Bowdun Offshore Wind Farm

Technical Appendix 7.2: UKHab, NVC for GWDTE and Protected Species Survey (2025)

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0742303

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
BSA	Badger Survey Area
BtSA	Bat Survey Area
EIA	Environmental Impact Assessment
GWDTE	Groundwater Dependent Terrestrial Ecosystem
KM	Kilometres
LBAP	Local Biodiversity Action Plan
M	Metres
MDS	Maximum Design Scenarios
NVC	National Vegetation Classification
OS NGR	Ordnance Survey National Grid Reference
pGWDTE	Potential Groundwater Dependent Terrestrial Ecosystem
PMSA	Pine Marten Survey Area
PPP	Planning Permission in Principle
SBL	Scottish Biodiversity List
SEPA	Scottish Environment Protection Agency
TN	Target Note
UKHab	UK Habitat Classification

1. INTRODUCTION

This report has been prepared by Environmental Resources Management Limited (ERM) as supporting information to **Technical Appendix 7.1: UKHab and Protected Species Survey (2024)**[1] and **Technical Appendix 7.3: Protected Species Survey (Confidential Annex)**[2].

During the iterative design development process, the Study Area was revised to the Planning Permission in Principle (PPP) Application Boundary following optioneering, consultations and updated assumptions relating to maximum design scenarios (MDS); as described in **EIA Report Volume 1, Chapter 3 (Project Description)**. Whilst the PPP Application Boundary was largely a refinement of the Study Area, some areas were locally extended beyond the limits of the Ecology Survey Area surveyed in 2024; as described in **Technical Appendix 7.1: UKHab and Protected Species Survey (2024)**. Therefore, a further UKHab and protected species survey was required to obtain additional baseline information to inform **EIA Report Volume 1, Chapter 7 (Biodiversity)** to cover the parts of the PPP Application Boundary not previously surveyed; as shown in **Figure 1**.

Habitat surveys completed in 2024 classified vegetation in accordance with the latest UK Habitat Classification (UKHab). The Scottish Environment Protection Agency (SEPA)[3] recognise that the presence of Groundwater Dependent Terrestrial Ecosystems (GWDTE), that are specifically protected under the Water Framework Directive, can be identified by proxy using detailed botanical surveys; and have published a list of National Vegetation Classification (NVC) communities that may be dependent on groundwater. Given that the classification system for UKHab and NVC are based on different parameters, it is not possible to confirm the presence of NVC communities from UKHab, or vice-versa. Therefore, a detailed botanical survey was required to confirm the presence of potential GWDTE (pGWDTE) across both the 2024 survey area and 2025 survey area to inform **EIA Report Volume 1, Chapter 10 (Geology and Ground Conditions)**.

Therefore, the purpose of this report is to present the findings of the further UKHab and protected species survey; as well as the findings of targeted NVC surveys to inform the identification of pGWDTE across the whole Ecology Study Area (2025).

[1] ERM. (2025) *Bowdun Offshore Wind Farm - Onshore Ecology: Technical Appendix 7.1 UKHab and Protected Species Survey (2024)*. Commissioned report to Thistle Wind Partners from Environmental Resources Management Limited (Issued November 2025).
[2] ERM. (2025) *Bowdun Offshore Wind Farm - Onshore Ecology: Technical Appendix 7.3 Protected Species Survey (Confidential Annex)*. Commissioned report to Thistle Wind Partners from Environmental Resources Management Limited (Issued November 2025).
[3] SEPA. (2024) *Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems*. Scottish Environment Protection Agency [online]. Available at: <https://www.sepa.org.uk/media/i2cnr03k/guidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx> (last accessed October 2025).

2. METHODOLOGY

2.1 UKHAB AND PROTECTED SPECIES SURVEY

Methodologies relating to the UKHab and protected species survey are presented in **Technical Appendix 7.1: UKHab and Protected Species Survey (2024)**; and are not repeated here.

The further UKHab and protected species survey was completed in accessible areas of the PPP Application Boundary, and associated species-specific zones of influence, where these extended beyond the limits of previous ecology surveys; hereafter referred to as the Ecology Study Area (2025); as shown on **Figure 1**.

Incidental sightings of protected species encountered outside the Ecology Study Area (2025), as surveyors moved between field compartments and access points, were also recorded as Target Notes to inform the need for further surveys.

2.2 NATIONAL VEGETATION CLASSIFICATION

A detailed botanical survey was completed in accordance with Rodwell (2006)[4] to classify and map plant communities in areas where habitats and vegetation could correspond with a pGWDTE.

The NVC survey was completed in accessible areas of the PPP Application Boundary, locally extended up to 250 m from emerging onshore export cable route options, where this extended beyond the limits of the previous habitat survey. In addition, wetland habitats identified in 2024 (UKHab communities: g3c7, g3c8, w1d, w1d5, f2b, f2f and h3j) were re-inspected to record relevant NVC communities. Collectively, this is referred to as the NVC Survey Area; as shown on **Figure 1**.

Prior to undertaking field surveys, homogenous stands of vegetation were initially identified within the NVC Survey Area and mapped as polygons on GIS using high resolution aerial imagery. These polygons were then 'ground-truthed' in the field by an experienced botanical specialist.

During field surveys, NVC communities (and sub-communities) were identified by surveyors based on their knowledge of (and experience using) keys, community descriptions and published floristic tables[5,6,7,8,9]. A species list for each vegetation type was recorded that estimated the abundance of vascular plants, bryophytes and macro-lichens using the Domin scale, to aid classification of NVC communities (and sub-communities) through direct comparisons with published floristic tables.

[4] Rodwell, J.S. (2006) NVC Users' Handbook. Available at: https://hub.jncc.gov.uk/assets/a407ebfc-2859-49cf-9710-1bde9c8e28c7 (last accessed October 2025).
[5] Rodwell, J.S. (ed.) (1991-2000). British Plant Communities. Five volumes. Cambridge University Press.
[6] Averis, A., Averis, B., Birks, J., Horsfield, D., Thompson, D. & Yeo, M. (2004) An Illustrated Guide to British Upland Vegetation. Available at: https://hub.jncc.gov.uk/assets/a17ab353-f5be-49ea-98f1-8633229779a1 (last accessed October 2025).
[7] Hall, J.E., Kirby, K.J. & Whitbread, A.M. (revised 2004) National vegetation classification field guide to woodland. Available at: https://hub.jncc.gov.uk/assets/673dc337-e58f-4f6b-ac7b-717001983c2e (last accessed October 2025).
[8] Elkington, T., Dayton, N., Jackson, D.L. & Strachan, I.M. (2002) National Vegetation Classification field guide to mires and heaths. Available at: https://hub.jncc.gov.uk/assets/1d0037bd-6c77-4677-8040-2f6e1d852eb1 (last accessed October 2025).
[9] Cooper, E.A. (1997) Summary descriptions of National Vegetation Classification grassland and montane communities. JNCC, Peterborough.

Due to fine-scale vegetation patterning and variability, and numerous zones of transition between similar vegetation types, some polygons contained complex mosaics of two or more NVC communities. Where polygons have been mapped as mosaics, an approximate percentage cover of each NVC community within the mosaic is estimated so that the dominant community (and character) of the vegetation can still be ascertained.

A series of target notes were recorded to describe examples of each vegetation type (i.e. NVC community or sub-community). These were recorded either where the NVC community was first encountered, or at locations where a representative example of the vegetation was identified. In addition, target notes were recorded as point features where plant communities were too small to map as polygons (e.g. springs, flushes, etc.).

2.3 GROUNDWATER DEPENDENT TERRESTRIAL ECOSYSTEMS

SEPA has published a list of NVC communities that, if present, may indicate a wetland habitat that may be potentially dependent on groundwater[3]. Wetland habitats containing these NVC communities are considered to be pGWDTEs unless further information can be provided to demonstrate this is not the case.

Using the findings of the habitat survey described in **Section 2.2**, pGWDTEs were identified solely against the corresponding NVC communities described in current SEPA guidance. Further consideration and interpretation of the hydrogeological settings in relation to the pGWDTEs identified in this report are described in **EIA Report Volume 1, Chapter 10 (Geology and Ground Conditions)**.

2.4 SURVEY PERSONNEL AND TIMINGS

Surveys were undertaken by ERM between 01 and 05 September 2025 by the following lead surveyors who are members of CIEEM with at least capable level of competence in undertaking and leading surveys for habitat and protected species[10]:

- Callum Gilhooley ACIEEM – ERM Principal Consultant Ecologist;
- Isabella Cornwell – ERM Consulting Associate;
- Aaron Martin qualifying CIEEM – ERM Consultant Ecologist; and
- Theo Loizou MCIEEM – ERM sub-contractor and botanical specialist.

2.5 SURVEY LIMITATIONS

A small proportion of land within the 2025 Ecology Study Area was not accessible due to landowner permission not being provided, which typically consisted of farms and private residential properties. Where it was considered safe to do so, areas that could not be physically accessed were visually assessed from adjoining land areas.

[10] CIEEM. (2024) *Competency Framework*. Chartered Institute of Ecology and Environmental Management [Online]. Available at: <https://cieem.net/wp-content/uploads/2019/02/Competency-Framework-2024-V7-Web.pdf> (last accessed October 2025).

3. SURVEY FINDINGS

3.1 HABITATS

UKHab communities identified within the Ecology Study Area (2025) are summarised in Table 3.1, along with the total area (ha) of each habitat and the proportion of each habitat within the Ecology Study Area (2025). In addition, **Table** 3.1 also details NVC communities indicative of pGWDTE recorded within the NVC Survey Area.

Cropland was the most prevalent broad habitat encountered, accounting for over 50 % of the Ecology Study Area (2025); as shown on **Figure 2.1–2.8 (Appendix A)**. These areas were characterised by extensive field systems containing monocultures of wheat, barley, oats, and winter stubble, rye-grass, clover leys, and non-cereal crops (pea, potato, *etc*.).

Grassland was the second most prevalent broad habitat encountered, accounting for over 34 % of the Ecology Study Area (2025); as shown on **Figure 2.1–2.9 (Appendix A)**. These areas were predominantly characterised by extensive fields containing modified grassland, which were species-poor and species that rely on nutrients and fertilisers. Small areas of neutral grassland were typically present within narrow field margins.

Woodland and forests were the third most prevalent broad habitat recorded, accounting for approximately 6 % of the Ecology Study Area (2025) ; as shown on **Figure 2.1–2.11 (Appendix A)**. Of these, other coniferous woodlands were the most frequent, amounting to approximately 1 % of the Ecology Study Area (2025), and occurred in small blocks throughout the Ecology Study Area (2025). In these areas, other coniferous woodlands were characterised by dense plantations of Sitka spruce (*Picea sitchensis*) with rowan (*Sorbus aucuparia*) and a species of birch (*Betula* sp.) present in more open areas.

A total of six priority habitats were recorded within the Ecology Study Area (2025):

- native hedgerows;
- rivers and burns;
- purple moor grass and rush pastures;
- upland flushes, fens and swamps;
- upland mixed ashwoods;
- other coniferous woodland; and
- wet woodland.

As shown on **Figure 3.1–3.3 (Appendix A)**, three NVC communities that are pGWDTE were recorded within the Ecology Study Area (2025):

- M23 *Juncus effusus/acutiflorus–Galium palustre rush-pasture;*
- M27 Filipendula ulmaria – Angelica sylvestris mire; and
- W1 *Salix cinerea-Galium palustre* woodland.

The following sections describe the UKHab communities recorded within the Ecology Study Area (2025), along with NVC communities indicative of pGWDTE. Target Notes providing additional details of vegetation and habitats are presented in **Appendix B**.

TABLE 3.1 HABITATS AND VEGETATION WITHIN THE ECOLOGY STUDY AREA (2025)

Ecosystem	Code	Habitat	NVC	pGWDTE	Area (ha)	Proportion (%) of Ecology Study Area (2025)	Length within Ecology Study Area (2025)	Conservation Status
Grassland	g3c	Other neutral grassland	-	-	0.8	0.3	-	LBAP
	g3c5	*Arrhenatherum* neutral grassland	-	-	0.7	0.3	-	LBAP
	g3c7	*Deschampsia* neutral grassland	-		0.4	0.1		LBAP
	g3c8	Holcus- Juncus neutral grassland	M27	Potential	2.8	1.0	-	LBAP
	g4	Modified grassland	-	-	90.3	32.9	-	
Woodland and forest	w1b	Upland mixed ashwoods	-		0.7	0.3		LBAP, SBL
	w1d	Wet woodland	W1	Potential	8.8	3.2	-	LBAP, SBL
	w1g	Other broadleaved woodland	-	-	2.6	0.9	-	LBAP
	w1h6	Other woodland; mixed; mainly conifer	-	-	0.3	0.1		-
	w2b	Other Scot's Pine woodland	-	-	1.6	0.6	-	-
	w2c	Other coniferous woodland	-	-	4.3	1.6	-	-
Heathland and shrub	h2a	Native hedgerow	-	-	-	-	0.3	LBAP, SBL
	h3e	Gorse scrub	-	-	4.1	1.5	-	LBAP
	h3h	Mixed scrub	-	-	0.2	0.1	-	LBAP
Wetland	f2b	Purple moor-grass and rush pastures	M23	Potential	1.6	0.6	-	LBAP, SBL
	f2f	Other wetlands	M23	Potential	1.6	0.6	-	LBAP
Cropland	c1	Arable and horticulture	-	-	0.9	0.3	-	-
	c1b	Temporary grass and clover leys	-	-	12.4	4.5	-	-

Ecosystem	Code	Habitat	NVC	pGWDTE	Area (ha)	Proportion (%) of Ecology Study Area (2025)	Length within Ecology Study Area (2025)	Conservation Status
	c1b5	Rye-grass and clover ley	-	-	24.6	9.0	-	-
	c1c	Cereal crops	-	-	14.8	5.4	-	-
	c1c5	Winter stubble	-	-	23.4	8.5	-	-
	c1c7	Other cereal crops	-	-	62.2	22.7	-	-
	c1d8	Other non-cereal crops	-	-	8.6	3.1	-	-
Urban	u1	Built-up areas and gardens	-	-	1.8	0.7	-	-
	u1b5	Buildings	-	-	0.1	<0.1	-	-
	u1b6	Other developed land	-	-	0.3	0.1	-	-
	u1c	Artificial unvegetated, unsealed surface	-	-	0.6	0.2	-	-
	u1d	Suburban mosaic of developed and natural surface	-	-	1.5	0.5	-	-
	u1e	Built linear features	-	-	2.1	0.8	-	-
Rivers and lakes	r1g	Other standing water	-	-	-	-	0.2	LBAP, SBL
	r2b	Other rivers and streams	-	-	-	-	0.3	LBAP, SBL
Total					274.1	100	0.8	
SBL: Scottish Biodiversity List[11], LBAP: Local Biodiversity Action Plan[12]								

[11] NatureScot (2010). Scottish Biodiversity List [Online]. Available at: <https://www.nature.scot/doc/scottish-biodiversity-list> (last accessed October 2025).

[12] North East Scotland Local Biodiversity Partnership (2025).
North East Scotland Local Biodiversity Partnership [Online]. Available at: <https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-habitats-for-biodiversity-in-the-north-east-of-scotland> (last accessed October 2025).

3.1.1 GRASSLAND

Modified grassland was the most dominant grassland habitat type recorded frequently across the Ecology Study Area (2025). Three LBAP neutral grassland types were recorded throughout the Ecology Study Area (2025). The most extensive was g3c – Other neutral grassland. G3c5 – *Arrhenatherum* and g3c8 – *Holcus-Juncus* neutral grassland occurred in smaller areas throughout the Ecology Study Area (2025).

3.1.1.1 G3C – Other Neutral Grassland

This habitat comprises various neutral grassland types that were encountered within the Ecology Study Area (2025). It can be further divided into several sub-types named at the next level (Level 5) of the UKHab hierarchy, which are described in more detail below. However, some examples are best retained at this more generic level because they are not a good fit for any subtypes.

Many stands consisted of unmanaged tall ruderal grassland, which included rosebay willowherb (*Chamerion angustifolium*), common nettle (*Urtica dioica*), and bramble (*Rubus fruticosus* agg.). Other neutral grassland was present on verges of paths, tracks, rivers, and field margins, which included a mixture of grasses and herbs, including Yorkshire fog (*Holcus lanatus*), cock's-foot (*Dactylis glomerata*), common hogweed (*Heracleum sphondylium*), spear thistle (*Cirsium vulgare*), tufted hair-grass (*Deschampsia cespitosa*), silverweed (*Potentilla anserina*), cleavers (*Galium aparine*), and broad-leaved dock (*Rumex obtusifolius*).

3.1.1.2 G3C5 – *ARRHENATHERUM* NEUTRAL GRASSLAND

Arrhenatherum neutral grassland was recorded along field margins and river verges in rank, uncultivated stands. False oat-grass (*Arrhenatherum elatius*) was abundant in these swards, with frequent cock's-foot, crested dog's tail (*Cynosurus cristatus*), and Yorkshire fog. In most stands, forbs present included frequent common hogweed, creeping buttercup (*Ranunculus repens*), broad-leaved dock (*Rumex obtusifolius*), and common ragwort (*Jacobaea vulgaris*).

3.1.1.3 G3C7 – *DESCHAMPSIA* NEUTRAL GRASSLAND

Deschampsia neutral grassland occurred in two poorly drained areas next to Carron Water. The most abundant species overall was tufted hair-grass, with frequent reed canary grass, cock's-foot, Yorkshire fog, and occasional soft rush and broad-leaved dock.

Deschampsia neutral grassland was associated with M23b NVC community, which is detailed further in **Section 3.1.4.3**.

3.1.1.4 G3C8 – *Holcus-Juncus* Neutral Grassland

Holcus-Juncus neutral grassland was associated with poorly drained or waterlogged conditions, including depressions and drainage ditches. The most abundant species in stands were soft rush *(Juncus effusus*) and Yorkshire fog; these species could be dominant in some locations. Other frequently occurring species included tufted hair-grass, creeping thistle (*Cirsium arvense*), ragwort, common sow thistle (*Sonchus oleraceus*), with occasional marsh violet (*Viola palustris*), common sorrel (*Rumex acetosa*), meadowsweet (*Filipendula ulmaria*), marsh willowherb (*Epilobium palustre*), and wild angelica (*Angelica sylvestris*). Two NVC communities indicative of a pGWDTE were recorded in this habitat, as described below.

M27b *Filipendula ulmaria-Angelica sylvestris* community, *Urtica dioica-Vicia cracca* sub-community

M27b was localised within the Ecology Study Area (2025). This community contained abundant meadowsweet with frequent wild angelica. The sub-community was identified by the abundance of common nettle with occasional creeping thistle, tufted-hair grass, cleavers, and broad-leaved dock.

M27c *Filipendula ulmaria-Angelica sylvestris* community, *Juncus effusus-Holcus lanatus* sub-community

This was also a localised community characterised by locally abundant / frequent meadowsweet. Soft rush, the distinguishing species of this sub-community, was locally abundant / frequent too. Yorkshire fog was frequent throughout this community, and creeping soft grass (*Holcus mollis*), was locally abundant. Sneezewort (*Achillea ptarmica*), water mint (*Mentha aquatica*), common sorrel, marsh willowherb, field horsetail (*Equisetum arvense*), smooth meadow grass (*Poa pratensis* agg.) and creeping buttercup occurred occasionally.

3.1.1.5 G4 – MODIFIED GRASSLAND

Modified grassland was widespread within the Ecology Study Area (2025), characterised by agricultural fields grazed by livestock. Perennial rye-grass (*Lolium perenne*) was abundant to completely dominant in these swards, and this was almost always accompanied by abundant white clover (*Trifolium repens*). Other occasional species included cock's-foot, Yorkshire fog, false oat-grass, dandelion (*Taraxacum* agg.), autumn hawkbit (*Scorzoneroides autumnalis*), creeping buttercup, and spear thistle (*Cirsium vulgare*).

3.1.2 WOODLAND AND FOREST

3.1.2.1 W1B – UPLAND MIXED ASHWOODS

One stand of upland mixed ashwoods was recorded near Arbuthnott within the south of the Ecology Study Area (2025), along Bervie Water. There were frequent ash (*Fraxinus excelsior*) and rowan, with occasional hazel (*Corylus avellana*) and downy birch (*Betula pubescens*). The field layer was a mosaic with no single species dominating, with dog's mercury (*Mercurialis perennis*) and common bluebell (*Hyacinthoides non-scripta*) frequent to occasional.

3.1.2.2 W1D – WET WOODLAND

Three stands of wet woodland were present within the centre of the Ecology Study Area (2025), which were confined to depressions and gently sloping valleys. One NVC community indicative of a pGWDTE was recorded in this habitat, as described below.

W1 *Salix cinerea-Galium palustre* woodland

W1 woodland was present within depressions and gently sloping valleys within the Ecology Study Area (2025). The community had abundant grey willow (*Salix cinerea)*, with locally abundant osier (*Salix viminalis*), and frequent to occasional goat willow (*Salix caprea*). Wych elm (*Ulmus glabra*) and alder (*Alnus glutinosa*) occurred occasionally.

The field layer was not well developed as it was influenced by the surrounding modified grassland and cereal crop vegetation. This was shown through frequent common nettle, which indicated increased nutrients. Tufted-hair grass, Yorkshire fog, soft rush, and creeping

buttercup frequently occurred within this community. There was occasional water mint, marsh willowherb, marsh thistle (*Cirsium palustre*), water forget-me-not (*Myosotis scorpioides*), marsh woundwort, and bog stitchwort (*Stellaria alsine)*.

3.1.2.3 W1G – OTHER BROADLEAVED WOODLAND

Five stands of other broadleaved woodland were present within the Ecology Study Area (2025). Broadleaved tree and shrub species were mixed in their presence and frequency between each section of this habitat within the Ecology Study Area (2025). Species within these habitats comprised a mix of native and non-native species, including beech (*Fagus sylvatica*), rowan, wych elm, downy birch, hazel, grey willow, and goat willow.

Field layers within these stands included neutral grasses and forbs, including tufted-hair grass, Yorkshire fog, common bent (*Agrostis capillaris*), bush vetch (*Vicia sepium*), and *Mnium hornum* in one stand where beech dominated.

3.1.2.4 W2B – OTHER SCOT'S PINE WOODLAND

One isolated stand of Other Scot's pine woodland was recorded at Cuttiesouter, which comprised almost entirely of Scot's pine (*Pinus sylvestris*). There is little in the way of a shrub layer, leading to a field layer dominated by gramminoids and broadleaved herbaceous plants including Yorkshire fog and creeping buttercup, interspersed with soft rush.

3.1.2.5 W2C – OTHER CONIFEROUS WOODLAND

The most common woodland habitat was W2c – Other coniferous woodland, which was present throughout the Ecology Study Area (2025) and dominated by Sitka spruce (*Picea sitchensis*). One stand near Gyratesmyre Farm in the centre of the Ecology Study Area (2025) had occasional rowan, hawthorn (*Crataegus monogyna*), and downy birch. These areas were dense and lacked ground flora.

These conifer stands were generally even-aged and closely planted, resulting in a shaded understory with little structural diversity. Ground flora was largely absent, reflecting the limited light penetration. Areas of other neutral grassland, modified grassland, and cropland were present at forest edges.

3.1.3 HEATHLAND AND SHRUB

3.1.3.1 H2A – NATIVE HEDGEROW

Two native hedgerows were present near Annamuick, bordering modified grassland fields. One hedgerow (0.1 km) was dominated by hawthorn only, while the second hedgerow (0.2 km) had abundant hawthorn with occasional hazel, dog rose (*Rosa canina*), and gorse (*Ulex europaeus*).

3.1.3.2 H3E – GORSE SCRUB / H3H – MIXED SCRUB

Four small stands of dense gorse scrub were scattered within the Ecology Study Area (2025), with occasional tall forbs, bracken (*Pteridium aquilinum*), common nettle, rosebay willowherb, and elder (*Sambucus nigra*) present.

One small area of mixed scrub was present next to a track near Jacksbank wind farm in the centre of the Ecology Study Area (2025), which consisted of abundant gorse alongside

occasional rosebay willowherb, common hogweed, rowan, false-oat grass, common sorrel (*Rumex acetosa*), common nettle, creeping soft grass and creeping buttercup.

3.1.4 WETLANDS

3.1.4.1 F2B – PURPLE MOOR-GRASS AND RUSH PASTURES

Three areas of f2b - Purple moor-grass and rush pastures were present within the Ecology Study Area (2025). The two smaller areas were small wet depressions adjacent to modified grassland, and had abundant soft rush, frequent common nettle, and occasional creeping buttercup, tufted-hair grass, white clover and perennial ryegrass.

The larger area of the three (1 ha) had abundant soft rush, occasional sharp-flowered rush (*Juncus acutiflorus*), Yorkshire fog, tufted-hair grass, sneezewort, marsh thistle, marsh willowherb, meadow vetchling (*Lathyrus pratensi*), meadow buttercup (*Meadow buttercup*), creeping buttercup, and common sorrel.

3.1.4.2 F2C – UPLAND FLUSHES, FENS AND SWAMPS

There was an area of upland flushes, fens, and swamps next to an area of f2f -other wetlands near Arbuthnott. This area had frequent soft rush, reed canary grass, wood rush, wild angelica, Yorkshire fog, creeping bent (Agrostis stolonifera), marsh horsetail, and water forget-me-not. There was also occasional brooklime (*Veronica beccabunga*), water mint, and creeping buttercup. This area was associated with NVC community M23b, which is discussed below.

3.1.4.3 F2F – OTHER WETLANDS

There were six areas of f2f - Other wetlands within the Ecology Study Area (2025), often small and adjacent to modified grassland / cropland. One NVC community indicative of a pGWDTE was recorded in this habitat, as described below.

M23b *Juncus effusus/ acutiflorus-Galium palustre* rush pasture, *Juncus effusus* sub-community

M23b was the most widespread vegetation community encountered within the Ecology Study Area (2025). Floristically, some of this vegetation was closely associated with MG9a *Holcus lanatus-Deschampsia cespitosa* grassland; *Poa trivialis* sub-community and with MG10a Holcus lanatus-Juncus effusus rush pasture, typical sub-community.

For M23b, soft rush was frequent throughout and in places locally abundant. Sharp-flowered rush was occasional to frequent but locally abundant in a few areas. Where sharp-flowered rush was locally abundant, the vegetation came close to the M23a *Juncus acutiflorus* sub-community. However, M23a is typically floristically richer than M23b.

For most stands, tufted hair-grass was frequent to locally abundant, and the differential bog stitchwort was occasional. Where tufted hair-grass was abundant, the vegetation was floristically similar to MG9a.

Where the vegetation was recorded in mosaics with MG1 *Arrhenatherum elatius*, false-oat grass was frequent.

The following species were recorded as frequent to occasional within this community: sneezewort, marsh thistle, marsh willowherb, meadow vetchling, meadow buttercup, creeping buttercup, and common sorrel. There was also occasional creeping bent, wild angelica, sweet

vernal grass (*Anthoxanthum odoratum*), reed canary grass (*Phalaris arundinacea*), marsh woundwort and tufted vetch. There was occasional water horsetail (Equisetum fluviatile) and water mint in wetter stands.

3.1.5 CROPLAND

3.1.5.1 C1 – ARABLE AND HORTICULTURE

3.1.5.2 C1B – TEMPORARY GRASS AND CLOVER LEYS / C1B5 RYE-GRASS AND CLOVER LEY

Two areas of c1b – temporary grass and clover leys were present throughout the Ecology Study Area (2025).

Six areas of c1b5 – rye-grass and clover leys were present throughout the Ecology Study Area (2025). These fields were typically dominated by perennial ryegrass compared to c1b temporary grass and clover leys, and some fields included occasional to abundant white clover or were evidently cattle grazed or cut for hay/silage.

3.1.5.3 C1C – CEREAL CROPS

C1c cereal crops were found frequently throughout the Ecology Study Area (2025), with the main crops including wheat, barley, and potatoes.

3.1.5.4 C1C5 –WINTER STUBBLE

Two areas of c1c5 winter stubble were found within the Ecology Study Area (2025), with barley and wheat left over during the winter after harvesting.

3.1.5.5 C1C7 – OTHER CEREAL CROPS

C1c7 Other cereal crops, wheat and barley, were frequently found within the Ecology Study Area (2025).

3.1.5.6 C1D8 – OTHER NON-CEREAL CROPS

Although barley and wheat were the dominant crops within the Ecology Study Area (2025), there were fields of peas and potatoes within Annamuick and Drumlithie.

3.1.6 URBAN

3.1.6.1 U1 – BUILT-UP AREAS AND GARDENS

Constructed, industrial and other artificial habitats are present throughout the Ecology Study Area (2025). Areas of houses and farm buildings and their surrounding gardens have been mapped as u1 - Built-up areas and gardens.

3.1.6.2 U1B5 – BUILDINGS

Although the landscape was situated within an agricultural setting with frequent buildings, only one building was within the Ecology Study Area (2025), which was a residential home adjacent to a local road next to Whitehill Wood.

3.1.6.3 U1B6 - OTHER DEVELOPED LAND

One area of other developed land was recorded next to Elf Hillock in the east of the Ecology Study Area (2025). This area consisted of farm equipment storage on an unsealed surface.

3.1.6.4 U1D - SUBURBAN MOSAIC OF DEVELOPED AND NATURAL SURFACE

Two small-scale mosaic areas of developed and natural surfaces, housing and gardens, were present in the Ecology Study Area (2025).

3.1.6.5 U1E – BUILT LINEAR FEATURES

U1e – Built linear features appeared regularly throughout the Ecology Study Area (2025), primarily as roads crossing over / through the Ecology Study Area (2025) and as sealed access tracks.

3.1.7 RIVERS AND LAKES

3.1.7.1 R1G – OTHER STANDING WATER

A section next to Forthie Water had been mapped as r1g – Other standing water, as a vegetated ditch was present, with abundant false-oat grass, and occasional meadowsweet, common watercress, marsh willowherb, common nettle, Yorkshire fog, curly dock (*Rumex crispus*), creeping buttercup, soft rush, and common hogweed.

3.1.7.2 R2B – OTHER RIVERS AND STREAMS

A section of the burn, Carron Water, was recorded as r2b – Other rivers and streams at the base of a hill of g3c5 – *Arrhenatherum* neutral grassland vegetation and modified horse fields on the other side. This section of the burn was assessed as moderate condition so did not classify as r2a – Rivers. This section of the burn was rocky, fast-flowing, and had tall ruderals / rank grasses on the margins, in addition to marsh woundwort and common watercress.

3.1.8 NOTABLE / RARE PLANT SPECIES

Water speedwell (*Veronica anagallis-aquatica*) was recorded growing within Forthie Water in a small patch. This plant is registered on the Rare Plants Register for the county[13].

3.1.9 INVASIVE PLANT SPECIES

Giant hogweed (*Heracleum mantegazzianum*) was found within a section that had been previously surveyed as g3c8 –Holcus-Juncus Neutral Grassland near Arbuthnott. This species was confined to a small area, although several individuals were crowding out other species.

Himalayan balsam (*Impatiens glandulifera*) grew widely and frequently in f2f – Other wetlands by Forthie Water.

3.2 PROTECTED SPECIES

3.2.1 BATS

3.2.1.1 POTENTIAL ROOSTING HABITAT

A total of 17 individual trees were identified within the Bat Survey Area (BtSA) that could support roosting bats. These are shown on shown in **Figures 2.1–2.11 (Appendix A)** and described in **Target Notes BT1 to BT17 (Appendix C)**.

[13] BSBI (2025). Rare Plant Register [Online]. Available at: https://bsbi.org/rare-plant-registers (last accessed October 2025).

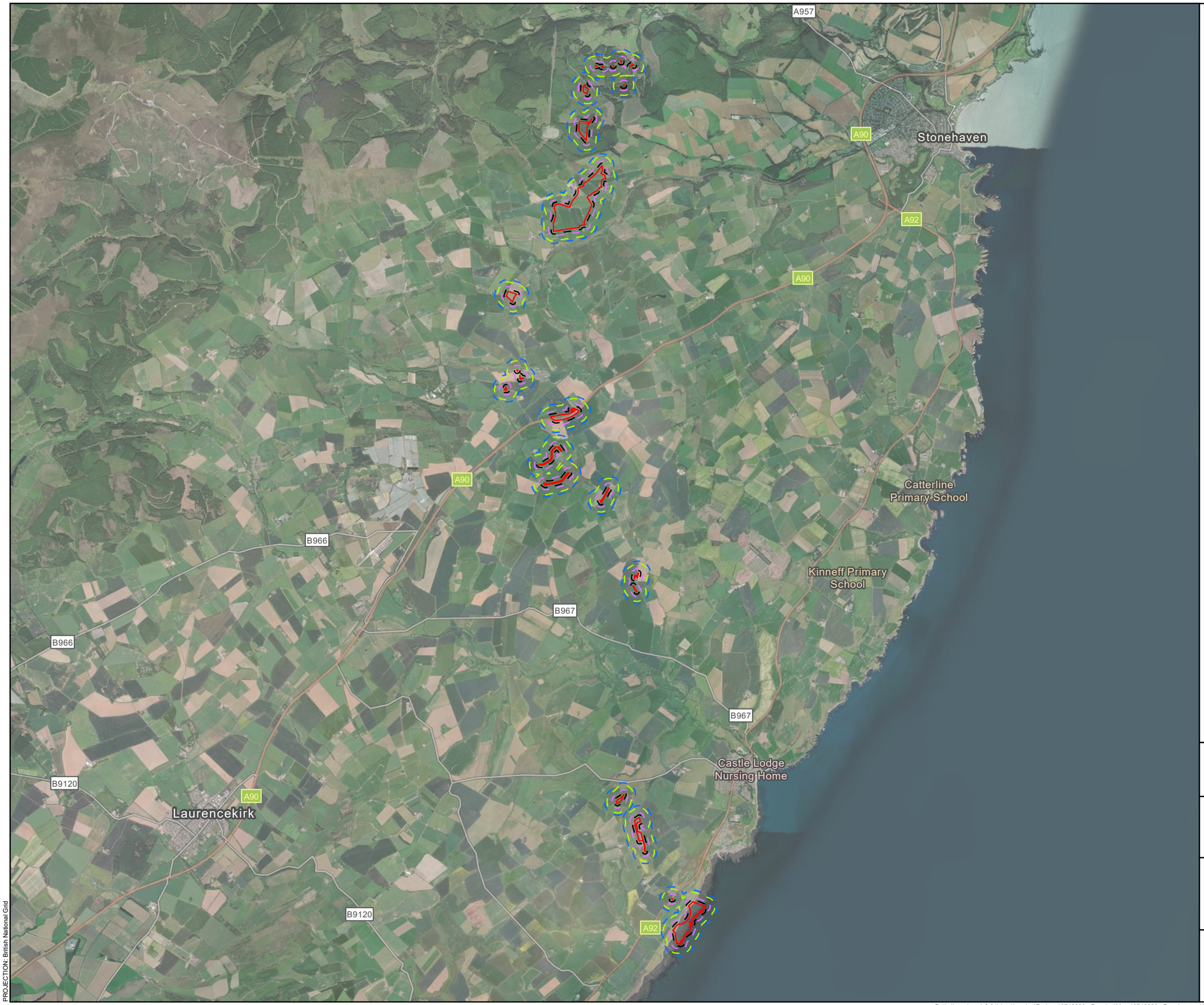
3.2.2 BADGER

Suitable badger sett building and foraging habitats have been recorded within the Badger Survey Area (BSA), which are described in **Technical Appendix 7.3: Protected Species Survey (Confidential Annex)**.

3.2.3 PINE MARTEN

A single mammal scat indicative of pine marten was recorded at Elfhill; as described in **Target Notes PM1 (Appendix C)**. No other evidence of pine marten activity was recorded elsewhere in the Pine Marten Survey Area (PMSA).

APPENDIX A FIGURES



Ecology Study Area (2025)

Protected Species Survey Buffers

- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

0 1 2 3 4
Kilometres

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Figure 1
Bowdun Offshore Windfarm - Onshore Ecology
Ecology Survey Area (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

Path: \\vmukspgisfs01\data\London\Projects\0742303 - Bowdun\Maps\0742303 - Bowdun.aprx\0742303 - Bowdun - Updated Survey Annex - Figure 1 - Ecology Study Area (2025)- A01

HA19
HA18
HA9
HA17
HA29
HA20
HA14
HA24
A92
Gourdon Primary School
Gourdon
Benholm
Burn of Benholm
Burn of Benholm
A92
A92

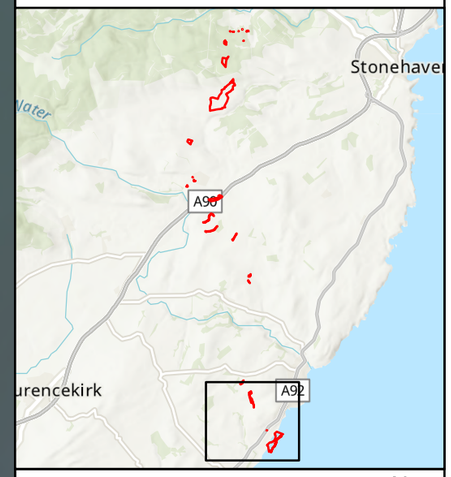
UK Habitat
- c1 - Arable and horticulture
- c1b - Temporary grass and clover leys
- c1c7 - Other cereal crops
- f2f - Other wetlands
- g3c - other neutral grassland
- g3c5 - Arrhenatherum neutral grassland
- g4 - modified grassland
- u1d - Suburban mosaic of developed and natural surface
- w1d - Wet woodland
- h3e - Gorse scrub

Ecology Study Area (2025)

Protected Species Survey Buffers
- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025
- Habitat

NVC Code
- W1



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Metres

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DATE: 11/12/2025	APPROVED: AB

Figure 2.1
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

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Hareden Burn

Peattie Burn

Peattie Burn

HA19

HA18

HA9

HA17

HA29

HA20

HA14

HA24

A92

A92

A92

William E
Park

Gourdo
Primary Sc

UK Habitat

- c1 - Arable and horticulture
- c1b - Temporary grass and clover leys
- c1c7 - Other cereal crops
- f2f - Other wetlands
- g3c - other neutral grassland
- g3c5 - Arrhenatherum neutral grassland
- g4 - modified grassland
- u1d - Suburban mosaic of developed and natural surface
- w1d - Wet woodland
- h3e - Gorse scrub

Ecology Study Area (2025)

Protected Species Survey Buffers

- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025

- Habitat

NVC Code

- W1

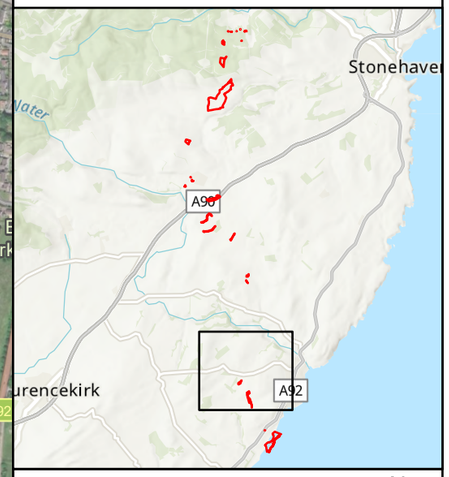

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Figure 2.2
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

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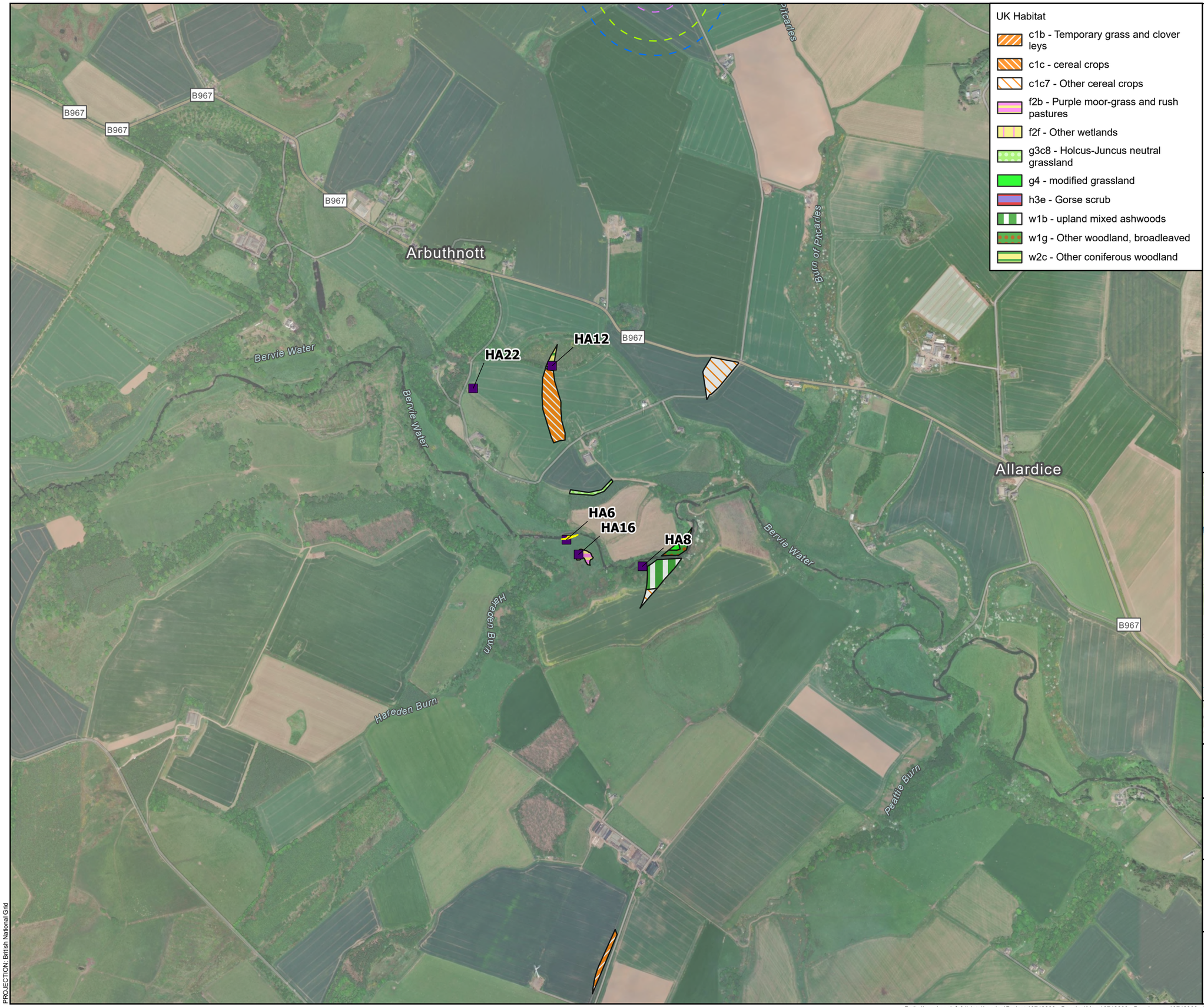

UK Habitat

- c1b - Temporary grass and clover leys
- c1c - cereal crops
- c1c7 - Other cereal crops
- f2b - Purple moor-grass and rush pastures
- f2f - Other wetlands
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- h3e - Gorse scrub
- w1b - upland mixed ashwoods
- w1g - Other woodland, broadleaved
- w2c - Other coniferous woodland

Protected Species Survey Buffers

- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025

- Habitat

NVC Code

- M27

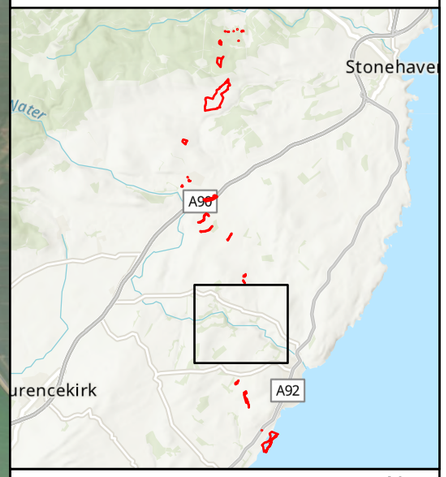

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Figure 2.3
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

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HA30
HA4
HA1
Bervie Water
Bridgend Burn
Bridgend Burn
Burn of Fiteraries
B967
B967

UK Habitat
- c1b5 - Rye-grass and clover ley
- c1c - cereal crops
- c1c7 - Other cereal crops
- g3c - other neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- h3e - Gorse scrub
- r1g - Other standing water
- u1 - built-up areas and gardens
- u1b - developed land, sealed surface
- u1e - Built linear features
- w2c - Other coniferous woodland

Ecology Study Area (2025)

Protected Species Survey Buffers
- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025
- Habitat

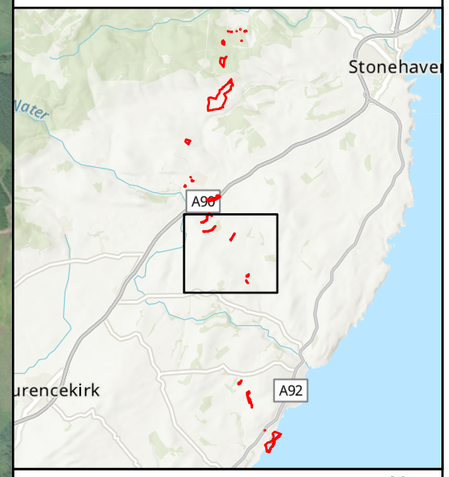

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Figure 2.4
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

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BT17
HA26
HA23
HA33
HA2
HA30
HA4
HA1
Glenbervie Road
Drumlithie
Mondynes
Bervie Water
Forthie Water
Bridgend Burn
A90
A92
Stonehaven
urencekirk

UK Habitat
- c1c - cereal crops
- c1c5 - Winter Stubble
- c1c7 - Other cereal crops
- c1d8 - Other non-cereal crops
- f2f - Other wetlands
- g3c - other neutral grassland
- g3c5 - Arrhenatherum neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- r1g - Other standing water
- u1 - built-up areas and gardens
- u1b - developed land, sealed surface
- u1b5 - buildings
- u1e - Built linear features
- w1d - Wet woodland
- w1g - Other woodland, broadleaved
- w2c - Other coniferous woodland

Ecology Study Area (2025)

Protected Species Survey Buffers
- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025
- Habitat

Bat Roost Assessment 2025
- NONE

0 100 200 300 400
Metres

N

SCALE: See Scale Bar	VERSION: A04
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Figure 2.5
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM
THISTLE WIND PARTNERS

PROJECTION: British National Grid

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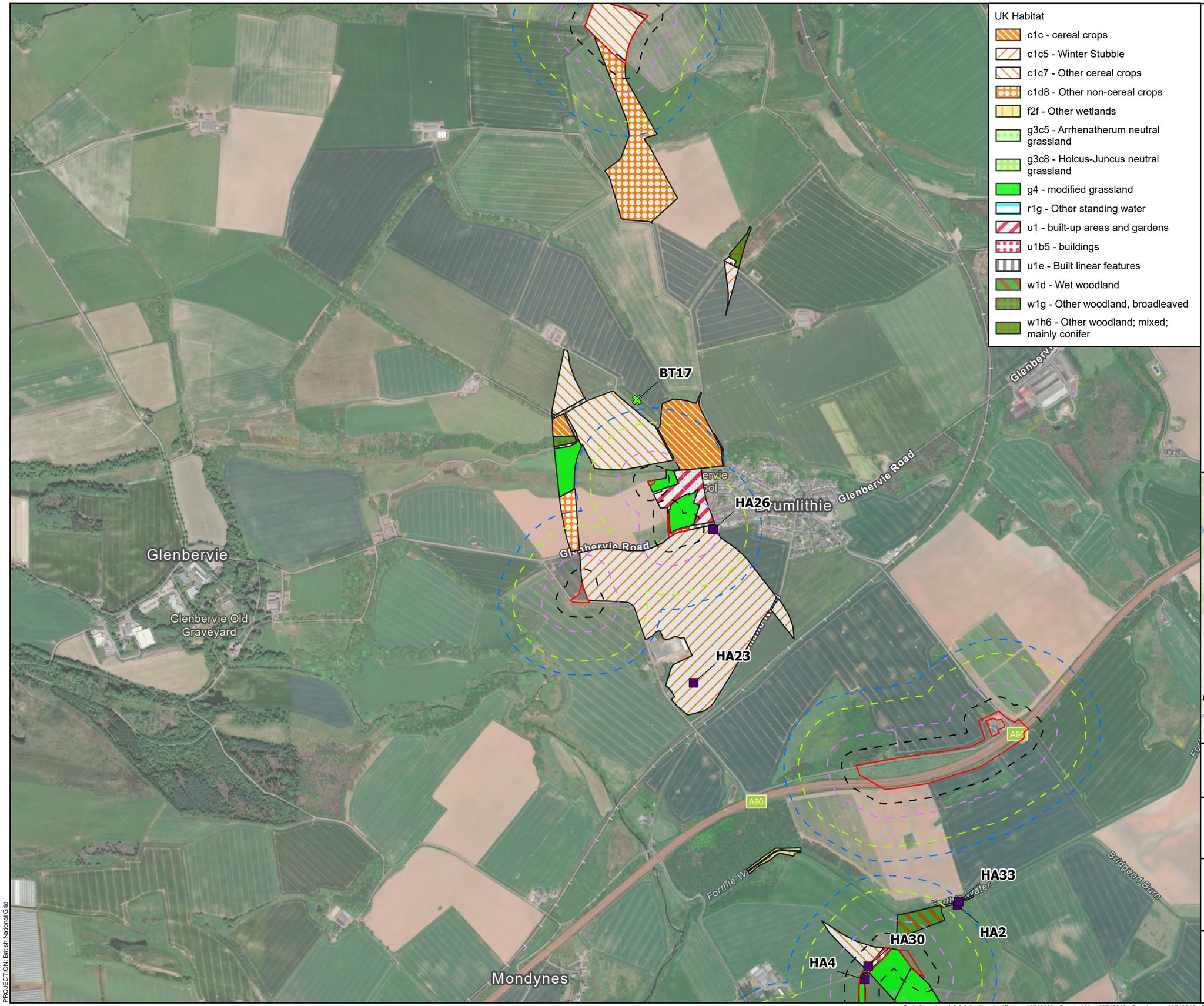

UK Habitat
- c1c - cereal crops
- c1c5 - Winter Stubble
- c1c7 - Other cereal crops
- c1d8 - Other non-cereal crops
- f2f - Other wetlands
- g3c5 - Arrhenatherum neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- r1g - Other standing water
- u1 - built-up areas and gardens
- u1b5 - buildings
- u1e - Built linear features
- w1d - Wet woodland
- w1g - Other woodland, broadleaved
- w1h6 - Other woodland; mixed; mainly conifer

Ecology Study Area (2025)

Protected Species Survey Buffers
- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025
- Habitat

Bat Roost Assessment 2025
- NONE

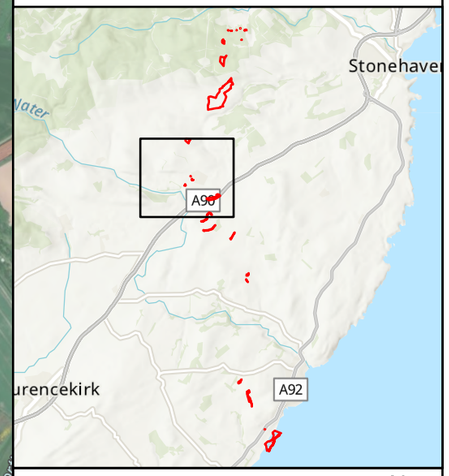

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Figure 2.6
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

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HA5
HA32
Carron Water
Carron Water
HA3
BT7
BT4
HA10
BT1
BT6
BT3
BT2
BT5
HA21
BT17
HA26
Glenbervie Road
Glenbervie Road
Glenbervie Road
Fiddes
Stonehaven
A90
A92
urencekirk

UK Habitat
- c1b - Temporary grass and clover leys
- c1b5 - Rye-grass and clover ley
- c1c - cereal crops
- c1c5 - Winter Stubble
- c1c7 - Other cereal crops
- c1d8 - Other non-cereal crops
- g3c - other neutral grassland
- g3c5 - Arrhenatherum neutral grassland
- g3c7 - Deschampsia neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- h3e - Gorse scrub
- h3h - Mixed scrub
- r1g - Other standing water
- u1 - built-up areas and gardens
- u1b5 - buildings
- u1e - Built linear features
- w1d - Wet woodland
- w1g - Other woodland, broadleaved
- w1h6 - Other woodland; mixed; mainly conifer
- r2b - Other rivers and streams

Ecology Study Area (2025)

Protected Species Survey Buffers
- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025
- Habitat

Bat Roost Assessment 2025
- FAR
- NONE

NVC Code
- W1
- M23
- M27

0 100 200 300 400
Metres

N

SCALE: See Scale Bar	VERSION: A04
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PROJECT: 0742303	CHECKED: AN
DATE: 11/12/2025	APPROVED: AB

Figure 2.7
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

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UK Habitat

- c1b - Temporary grass and clover leys
- c1b5 - Rye-grass and clover ley
- c1c - cereal crops
- c1c7 - Other cereal crops
- c1d8 - Other non-cereal crops
- f2b - Purple moor-grass and rush pastures
- g3c - other neutral grassland
- g3c5 - Arrhenatherum neutral grassland
- g3c7 - Deschampsia neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- h3e - Gorse scrub
- h3h - Mixed scrub
- r1g - Other standing water
- u1 - built-up areas and gardens
- u1b - developed land, sealed surface
- u1b6 - other developed land
- u1c - Artificial unvegetated, unsealed surface
- u1d - Suburban mosaic of developed and natural surface
- u1e - Built linear features
- w1d - Wet woodland
- w1g - Other woodland, broadleaved
- w1h6 - Other woodland; mixed; mainly conifer
- w2b - Other Scot's Pine woodland
- w2c - Other coniferous woodland
- r2b - Other rivers and streams

Ecology Study Area (2025)

Protected Species Survey Buffers

- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025

- Habitat

Protected Species 2025

- Pine marten

Bat Roost Assessment 2025

- FAR

NVC Code

- W1
- M23
- M27

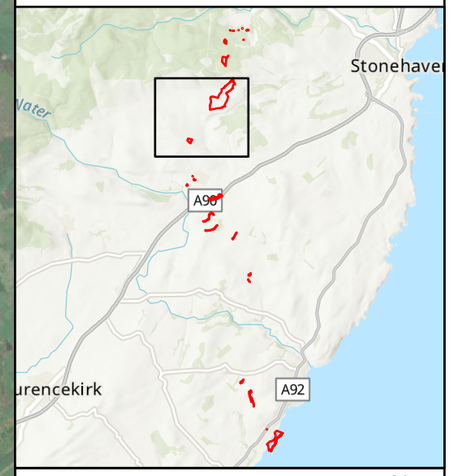

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Figure 2.8
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

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UK Habitat

- c1b - Temporary grass and clover leys
- c1b5 - Rye-grass and clover ley
- c1c - cereal crops
- c1c7 - Other cereal crops
- c1d8 - Other non-cereal crops
- f2b - Purple moor-grass and rush pastures
- g3c - other neutral grassland
- g3c5 - Arrhenatherum neutral grassland
- g3c7 - Deschampsia neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- h3e - Gorse scrub
- h3h - Mixed scrub
- r1g - Other standing water
- u1 - built-up areas and gardens
- u1b - developed land, sealed surface
- u1b6 - other developed land
- u1c - Artificial unvegetated, unsealed surface
- u1d - Suburban mosaic of developed and natural surface
- u1e - Built linear features
- w1d - Wet woodland
- w1g - Other woodland, broadleaved
- w2b - Other Scot's Pine woodland
- w2c - Other coniferous woodland
- r2b - Other rivers and streams

Ecology Study Area (2025)

Protected Species Survey Buffers

- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025

- Habitat

Protected Species 2025

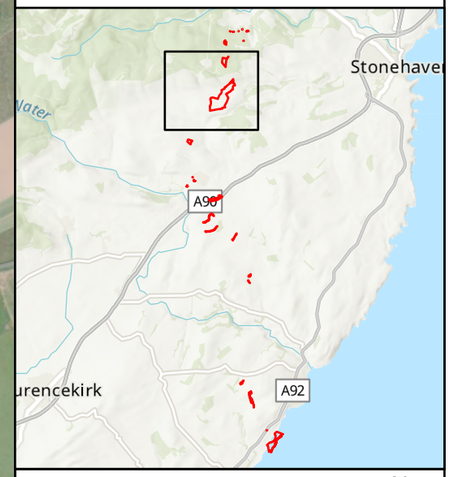
- Pine marten

Bat Roost Assessment 2025

- FAR

NVC Code

- W1
- M23
- M27



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Metres

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Figure 2.9
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

Path: \\vmukspgisfs01\data\London\Projects\0742303 - Bowdun\Maps\0742303 - Bowdun.aprx\0742303 - Bowdun - Updated Survey Annex - Figure 2 - UKHab and Protected Species (2025) - A01

UK Habitat

- c1b - Temporary grass and clover leys
- c1b5 - Rye-grass and clover ley
- c1c - cereal crops
- c1c7 - Other cereal crops
- c1d8 - Other non-cereal crops
- f2b - Purple moor-grass and rush pastures
- g3c - other neutral grassland
- g3c5 - Arrhenatherum neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- h3e - Gorse scrub
- u1 - built-up areas and gardens
- u1b - developed land, sealed surface
- u1b6 - other developed land
- u1c - Artificial unvegetated, unsealed surface
- u1d - Suburban mosaic of developed and natural surface
- u1e - Built linear features
- w1g - Other woodland, broadleaved
- w2b - Other Scot's Pine woodland
- w2c - Other coniferous woodland

Ecology Study Area (2025)

Protected Species Survey Buffers

- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)

Habitat Target Notes 2025

- Habitat

Protected Species 2025

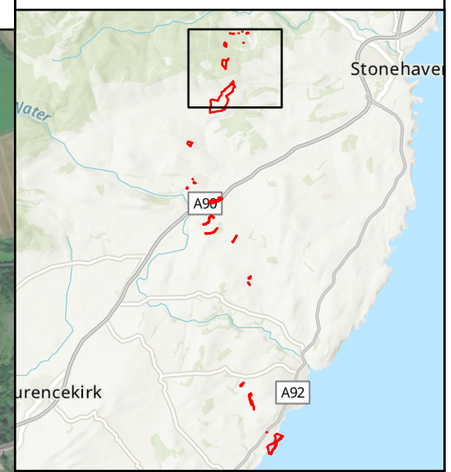
- Pine marten

Bat Roost Assessment 2025

- FAR

NVC Code

- M23



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Metres

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DATE: 11/12/2025	APPROVED: AB

Figure 2.10
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

Path: \\vmukspgisfs01\data\London\Projects\0742303 - Bowdun\Maps\0742303 - Bowdun.aprx\0742303 - Bowdun - Updated Survey Annex - Figure 2 - UKHab and Protected Species (2025) - A01

Mergie

Cowie Water

Burn of Day

Cowie Water

Burn of Day

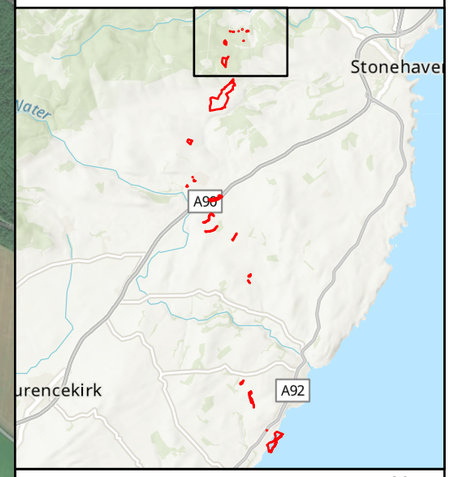
UK Habitat

- g3c5 - Arrhenatherum neutral grassland
- g4 - modified grassland
- w2c - Other coniferous woodland

Ecology Study Area (2025)

Protected Species Survey Buffers

- 2025 All Species Study Area (50 m)
- 2025 Badger Survey Area (100 m)
- 2025 Otter, Water Vole and Scottish Wildcat Survey Area (200 m)
- 2025 Pine Marten Survey Area (250 m)



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Metres

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DATE: 11/12/2025	APPROVED: AB

Figure 2.11
Bowdun Offshore Windfarm - Onshore Ecology
UKHab and Protected Species (2025)

ERM

THISTLE WIND PARTNERS

PROJECTION: British National Grid

Path: \\vmukspgisfs01\data\London\Projects\0742303 - Bowdun\Maps\0742303 - Bowdun.aprx\0742303 - Bowdun - Updated Survey Annex - Figure 2 - UKHab and Protected Species (2025) - A01

APPENDIX B TARGET NOTES - HABITATS

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA1	Habitat	NO 78711 78954	Example of g3c - other neutral grassland.	
HA2	Habitat	NO 79287 79481	Example of g3c5 – *Arrhenatherum* neutral grassland.	
HA3	Habitat	NO 78816 83265	Example of g3c7 – *Deschampsia* neutral grassland.	N/A

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA4	Habitat	NO 78966 79224	Example of g3c8 – *Holcus- Juncus* neutral grassland.	
HA5	Habitat	NO 77898 83973	Example of M27b.	
HA6	Habitat	NO 80453 74328	Example of M27c.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA7	Habitat	NO 79637 84975	Example of modified grassland.	
HA8	Habitat	NO 80716 74236	Example of upland mixed ashwoods.	N/A
HA9	Habitat	NO 80193 71517	Example of wet woodland / W1 NVC community.	
HA10	Habitat	NO 77837 83207	Example of w1g – other broadleaved woodland.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA11	Habitat	NO 79187 84393	Example of w2b – other Scot's pine woodland	N/A
HA12	Habitat	NO 80403 74930	Example of w2c – other coniferous woodland.	
HA13	Habitat	NO 79701 84616	Example of native, open woodland.	
HA14	Habitat	NO 81010 70908	Example of h3e - gorse scrub.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA15	Habitat	NO 78253 84416	Example of f2b – purple moor-grass and rush pasture.	
HA16	Habitat	NO 80495 74277	Example of f2c – upland flushes, fens and swamps	N/A
HA17	Habitat	NO 80195 71477	Example of M23b	N/A
HA18	Habitat	NO 80387 71576	Example of S9a / S14a / S19a NVC communities near Temple Hill.	
HA19	Habitat	NO 80376 71842	Example of c1 - arable and horticulture.	N/A

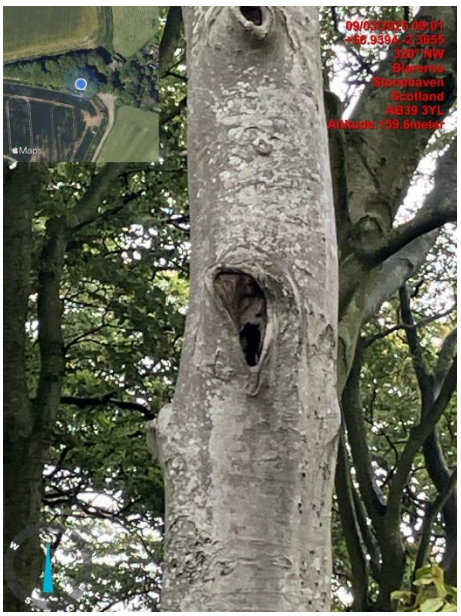
TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA20	Habitat	NO 80914 71059	Example of c1b – temporary grass and clover leys.	
HA21	Habitat	NO 77858 82950	Example of c1b5 – Rye-grass and clover ley.	
HA22	Habitat	NO 80130 74852	Example of c1c – cereal crops.	

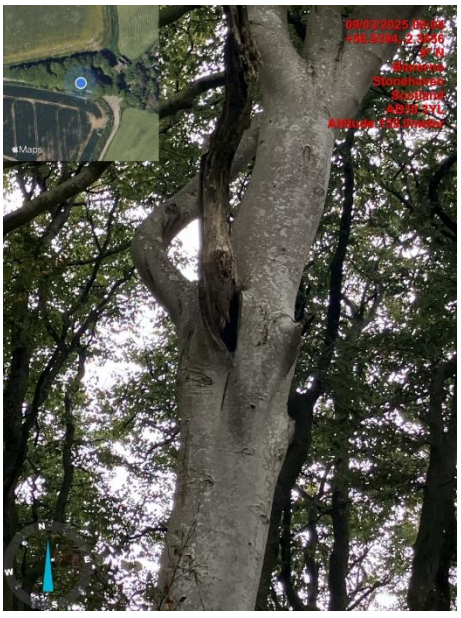
TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA23	Habitat	NO 78372 80252	Example of c1c5 – winter stubble.	N/A
HA24	Habitat	NO 80959 70852	Example of c1c7 – other cereal crops.	
HA25	Habitat	NO 79084 84522	Example of c1d8 – other non-cereal crops.	
HA26	Habitat	NO 78440 80783	Example of u1 – built-up areas and gardens.	N/A
HA27	Habitat	NO 79448 84853	Example of u1b5 – buildings.	N/A.

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA28	Habitat	NO 79977 84848	Example of u1b6 – other developed land.	N/A
HA29	Habitat	NO 80815 71315	Example of u1d – suburban mosaic of developed and natural surface.	N/A
HA30	Habitat	NO 78977 79270	Example of u1e – built linear features.	
HA31	Habitat	NO 79553 84513	Example of r1g – other standing water.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
HA32	Habitat	NO 77746 83601	Example of r2b – other rivers and streams.	
HA33	Habitat	NO 79291 79494	Water speedwell growing in Forthie Water.	

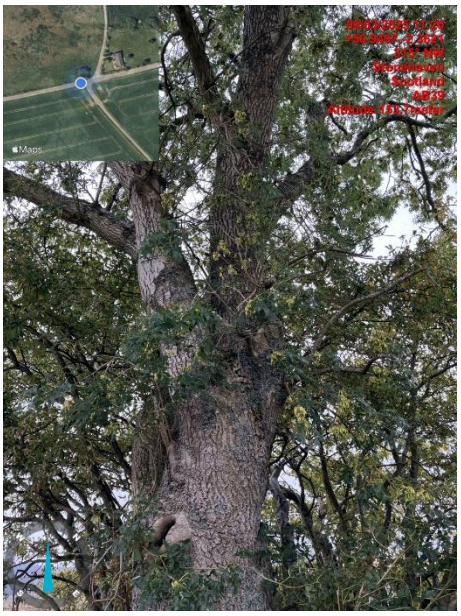
APPENDIX C TARGET NOTES – PROTECTED SPECIES

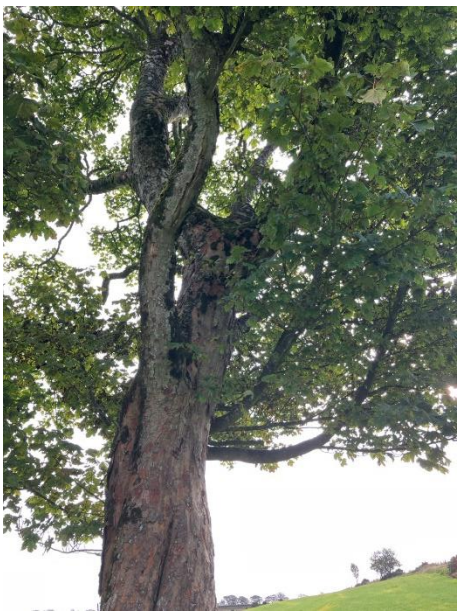
TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT1	Bat	NO 77864 83177	Further Assessment Required (FAR). Mature beech, potential PRF-M.	 

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT2	Bat	NO 77855 83181	Further Assessment Required (FAR). Mature beech, potential PRF-M.	
BT3	Bat	NO 77843 83183	Further Assessment Required (FAR). Mature beech, potential PRF-M.	

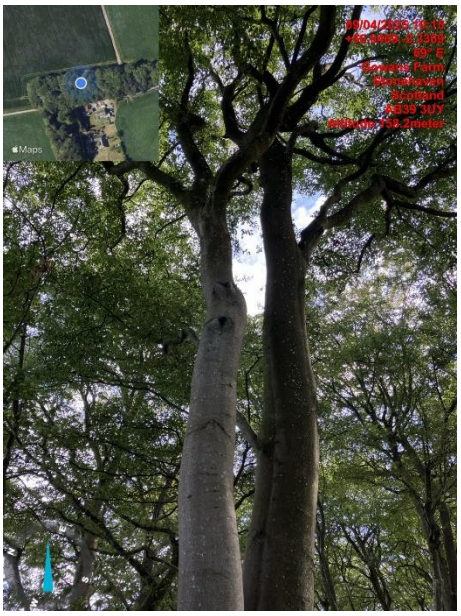
TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT4	Bat	NO 77837 83185	Further Assessment Required (FAR). Mature beech, potential PRF-M.	
BT5	Bat	NO 77796 83190	Further Assessment Required (FAR). Mature beech, potential PRF-I.	

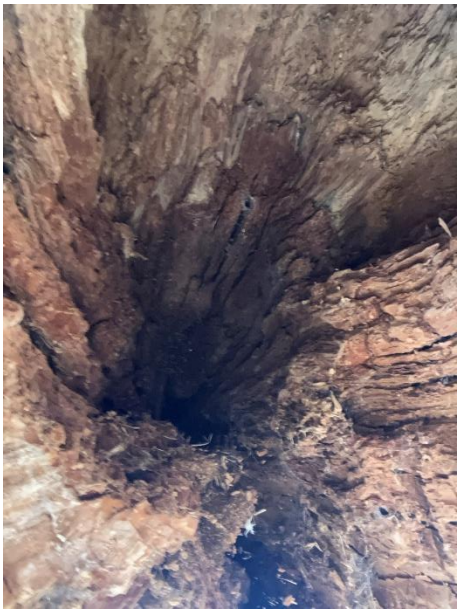
TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT6	Bat	NO 77802 83191	Further Assessment Required (FAR). Mature beech, potential PRF-M.	
BT7	Bat	NO 77791 83191	Further Assessment Required (FAR). Mature beech, potential PRF-M.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT8	Bat	NO 78068 84344	Further Assessment Required (FAR). Mature ash, potential PRF-M.	
BT9	Bat	NO 78080 84345	Further Assessment Required (FAR). Standing dead ash, potential PRF-I.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT10	Bat	NO 79336 84407	Further Assessment Required (FAR). Mature sycamore, potential PRF-M.	
BT11	Bat	NO 79336 84407	Further Assessment Required (FAR). Mature sycamore, potential PRF-M.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT12	Bat	NO 79819 84482	Further Assessment Required (FAR). Mature birch, potential PRM-I.	
BT13	Bat	NO 79819 84482	Further Assessment Required (FAR). Mature birch, potential PRM-I.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT14	Bat	NO 79598 84016	Further Assessment Required (FAR). Mature beech, potential PRF-M.	
BT15	Bat	NO 80065 84694	Further Assessment Required (FAR). Standing dead beech, potential PRF-I.	

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
BT16	Bat	NO 79930 84804	Further Assessment Required (FAR). Mature sitka spruce, potential PRF-I.	
BT17	Bat	NO 78176 81232	Further Assessment Required (FAR). Line of mature broadleaved trees containing one tree that could support individual bats.	N/A.

TN Ref	Type	OS NGR	Description of evidence / feature	Photograph
PM1	Pine Marten	NO 79703 84979	Mammal scat containing cherry stones, indicative of pine marten, on bridge crossing of the Burn of Elfhill.	 

APPENDIX D PLANT SPECIES LIST

Common Name	Latin Name
Alder	*Alnus glutinosa*
Autumn hawkbit	*Scorzoneroides autumnalis*
Beech	*Fagus sylvatica*
Bog pondweed	*Potamogeton polygonifolius*
Bog stitchwort	*Stellaria alsine*
Bottle sedge	*Carex rostrata*
Bracken	*Pteridium aquilinum*
Bramble	*Rubus fruticosus agg.*
Branched bur-reed	*Sparganium erectum*
Broad-leaved dock	*Rumex obtusifolius*
Broad-leaved pondweed	*Potamogeton natans*
Bush vetch	*Vicia sepium*
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Common bent	*Agrostis capillaris*
Common bluebell	*Hyacinthoides non-scripta*
Common duckweed	*Lemna minor*
Common hogweed	*Heracleum sphondylium*
Common nettle	*Urtica dioica*
Common ragwort	*Jacobaea vulgaris*

Common Name	Latin Name
Common sorrel	*Rumex acetosa*
Common spike-rush	*Eleocharis palustris*
Common watercress	*Nasturtium officinale*
Creeping bent	*Agrostis stolonifera*
Creeping buttercup	*Ranunculus repens*
Creeping soft-grass	*Holcus mollis*
Creeping thistle	*Cirsium arvense*
Crested dog's-tail	*Cynosurus cristatus*
Curly dock	*Rumex crispus*
Dandelion	*Taraxacum agg.*
Dog rose	*Rosa canina*
Dog's mercury	*Mercurialis perennis*
Downy birch	*Betula pubescens*
Elder	*Sambucus nigra*
False oat-grass	*Arrhenatherum elatius*
Field horsetail	*Equisetum arvense*
Giant hogweed	*Heracleum mantegazzianum*
Goat willow	*Salix caprea*
Gorse	*Ulex europaeus*
Grey willow	*Salix cinerea*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Himalayan balsam	*Impatiens glandulifera*

Common Name	Latin Name
Marsh violet	*Viola palustris*
Marsh willowherb	*Epilobium palustre*
Marsh woundwort	*Stachys palustris*
Meadow buttercup	*Ranunculus acris*
Meadow vetchling	*Lathyrus pratensis*
Meadowsweet	*Filipendula ulmaria*
Mnium hornum	*Mnium hornum*
Osier	*Salix viminalis*
Reed canary-grass	*Phalaris arundinacea*
Rosebay willowherb	*Chamerion angustifolium*
Rowan	*Sorbus aucuparia*
Scots pine	*Pinus sylvestris*
Sharp-flowered rush	*Juncus acutiflorus*
Silverweed	*Potentilla anserina*
Sitka spruce	*Picea sitchensis*
Smooth meadow-grass	*Poa pratensis agg.*
Sneezewort	*Achillea ptarmica*
Soft rush	*Juncus effusus*
Sow thistle	*Sonchus oleraceus*
Spear thistle	*Cirsium vulgare*
Sweet vernal grass	*Anthoxanthum odoratum*
Tufted forget-me-not	*Myosotis laxa*
Tufted hair-grass	*Deschampsia cespitosa*

Common Name	Latin Name
Tufted vetch	*Vicia cracca*
Water forget-me-not	*Myosotis scorpioides*
Water horsetail	*Equisetum fluviatile*
Water mint	*Mentha aquatica*
Water speedwell	*Veronica anagallis-aquatica*
Water starwort	*Callitriche stagnalis agg.*
Wild angelica	*Angelica sylvestris*
Wych elm	*Ulmus glabra*
Yorkshire fog	*Holcus lanatus*