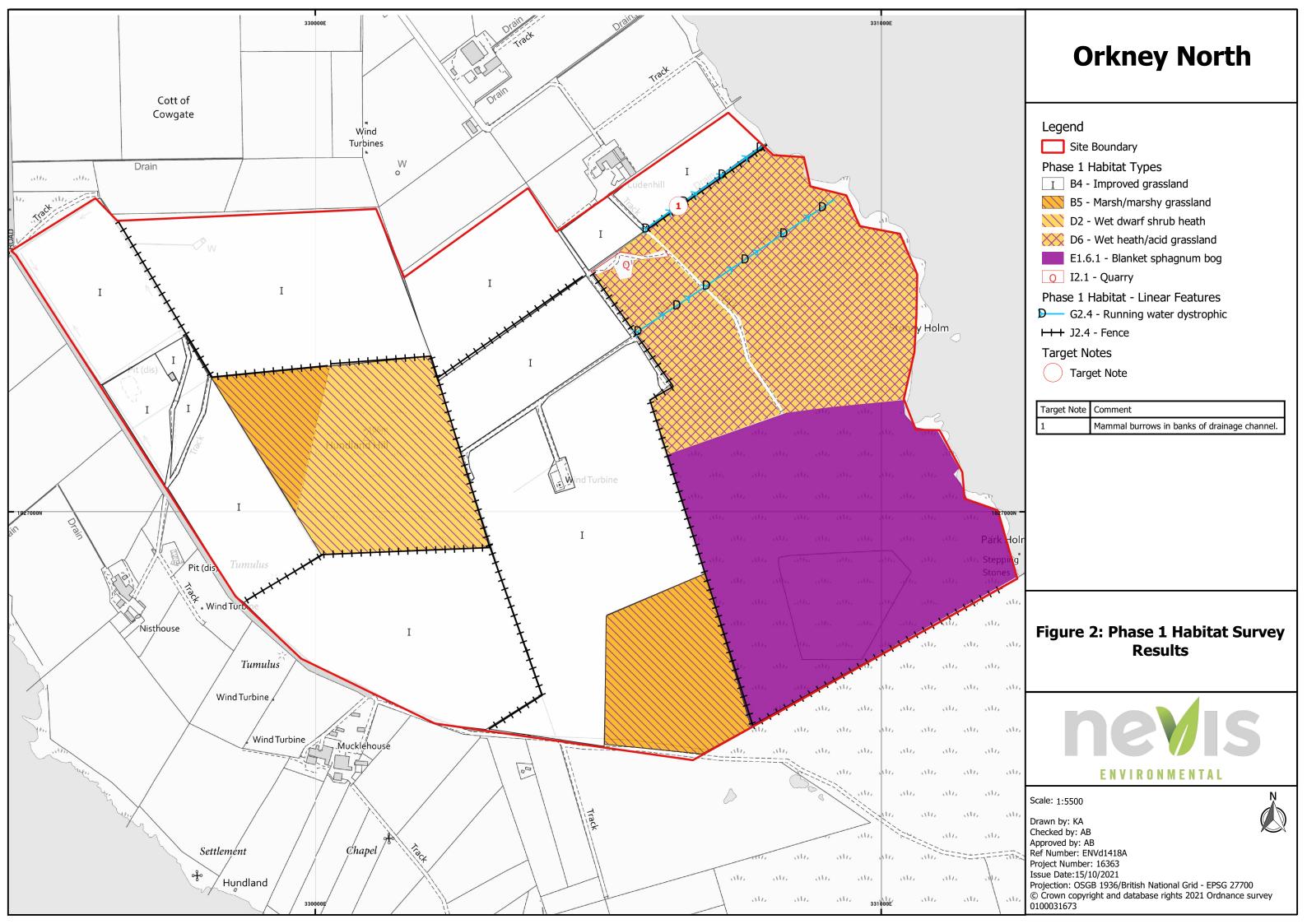
# Figure 1: Site Location & Designated Sites

## ENVIRONMENTAL

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Scale: 1:40000

Drawn by: KA Checked by: AB Approved by: AB Ref Number: ENVd1368A Project Number: 16363 Issue Date:15/10/2021 Projection: OSGB 1936/British National Grid - EPSG 27700 © Crown copyright and database rights 2021 Ordnance survey OS Open Data



## **Appendix 1 – Overview of Relevant Planning Policy and Legislation**

This section provides an overview of the framework of legislation and policy which underpins nature conservation and is a material consideration in the planning process in Scotland.

## **Plans and Policy**

#### **National Planning Policy**

In 2014 the Scottish government produced its third National Planning Framework (NPF3) a long-term strategy for Scotland. In its aims it states that statutory development plans must have regard for the National Planning Framework (NPF). NPF3 should be considered by local authorities as they work with community partners to take forward their Single Outcome Agreement as a building plan for the place.

The NPF3 covers sustainability, lower carbon emissions, nature and connectivity. The section entitled 'A natural, resilient place' sets out how the planning system should promote the use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions.

The planning policy principles in paragraph 194 of the Scottish Planning Policy document uses the strategies set out in NPF3. It states the planning system should:

- V facilitate positive change while maintaining and enhancing distinctive landscape character;
- conserve and enhance protected sites and species, taking account of the need to maintain healthy ecosystems and work with the natural processes which provide important services to communities;
- promote protection and improvement of the water environment, including rivers, lochs, estuaries, wetlands, coastal waters and groundwater, in a sustainable and coordinated way;
- seek to protect soils from damage such as erosion or compaction;
- protect and enhance ancient semi-natural woodland as an important and irreplaceable resource, together with other native or long-established woods, hedgerows and individual trees with high nature conservation or landscape value;
- seek benefits for biodiversity from new development where possible, including the restoration of degraded habitats and the avoidance of further fragmentation or isolation of habitats; and
- support opportunities for enjoying and learning about the natural environment.

#### Scottish Biodiversity Strategy

The Scottish Biodiversity Strategy is constituted by a combination of two documents: 'Scotland's Biodiversity: It's in Your Hands', which was published in 2004, and the '2020 Challenge for Scotland's Biodiversity'; published in 2013. The aims of Scotland's 2020 challenge are to:

- protect and restore biodiversity on land and in our seas, and to support healthy ecosystems;
- connect people with the natural world, for their health and well-being, and to involve them more in decision making; and
- maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Further information can be found at: <u>https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy</u>

### **Local Biodiversity Action Plan**

Local Biodiversity Action Plans (LBAPs) identify habitat and species conservation priorities at a local level (typically County by County) and are usually drawn up by a consortium of local Government organisations and conservation charities. Although they are no-longer managed at a national level many are still reviewed and updated at a local level.

It should be noted that the existence of a Species Action Plan (SAP) or Habitat Action Plan (HAP) does not always infer an elevated level importance for those features. These plans may be designed to encourage an increase in these habitats/species, rather than to protect a county-scarce feature.

#### The Orkney Local Biodiversity Action Plan (LBAP)

Orkney Biodiversity Steering Group has produced the LBAP: A plan for action to conserve Orkney's Biodiversity 2018- 2022, to protect and enrich the biodiversity in the Orkney Isles. The plan focuses on four themes; Greenspace, Farmland, Peatland and the Marine Environment. Nine of the proposed actions relate to farmland and peatland and are focused on preserving habitats for the local populations of hen harrier and short eared owl (as well as other species).

Further information, and the full Orkeny Local Biodiversity Action Plan document can be accessed at: <u>https://www.orkney.gov.uk/Files/Planning/Biodiversity/Orkney\_LBAP\_2018\_2022\_FINAL\_Oct\_2018.pdf</u>

#### **Orkney Local Development Plan**

Orkney Islands Council has produced a local development plan, entitled 'Orkney Local Development Plan (2017-2022)'; which was adopted in April 2017 and provides guidance on policies that will be used by Orkney Islands Council when assessing planning applications. The relevant policies include:

- Policy 7 Energy: which states the council support the use of renewable energy and seeks to ensure that Orkney's full potential for electricity and heat from renewable sources is achieved whilst ensuring that there are no unacceptable impacts on the environment or local community.
- Policy 9 Natural Heritage: which states that developments which are likely to have a significant effect on internationally designated sites will only be permitted if measures to ensure the integrity can be met.

Further information, and the full local development plan, can be accessed here: <u>https://www.orkney.gov.uk/Files/Planning/Development-and-Marine-Planning/Local-</u><u>Plan/OLDP 2017/Orkney Local Development Plan 2017 2022.pdf</u>

## **General Legislation**

The following presents accounts present a summary of the legislation relevant to the site and proposals. It is recommended that the reader also refer to the original legislation for definitive interpretation.

### The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)

The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), henceforth referred to as the Habitats Regulations were the principal means by which the European Union's ECC Directive 92/43 (The Habitats Directive) as amended is transposed into Scottish Law and remain in force after 'Brexit' which took place on 31st December 2020.

Under EU legislation, The Habitats Regulations placed a duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which met the criteria were, in conjunction with the European Commission, designated as Sites of Community Importance, and subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also placed a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, formed the Natura 2000 network of sites.

Post Brexit, European sites are still protected in Scotland and the rest of the UK. The terms "European site", "European marine site", and "European offshore marine site", have been retained, as have "Special Area of Conservation" (SAC) and "Special Protection Area" (SPA). SAC and SPA are no longer part of the European Union's Natura 2000 network. Instead, they form a UK-wide network of protected sites, referred to in the 1994 Regulations as the UK site network, and retain the same protections. The UK site network is made up of SACs and SPAs designated at various points in time before exit day (i.e. UK sites that formed part of the EU's Natura 2000 network prior to exit day), and any sites designated under the Habitats Regulations after exit day.

The Habitats Directive is underpinned by the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of protected areas within the UK site network. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest. These provisions, together with the requirement for competent authorities to undertake Habitats Regulations Appraisal (HRA) are unchanged after Brexit.

The Habitats Regulations also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively. These are commonly referred to as European Protected Species and continue to be referred to as such below. Schedule 2 includes species such as otter, great crested newt and most recently beaver for which the Scottish population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

It is also an offence under the Habitats Regulations for any person to have in their possession or control, to transport, to sell or exchange, or to offer for sale, any live or dead protected species, part of a protected species or anything derived from a protected species, which has been unlawfully taken from the wild.

## The Wildlife and Countryside Act (WCA) 1981

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Conservation (Natural Habitats. &c.) Amendment (Scotland) Regulations 2012, offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species. All relevant species-specific legislation is detailed later in this Appendix.

## Nature Conservation (Scotland) Act 2004

The Nature Conservation (Scotland) Act 2004 places a duty on all public authorities, including local planning authorities, to consider biodiversity in their work. The legislation also requires government departments to have regard to the Convention on Biological Diversity. As a result of the Act, Scottish ministers were required to produce a biodiversity strategy for Scotland (the Scottish Biodiversity Strategy) and a list of species and habitats of principal importance for biodiversity conservation in Scotland (the Scottish Biodiversity List) and to take or promote steps to further their conservation. This legislation also strengthens the protection given to SSSIs and amends rules on protecting certain birds, animals and plants.

## Wildlife and Natural Environment (Scotland) Act 2011

The Wildlife and Natural Environment (Scotland) Act 2011 or WANE Act amends the Wildlife and Countryside Act, to create more far reaching legislation in respect of invasive species. In relation to the spread of invasive species, The Act makes it an offence to:

- V plant, or otherwise causes to grow, any plant in the wild at a place outwith its native range.
- or
- release, or allow to escape from captivity, any animal
  - to a place outwith its native range; or
  - of a type the Scottish Ministers, by order, specify; or
- V otherwise causes any animal outwith the control of any person to be at a place outwith its native range.

This does not apply to animals that are released or allowed to escape from captivity for the purpose of being subsequently killed by shooting, which are at present: common pheasant and red-legged partridge.

The Act also introduced new offences in relation to keeping invasive species and made it an offence for any person to:

- V keep, have in their possession, or have under their control
  - any invasive animal of a type which the Scottish Ministers, by order, specify; or
  - any invasive plant of a type so specified.

The Act also makes provision for the prohibition of keeping invasive animal and plant species and for requiring notification about the presence of such species in a particular area.

In addition to the strengthening of invasive species legislation, the Act also introduced tougher powers against wildlife crimes.

## Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR Regulations)

The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR Regulations) provide the regulator environment covering the impacts of certain activities on water abstractions and Ground Water Dependent Terrestrial Ecosystems (GWDTE) which member states are obliged to protect from significant damage, under the EU Water Framework Directive. SEPA have developed guidance on the identification, assessment and protection of GWDTE.

#### Wild Mammals Protection Act 1996

This Act offers protects a form of protection to all wild species of mammals, irrespective of other legislation, and focussed on animal welfare, rather than conservation.

Unless covered by one of the exceptions, a person is guilty of an offence if he mutilates, kicks, beats, nails or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates any wild mammal with intent to inflict unnecessary suffering.

Its application is typically restricted to preventing deliberate harm to wildlife (in general) during construction works etc.

## **Specific Legislation**

#### **Freshwater Fish and Lampreys**

There are nine species of fish that inhabit the freshwater environment, either permanently or are anadromous species, which have legal protection within the United Kingdom. The level of protection differs between species; the legislation of each is summarised in the Table below:

Species	Habitats Regulations	Wildlife & Countryside Act 1981
Allis shad Alosa alosa	Schedule 4	Schedule 5
Atlantic salmon Salmo salar	Schedule 4	n/a
Barbel Barbus barbus	Schedule 4	n/a
Grayling Thymallus thymallus	Schedule 4	n/a

Species	Habitats Regulations	Wildlife & Countryside Act 1981
River Lamprey Lampetra fluviatilis	Schedule 4	n/a
Common Sturgeon Acipenser sturio	Schedule 2 – European Protected Species	Schedule 5
Twaite shad Alosa fallax	Schedule 4	Schedule 5
Vendace Coregonus albula	Schedule 4	Schedule 5
Whitefish Coregonus lavaretus	Schedule 4	Schedule 5

For species that are protected under Schedule 4 of the Habitats Regulations, it is an offence to catch or take fish in freshwater using certain methods; this includes any method which is indiscriminate and able to cause the local disappearance of, or serious disturbance to, a population.

Common sturgeon are listed under Schedule 2 of the Habitats Regulations as European Protected Species, which are afforded further protection to the above. Under this legislation it is an offence to:

- V capture, kill, disturb or injure common sturgeon (on purpose or by not taking enough care);
- damage or destroy their eggs (deliberately or by not taking enough care);
- ✓ damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- V obstruct access to their resting or sheltering places (deliberately or by not taking enough care); or
- possess, sell, control or transport live or dead large common sturgeon, or any part of, or anything derived from, such an animal.

Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), provides an additional level of protection and differs between species. The offences for each species are summarised below:

Allis shad are protected against:

- intentional killing and injuring;
- ✓ intentional or reckless taking; and
- intentional or reckless damage to, destruction of, obstruction of access to any structure or place used for shelter or protection.

Twaite Shad are protected against:

intentional or reckless damage to, destruction of, obstruction of access to any structure or place used for shelter or protection.

Vendace and whitefish are protected against:

- intentional killing, injuring, taking;
- possession or control (live or dead animal, part or derivative);
- damage of animal occupying such a structure or place;

- selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative); and
- ✓ advertising for buying or selling such things.

In Scotland, 13 species of fish commonly found in freshwater (comprising nine of the above species plus European eel *Anguilla Anguilla*, brown trout *Salmo trutta*, Arctic char *Salvelinus alpinus* and sea lamprey *Petromyzon marinus*) are listed as SPI on the Scottish Biodiversity List and therefore are a material consideration for Local Planning Authorities (LPAs) during the planning process.

## Birds

The Wildlife and Countryside Act (WCA) 1981, as amended, protects all breeding birds in the UK with a few exceptions (i.e. sporting birds listed in Schedule 2 and for certain specified purposes under licence). The WCA makes it an offence to intentionally or recklessly:

- kill, injure or take a wild bird;
- take, damage, destroy or interfere with the nest of any wild bird whilst it is in use or being built (or at any time for a nest habitually used by any listed in Schedule A I);
- v obstruct or prevent any wild bird from using its nest;
- ✓ take or destroy an egg of any wild bird;
- disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young, or whilst lekking; or
- V disturb the dependent young of any wild bird listed on Schedule 1.

Recklessly in this context is to be understood as pursuing a course of action while consciously disregarding the fact that the action gives rise to a substantial and unjustifiable risk.

Schedule 1 is a list of rare breeding species that are specially protected in the UK. Two additional Schedules (Schedule 1A and A1) have been created to afford further protection to some species included on Schedule 1. This additional protection makes it an offence to intentionally or recklessly:

- at any time, damage, destroy or interfere with any nest habitually used by any wild bird included in Schedule A1; or
- V at any time harass any wild bird included in Schedule 1A.

A total of 105 bird species are listed as SPI on the Scottish Biodiversity List and therefore are a material consideration for Local Planning Authorities (LPAs) during the planning process.

#### Bats

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under the Habitats Regulations 1994. They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations (as amended), states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- ✓ deliberately disturb bats; or
- ✓ damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations (as amended) for any person to have in their possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to intentionally kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to intentionally or recklessly damage or destroy, or obstruct access to, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to intentionally or recklessly\* disturb any protected species while it is occupying a structure or place which it uses for shelter or protection.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

Nine bat species are listed as 'SPI' as SPI on the Scottish Biodiversity List. These are:

- ₩ Barbastelle bat *Barbastella barbastellus*.
- Mechstein's bat Myotis bechsteinii.
- Moctule Nyctalus noctule.
- Soprano pipistrelle *Pipistrellus pygmaeus*.
- ✓ Brown long-eared bat *Plecotus auritus*.
- ✓ Greater horseshoe bat *Rhinolophus ferrumequinum*.
- V Lesser horseshoe bat *Rhinolophus hipposideros*.

#### Otter

Otters are protected under sections 9 and 11 of the Wildlife and Countryside Act 1981 and also under the Habitats Regulations, making then a European protected species. Under this legislation, it's an offence to:

- v capture, kill, disturb or injure otters (on purpose or by not taking enough care);
- damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- ♥ obstruct access to their resting or sheltering places (deliberately or by not taking enough care); or
- y possess, sell, control or transport live or dead otters, or parts of otters.

Otter are listed as SPI in are listed as SPI on the Scottish Biodiversity List and therefore are a material consideration for Local Planning Authorities (LPAs) during the planning process.