Appendix 8.1 Extended Phase 1 Habitat Survey – October 2019

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Appendix 8.1 Extended Phase 1 Habitat Survey – October 2019

Introduction

Overview

ITPEnergised was appointed by Orkney Islands Council (OIC) to undertake an extended Phase 1 habitat survey and ecology desk study for an area of land known as Quanterness (hereafter referred to as 'the site') that is proposed for a wind farm development. The site is located north-west of Kirkwall, Orkney, and has central Ordnance Survey Grid Reference 341560, 1013640.

The purpose of the survey was to document the habitats present within the site and to assess their potential suitability for protected or otherwise notable faunal species.

This report describes the methods used to gather and record habitat baseline information for the site and summarises the findings of the field survey.

Site Description

The site covers an area of 172.27 hectares and is made up entirely of agricultural land, which extends to the west, east and south. The northern perimeter of the site comprises a rocky shoreline which is partly engineered in sections west of the site, with open sea extending north, while steep heather moorland rises to Wideford Hill approximately 500m south of the site perimeter.

Aims

This report presents the Extended Phase 1 Habitat survey work undertaken in order to assess the ecological baseline conditions in support of the Proposed Development by ITPEnergised (ITPE) in October 2019.

Collectively, the objectives of the survey was to:

- document the habitats present within the site;
- assess the potential suitability of identified habitats for protected or otherwise notable faunal species; and
- facilitate the requirements for further survey work that may be required to inform the planning application for the Proposed Development.

Legislation and Biodiversity

An overview of relevant legislation, policy and guidance is provided below.

Legislation

Full consideration has been given to all relevant nature conservation legislation when carrying out this assessment. This includes the following:

- The Ramsar Convention 1975;

- The Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive) 1992 (92/43/3EEC);
- Directive of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (2009/147/EC);
- Wildlife and Countryside Act 1981 (as amended);
- The Wildlife and Natural Environment (Scotland) Act 2011 (as amended);
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Nature Conservation (Scotland) Act 2004 (as amended);
- Marine and Coastal Access Act 2009; and
- Marine (Scotland) Act 2010.

National Legislation

The policies relevant to nature conservation include those from the Scottish Planning Policy (SPP) (Scottish Government, 2014), Planning Advice Notes (PAN) (Scottish Government, 2008) and Orkney Local Development Plan (LDP) (OIC, 2017a); see Annex A.

Biodiversity

Scottish Biodiversity List

Scottish Ministers created the Scottish Biodiversity List (SBL) (Scottish Government, 2013) to satisfy the requirements under Section 2(4) of the Nature Conservation (Scotland) Act 2004, assist public bodies in carrying out conservation of biodiversity, as well as to provide the general public with information regarding conservation within Scotland. The SBL comprises species and habitats listed using both scientific and social criteria. Only scientific criteria are considered relevant to this report. They include the following:

- All UK Priority Species present in Scotland.
- Species which Scotland has an international obligation to safeguard.
- All species defined as nationally rare at a UK level that are present in Scotland.
- Species with populations present (resident, wintering or breeding) in 5 or fewer 10km squares or sites in Scotland.
- All species that are endemic to Scotland.
- Any sub-species or race that is widely recognised and accepted by the scientific (or other relevant) community and that is endemic to Scotland, if it also meets one of the other criteria.
- Natural and semi-natural habitats that are known to be particularly important for supporting assemblages of plant or animal groups that are data deficient, such as fungi, bryophytes, lichens, algae and invertebrates.

Local Biodiversity Reporting

The Orkney Local Biodiversity Action Plan (LBAP) is a targeted action plan for the period 2018 – 2022 (Orkney's Biodiversity Steering Group, 2018). The LBAP addresses biodiversity planning in Orkney through the following four themes: greenspace, farmland, peatland and the marine environment.

Good Practice Ecological Guidance

As part of the baseline report, cognisance has been taken of the Chartered Institute of Ecology and Environmental Management (CIEEM) good practice guidelines and survey methods, notably the standard methods developed for Preliminary Ecological Appraisals (CIEEM, 2017) and Ecological Impact Assessment (CIEEM, 2018). Phase 1 habitat survey methodology follows that of the Joint Nature Conservation Committee (JNCC, 2010).

Methods

Overview

This section describes the methods used for the ecological surveys, which comprised a combination of desk study and field survey.

Desk Study

An ecological desk study was undertaken to compile existing ecological information on nature conservation designations and protected or otherwise notable species and habitats, relevant to the Site or the local area.

Areas designated for terrestrial and marine ecological interests of international and national importance were identified for up to 10km from the site boundary; and local-level designations and non-statutory nature conservation designations were identified up to 2km from the site boundary.

The Orkney Wildlife Information & Records Centre (OWIRC) was approached for existing records of protected or otherwise notable species (e.g. SBL/LBAP priority species) from within a 5km distance of the site boundary. Only records from within the last 10 years were considered relevant to the study. Other data sources included the following online database resources, for commercially available information.

- National Biodiversity Network Atlas (NBN, 2019);
- Scottish Natural Heritage SiteLink (SNH, 2019); and
- MAGIC: Nature on the Map (Magic, 2019).

The desk study data presented here covers the non-avian ecological interests associated with the site; avian interests are presented in Appendix 7.1 of the EIA Report.

Field Surveys

Extended Phase 1 Habitat Survey

A Phase 1 habitat survey was carried out on the site on 2-3 October 2019 by a qualified and experienced ecologist using the standard JNCC survey methodology (JNCC, 2010). During the survey, habitats were mapped within the site and a 250m buffer (collectively referred to as the ‘Survey Area’ below), although in line with the JNCC methodology, mapping along the coastal zone was limited to the shoreline and intertidal zone (when exposed). The vegetation was described in a series of georeferenced target notes (TNs), with plant nomenclature following Stace (2010). Target notes were also produced to describe habitats too small to be mapped (i.e. <0.1ha) or otherwise notable features.

The survey was ‘extended’ to assess the potential of habitats being suitable for protected or otherwise notable species, and any incidental evidence of such species was recorded. For this part of the exercise, cognisance was taken of the standard methodologies for otter (Chanin, 2003) and bats (Collins, 2016), etc., to ensure sufficient understanding of the habitats to target any potential future protected species survey requirements. Birds and other animals were identified and recorded on an *ad hoc* basis.

Whilst not a full botanical or protected species survey, the Phase 1 habitat survey enables experienced ecologists to obtain an understanding of the ecology of a site, such that it is possible to:

- confirm the nature conservation significance of a site and assess whether the potential for impacts on habitats/species is likely to represent a material consideration in planning terms; or
- establish the scope and extent of any additional specialist ecological surveys that may be required, before such a confirmation can be made.

Survey Limitations

The field survey was carried out in favourable weather conditions, but slightly out with (by two days) the recommended survey window period (April – September). However, this is not considered a significant limitation because of the agricultural nature of the habitats present.

Owing to the large numbers of cattle present within some parts of the site, access was not possible in those areas for health and safety reasons. However, such areas could be surveyed with binoculars from field boundaries, and the lack of access is therefore not considered a significant limitation.

Baseline

Desk Study

Nature Conservation Designations

Two nature conservation designations of national value were identified in the desk study: Keelylang Hill and Swartaback Burn SSSI and West Mainland Moorlands SSSI. These are summarised in Table 1 and shown on Figure 8.1.

Table 1 - Statutory Nature Conservation Designations within 5km of the Site

Site	Designation	Distance to Site	Non-Avian Reason for Designation
Keelylang Hill and Swartaback Burn	SSSI	1.76 km SW	Designated for upland mosaic habitat
West Mainland Moorlands	SSSI	4.58 km NW	Designated for the following blanket bog habitat

No non-statutory designations designated for non-avian ecology were recorded within 2km of the site.

Terrestrial Animals

Data obtained from the Orkney Wildlife Information & Records Centre (Orkney Wildlife Information & Records Centre, 2019) includes records of nine protected or otherwise notable species within 2km of the site boundary and bats within 10km of the site boundary; see Table 2.

Table 2 - Records of Protected or Otherwise Notable Species

Common Name	Scientific Name	Legal / Conservation Status	Records
Brown hare	*Lepus europaeus*	Wildlife and Countryside Act 1981 (as amended) SBL	Nine records of brown hare have been identified within 2km of the Site

Common Name	Scientific Name	Legal / Conservation Status	Records
		LBAP	boundary; the closest was located 2km south and recorded in 2013.
Hedhehog	*Erinaceus europaeus*	Wildlife and Countryside Act 1981 (as amended) SBL (watching brief) LBAP	A sole record of hedgehog has been identified; it was located 2km south of the Site boundary and recorded in 2013.
Otter	*Lutra lutra*	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). SBL LBAP	Two records of otter have been identified: One record of an individual otter from the north-western of the Site boundary dates from 2010, and another 1.3km west of the Site boundary (on Damsay) dates from 2013.
Killer whale	*Orcinus orca*	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) SBL LBAP	A sole record of killer whale from a location 1.94km east of the Site boundary dates from 2013.
Common dolphin	*Delphinus delphis*	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) SBL LBAP	A sole record of common dolphin from a location 0.2km north-west of the Site boundary dates from 2011.
White-sided dolphin	*Lagenorhynchus acutus*	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) SBL LBAP	A sole record of white-sided dolphin from a location 0.99km west of the Site boundary dates from 2011.
Common pipistrelle	*Pipistrellus pipistrellus*	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) SBL LBAP	127 records of common pipistrelle have been identified within 10km of the Site boundary; the closest record is from a location 4.2km west of the Site boundary and dates from 2018. All records are field records with no indication of bat roosts recorded.
Nathusius' pipistrelle	*Pipistrellus nathusii*	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) SBL LBAP	A sole record of Nathusius pipistrelle has been identified for a location 9.9km north of the Site boundary and dates from 2010. All records are field records with no indication of bat roosts recorded.
Bat species	*Chiroptera species*	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) SBL LBAP	In addition to the records for common and Nathusius' pipistrelles above, 40 general records of 'bat species' have been identified within 10km of the Site boundary; the closest is from a location 2km east of the Site and dates from 2017. All records are field records with no indication of bat roosts recorded.

Avian data is presented in Appendix 7.1.

Survey Results

The results of the Phase 1 habitat survey are presented below and on Figure 8.2, which shows the location and extent of all habitat types recorded within the site. Target note (TN) locations are also shown and described in Annex B. A full species list can be found in Annex C.

Habitats

A total of 12 terrestrial habitat types are present within the Survey Area (Phase 1 habitat codes are listed in brackets):

- Continuous scrub (A2.1);
- Semi-improved grassland (B2.2);
- Improved grassland (B4);
- Wet heath (D2);
- Standing water (G1);
- Running water (G2);
- Intertidal boulders/rocks (H1.2/1.3)
- Arable (J1.1);
- Intact species-poor hedgerow (J2.1.2);
- Fence (J2.4);
- Buildings (J3.6); and
- Other (Roads / Tracks / Sea) (J5).

Continuous scrub

A section of dense gorse (*Ulex europaeus*) borders wet heath in the southwest of the 250m survey buffer (TN1).

Semi-improved grassland

An area of semi-improved grassland was recorded off the north-western Site boundary (TN2), where it surrounds a man-made waterbody (see also TN5). The grassland is fenced off from livestock. The dominant grass species were Yorkshire fog (*Holcus lanatus*) and tufted hair-grass (*Deschampsia cespitosa*). Soft-rush (*Juncus effusus*), meadowsweet (*Filipendula ulmaria*), silverweed (*Potentilla anserina*), creeping buttercup (*Ranunculus repens*) and white clover (*Trifolium repens*) were all locally frequent, with yellow iris (*Iris pseudacorus*), broad-leaved dock (*Rumex obtusifolius*), pineappleweed (*Matricaria discoidea*) and marsh marigold (*Caltha palustris*) were recorded as being occasional.

Improved grassland

The majority of both the site and the 250m survey buffer to the west, south and east comprises improved grassland used for livestock grazing (both cattle and sheep) (TN3). The grassland comprises distinct fields separated by post and wire fencing and some fields were noted as being heavily poached due to intense grazing and trampling.

The dominant grass species recorded were perennial rye-grass (*Lolium perenne*) and meadow-grass (*Poa* sp.). White clover, creeping thistle (*Cirsium arvense*), common nettle (*Urtica dioica*), creeping buttercup, broad-leaved dock and common dandelion (*Taraxacum* agg.) were all frequently recorded in these grassland fields.

Wet heath

There is no wet heath within the site, but a small area of this habitat was noted in the south-western survey buffer on the slopes of Wideford Hill (TN4). The dominant species recorded was heather (*Calluna vulgaris*) with purple moor-grass (*Molina caerulea*), common cotton grass (*Eriophorum angustifolium*), soft-rush and bogmoss species soft-rush and bog-moss (*Sphagnum* sp.) species also frequently recorded. Other species noted were scattered gorse bushes and creeping buttercup.

Standing water

A large man-made 'duck pond' 50m was recorded west of the site boundary (TN5). The pond measures 30m by 80m with three shooting hides on the shoreline. There was little recorded vegetation within the pond with the pond bottom being noted as pebbles. Little was also recorded in the pond.

A number of smalls pools were present throughout the site and 250m survey buffer, with the majority recorded in the northwest. These smaller pools were noted as having little vegetation other than grassland species in the areas they were recorded and were heavily poached by cattle trampling (TN6-TN10).

Running water

Two drainage ditches run from south to north through the site (TN11 and TN12). Both ditches are approximately 0.5m wide and are heavily overgrown with broad-leaved dock, meadowsweet, bracken (*Pteridium aquilinum*) and semi-improved grassland as described above. The water was barely flowing at time of survey, with the water present appearing stagnant in sections.

Intertidal boulders/rocks

The northern perimeter of the site is made up of a shoreline which comprises small rocky cliffs (maximum 5m) and gently sloping shingle and rocks beaches (TN13).

Arable

Two arable fields were recorded in the northeast of the site, both were strips of turnip and winter crops such as winter barley (TN14).

Intact species-poor hedgerow

A section of gorse hedgerow was noted in the southwest of the site (TN15). The hedgerow runs above a drainage ditch as described above.

Fencing

Post and wire fencing was noted crossing all of the site and 250m survey buffer (TN16) and is used for managing the livestock.

Buildings

There are no structures within the site. The only structures within the 250m survey buffer are storage sheds (TN17) and a stone cottage and out-buildings (TN18).

Tracks, roads and open sea

A grassed-over track was noted heading north from the main road (TN19 and TN20) in three locations, as well as south to farm buildings in the 250m survey buffer. A busy main road, the A965, follows the southern perimeter of the site (TN21).

The majority of the 250m survey buffer north of the site is open sea making up the south of Wide Firth (TN22).

An area of hard standing with dumped building material was recorded directly north of the A965 (TN23).

Fauna

Otter

The shoreline following the northern perimeter of the site was identified as providing suitable habitat for otter as well as the large man-made pool in the northwest of the 250 m survey buffer. This suitability was demonstrated by the presence of sprainting recorded around the man-made pool and rocks, most notably the north-west corner of the site (TN22).

Birds

A range of bird species was recorded during the walk-over of the site. Of particular interest were: snipe (*Gallinago gallinago*), oystercatcher (*Haematopus ostralegus*), curlew (*Numenius arquata*), ringed plover (*Charadrius hiaticula*), redshank (*Tringa totanus*), sanderling (*Calidris alba*), pink-footed goose (*Anser brachyrhynchus*), greylag goose (*Anser anser*), hen harrier (*Circus cyaneus*) and red-throated diver (*Gavia stellata*).

Other species noted included: eider (*Somateria mollissima*), wigeon (*Anas penelope*), tufted duck (*Aythya fuligula*), herring gull (*Larus argentatus*), great black-backed gull (*Larus marinus*), lesser black-backed gull (*Larus fuscus*), meadow pipit (*Anthus pratensis*), rock pipit (*Anthus petrosus*), skylark (*Alauda arvensis*), starling (*Sturnus vulgaris*), linnet (*Linaria cannabina*) and teal (*Anas crecca*).

Bats

There are no structures suitable for roosting bats within the site. The only structures recorded during the survey were large industrial sheds with corrugated rooves directly south of the site which were assessed as unsuitable for roosting bats and a cottage with outbuilding approximately 100m south of the site. The cottage was noted as having stone clad walls and slate rooves which were noted as being in excellent condition meaning this property was assessed as having negligible suitability to support roosting bats.

Bat foraging habitat is considered to be limited in the Survey Area with no treelines, hedgerows, woodland or watercourses noted in the site, although it is possible the coastline may provide a suitable linear feature for commuting and foraging bats. There are only a limited number of bat species found on Orkney and given the lack of suitable features for species commuting, such as hedgerows and woodland, their regular presence on the Site is deemed unlikely.

Other mammals

Brown hare, stoat (*Mustela erminea*) and rabbit (*Oryctolagus cuniculus*) were all recorded during the survey. In addition, a washed-up cetacean, thought to be a dolphin, was noted on the shoreline north of the site. Although not recorded during the survey the grassland habitats were noted as suitable for the presence of Orkney vole (*Microtus arvalis orcadensis*).

Although not recorded during the survey the rocky shoreline was noted as being a suitable haul out habitat for both grey seal (*Halichoenus grypus*), harbour seal (*Phoca vitulina*). Given the number and location of fence lines it is unlikely any seals would be found on the site itself.

Evaluation

Nature Conservation Designations

Given the significant separation distances of the two statutory nature conservation designations, Keelylang Hill and Swartaback Burn SSSI and West Mainland Moorlands SSSI, to the site (they are located 1.75km and 4.7km away, respectively) and the nature of the designated (non-avian) interest, which comprises habitat features only, it is unlikely that development of the site will have any significant negative effect on these designations.

No non-statutary conservation designations designated for non-avian ecology were recorded within 2km of the site.

Habitats

The site habitats comprise a mosaic of predominantly agricultural grassland, with a small number of arable fields. Two drainage ditches and a number of small freshwater pools were also recorded. The grasslands are heavily grazed over all of the site and the range of species is limited, although they do provide suitable nesting and roosting habitat for nationally and locally important birds, such as lapwing and oystercatcher as outlined in the Orkney LBAP (Orkney's Biodiversity Steering Group, 2018).

The northern shoreline is a mix of primarily hard substrate, though both sand and shingle are present in places; these habitats provide both nesting, resting and foraging habitat for the area's fauna, such as ringed plover and oystercatcher as well as hauled out seals.

Species

Otter

The desk study indicated the likely presence of otter using the site as part of the wider habitat. The extended Phase 1 habitat survey recorded otter sprainting in the north-west of the site and outlined the suitability of the coastline to support otter, providing a range of shelter features as well as easy access to freshwater habitats, both running and standing water, which may be used by otter to remove salt from their fur (Mull Otter Group, undated). Otter is strictly protected as a European Protected Species (EPS) and is also an SBL and Orkney LBAP priority species. A full otter survey was undertaken in October 2019 and is reported in Appendix 8.2.

Birds

A range of wading, farmland and seabirds appear to be present at the site and use of the site by birds was anticipated as a potential constraint to wind farm development a programme of bird studies was completed in March 2019 and in Appendix 7.1.

A number of the breeding bird species present on the site are internationally, nationally and locally important listed species such as curlew, lapwing and oystercatcher and are afforded protection accordingly.

Bats

No existing bat records were identified from the site or within 2km of the site, although records exist for the wider area up to 10km from the site. All bat species within the UK are strictly protected as EPS and bats are also SBL and Orkney LBAP priority species.

No structures or trees with bat roost potential were identified within the site. The nearest structures with any possible roost potential were approximately 100m south of the site boundary. The site is very exposed and the value of habitats for foraging and commuting bats is likely to be marginal. Bat presence on the site is therefore considered unlikely and, as such, further survey work is not considered necessary.

Brown Hare and Orkney Vole

Brown hare is an SBL and Orkney LBAP priority species and was recorded during the survey. Orkney vole is listed as a SBL watching brief species and habitats within the site were noted as suitable for the presence of the species. It is unlikely that development of the site will have any significant effects on the local population of these grassland species, although construction of the site may lead to some temporary disturbance.

Seals

Harbour and grey seals are given protection through Schedule 4 of WCA and further protection through the Conservation of Seals Act 1970. The rocky shoreline directly north of the site was noted as being suitable for the presence of hauled out seals, although none were recorded during the survey. It is unlikely that development of the site will have any significant effects on the local population of these grassland species, although construction of the site may lead to some temporary disturbance.

Invasive Non-Native Species

No records of invasive non-native plant species were recorded during the survey.

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Annex A: Policy Framework

Scottish Planning Policy

The Scottish Planning Policy (SPP) (Scottish Government, 2014) superseded National Planning Policy Guideline (NPPG) 14 (Natural Environment) and forms the basis for planning system decisions with respect to conserving and enhancing the natural environment.

Under 'Landscape and Natural Heritage', the SPP sets out, in addition to other points, how planning authorities should take a strategic, broader approach to landscape and natural heritage than just conserving designated or protected sites and species, by taking into account ecosystems and natural processes in the area.

In addition to the above, the SPP also outlines how planning authorities should place emphasis on the prevention of '…further habitat fragmentation or isolation of habitats and identify opportunities to restore links which have been broke' and 'seek benefits for species and habitats from new development including the restoration of degraded habitats'.

With regards to protected species, the SPP outlines that '…although the presence of legally protected species is an important consideration in planning decision they are not necessarily an absolute block on development with mitigation often needed. If protected species are on site or are likely to be affected by a proposed development their presence must be established and the requirements of the species factored in to the planning and design of the development along with any likely impact fully considered prior to the determination of the planning application'.

The SPP concludes by stating that, '…planning permission must not be granted for a development that would be likely to have an adverse effect on a European Protected species unless the planning authority is satisfied that there is no satisfactory alternative and the development is required for preserving public or public safety or for other imperative reasons overriding public interest (including social, economic and beneficial for the environment)'.

Planning Advice Notes (PANs) 60

National planning policy on landscape and natural heritage is supported by Planning Advice Note (PAN) 60 Planning for Natural Heritage (Scottish Government, 2008), the key elements include:

- Taking a broader approach to landscape and natural heritage than just conserving designated or protected sites and species, taking into account ecosystems and natural processes.
- Facilitating positive landscape change whilst maintaining and enhancing distinctive character.
- Seeking benefits for species and habitats from new development including the restoration of degraded habitats.
- Siting and design of development should be informed by local landscape character.
- Encouraging connectivity between habitats, through green networks.
- Protecting internationally and nationally designated habitats and species.
- Protecting and enhancing woodland and trees of high nature conservation value.

Local Development Plan

The Orkney Local Development Plan (LDP) 'sets out a vision and spatial strategy for the development of land in Orkney over the next ten to twenty years. The Plan contains the land use planning policies which Orkney Islands Council will use for determining applications' (OIC, 2017a).

The following policies from the LDP are of relevance to the Site.

Policy 9: Natural Heritage and Landscape.

'*This policy seeks to protect Orkney's natural environment from the detrimental effects of development, ensuring the conservation of this rich natural heritage for the benefit of future generations. Steps must be taken to minimise the impacts of a development on natural heritage sites and protected species during the construction, lifetime and decommissioning of any development. Where the impacts of a development on either a nationally or internationally designated natural heritage site or a protected species are uncertain, but there is sound evidence that significant irreversible damage could occur, a precautionary approach will always apply*.'

Policy 12: Coastal Development.

'*The Plan supports an integrated approach to terrestrial and marine planning and the Pentland Firth and Orkney Waters Pilot Marine Spatial Plan, and any subsequent Regional Marine Plan, which will form part of the statutory marine planning regime under the Marine (Scotland) Act 2010, will be adopted as Planning Policy Advice. The Plan promotes the settlements as the focus of development requiring a coastal location and specific industrial and business allocations have been designated in close proximity to Orkney's three largest ports (Hatston, Copland's Dock and Lyness). In line with other policies in the Plan, there must be a specific locational requirement for any proposal outwith the settlements and it must be demonstrated that any environmental impacts can be satisfactorily addressed*.

Annex B: Target Notes

Target Note	Grid Reference	Description
1	340850 1012648	 A section of dense gorse bordering section of wet heath. Fenced off from agricultural land.
2	340409 1014003	 A section of grassland off the north-western Site boundary is fenced off from livestock. The dominant grass species recorded in this section were Yorkshire fog and tufted hair-grass. Soft-rush, meadowsweet, silverweed, creeping buttercup and white clover were all frequently

Target Note	Grid Reference	Description
		recorded in sections with yellow iris, broad-leaved dock, pineappleweed and marsh marigold also noted.
3	341060 1013466	 The majority of the Site and 250m survey area comprises improved grassland, used for grazing cattle and sheep. The grassland comprises distinct fields separated by post and wire fencing. Dominant grass species include perennial rye-grass and meadow-grasses. White clover, creeping thistle, common nettle, creeping buttercup, broad-leaved dock and common dandelion were all frequent.

Target Note	Grid Reference	Description
4	340850 1012648	 Section of wet heath which extends further south onto Wideford Hill. The vegetation is dominated by heather, with purple moor-grass, harestailcotton grass, soft-rush and bogmoss species also frequently recorded. Other species noted were scattered gorse bushes, tormentil, common sorrel and creeping buttercup.
5	340375 1013911	 Duck pond in northwest of the wider survey area. Man made pond used for shooting wildfowl, three hides on pool edges. See you also TN22.

Target Note	Grid Reference	Description
6	340770 1013852	 Ephemeral pond in site, heavily trampled by cattle. Vegetation within the pools noted as grassland species as noted in the surrounding areas.
7	340671 1014093	Small pools within improved grassland fields, similar to TN5.

Target Note	Grid Reference	Description
8	341619 1013812	 Ephemeral pond heavily poached by cattle.
9	342295 1013454	Ephemeral ponds within improved grassland fields, similar to TN5.

Target Note	Grid Reference	Description
10	340535 1013096	 Ephemeral ponds within improved grassland fields, similar to TN5.
11	341548 1014096	Open sea directly north of the Site. See also TN13.

Target Note	Grid Reference	Description
12	340551 1013602	 Wet drainage ditch making the western site boundary. The water slowly flows north. The ditch is overgrown with vegetation. Vegetation includes semi-improved grassland species, with abundant broad-leaved dock and meadowsweet.

Target Note	Grid Reference	Description
13	341502 1013732	 Drainage ditch running through the north centre of the site. Water barely flowing, overgrown with vegetation, flows north. Vegetation includes semi-improved grassland species with broad-leaved docked and meadowsweet abundant. Ditch is fenced on both sides from livestock.

Target Note	Grid Reference	Description
14	341986 1014087	 Intertidal area following the northern boundary of the site, mixture of shingle beach and rocky cliffs up to 5m in height at the maximum.
15	342338 1013883	 Arable fields in the northeast of the site. Strips of wintercrops (barley) and turnips.
16	340686 1012917	Gorse hedgerow, runs alongside drainage ditch (TN12) and follows western boundary of the site.

Target Note	Grid Reference	Description
17	340881 1013559	Post and wire fencing, criss-crosses all of the site and survey buffer. Used for managing cattle and sheep. Plate in TN19 shows the typical character.
18	341687 1013198	 Agricultural storage sheds with thin curved corrugated roofs, noted as unsuitable for roosting bats. Sheds are directly south of the A965.
19	341684 1013083	 Stone cottage and out building. The buildings are slate rooved and are considered to have low suitability for roosting bats. The buildings are approximately 100m south of the Site.

Target Note	Grid Reference	Description
20	341329 1013423	 Track in centre of site, typical of all tracks overgrown with grass. Looking south towards Wideford Hill.
21	342048 1013574	Track running into site, similar to TN19.
22	341437 1013194	Busy road, A965.
23	340316 1013991	Area of noted otter activity (sprainting). See also TN4.

Target Note	Grid Reference	Description
24	340316 1013991	 Area of hard standing north of A965.

Annex C: Species List

Common Name	**Scientific Name**
Annual meadow grass	*Poa annua*
Bog-mosses	*Sphagnum spp.*
Broad-leaved dock	*Rumex obtusifolius*
Common bent	*Agrostis capillaris*
Common chickweed	*Stelleria media*
Common cottongrass	*Eriophorum angustifolium*
Common daisy	*Bellis perennis*
Common dandelion	*Taraxacum officinale*
Common haircap	*Polytrichum commune*
Common hogweed	*Heracleum sphondylium*
Common nettle	*Urtica dioica*
Common sorrel	*Rumex acetosa*
Creeping buttercup	*Ranunuculus repens*
Creeping thistle	*Cirsium arvense*
Daisy	*Bellis perennis*
Gorse	*Ulex europaeus*
Hares Tail cottongrass	*Eriophorum vaginatum*
Heather	*Calluna vulgaris*
Heath rush	*Juncus squarrosus*
Meadowsweet	*Filipendula ulmaria*
Male ferm	*Dryopteris felix-mas*
Marsh marigold	*Caltha palustris*
Marsh thistle	*Circium palustre*

Common Name	Scientific Name
Ox-eye daisy	*Matricaria discoidea*
Perennial rye-grass	*Lolium perenne*
Pineappleweed	*Matricaria discoidea*
Purple moor grass	*Molina caerulea*
Red-stemmed feather-moss	*Pleurozium schreberi*
Ribwort plantatain	*Plantago Lanceolata*
Scentless mayweed	*Tripleurospermum inodorum*
Silverweed	*Potentailla anserina*
Soft-rush	*Juncus effusus*
Tormentil	*Potentilla erecta*
Tufted hair-grass	*Deschampsia cespitosa*
Wavy hair-grass	*Deschampsia flexuosa*
White clover	*Trifolium repens*
Yellow iris	*Iris pseudacorus*
Yorkshire fog	*Holcus lanatus*
Brown hare	*Lepus europaeus*
Eurasian rabbit	*Oryctolagus cuniculus*
Otter (evidence of)	*Lutra lutra*
Stoat	*Mustela erminea*
Black-headed gull	*Chroicocephalus ridibundus*
Curlew	*Numenius arquata*
Eider	*Somateria mollissima*
Greylag Goose	*Anser anser*

Common Name	**Scientific Name**
Great black-backed Gull	*Larus marinus*
Herring Gull	*Larus argentatus*
Hen Harrier	*Circus cyaneus*
House Sparrow	*Passer domesticus*
Linnet	*Linaria cannabina*
Long-tailed Duck	*Clangula hyemalis*
Meadow Pipit	*Anthus pratensis*
Mute swan	*Cygnus olor*
Oystercatcher	*Haematopus ostralegus*
Pheasant	*Phasianus colchicus*
Pink-footed Goose	*Anser brachyrhynchus*
Raven	*Corvus corax*
Redshank	*Tringa totanus*
Red Grouse	*Lagopus lagopus*
Red-throated Diver	*Gavia stellata*
Ringed Plover	*Charadrius hiaticula*
Rock Pipit	*Anthus petrosus*
Rock dove	*Columba livia*
Rook	*Corvus frugilegus*
Shag	*Phalacrocorax aristotelis*
Snipe	*Gallinago gallinago*
Starling	*Sturnus vulgaris*
Teal	*Anas crecca*
Tufted Duck	*Aythya fuligula*
Twite	*Linaria flavirostris*

Common Name	Scientific Name
Wigeon	*Anas penelope*
Wren	*Troglodytes troglodytes*

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