Offshore Wind Power Limited

West of Orkney Windfarm Onshore EIA Report

Volume 2, Supporting Study 6: Terrestrial Non-Avian Ecology Technical Survey Report

WO1-WOW-CON-EV-RP-0106: Approved by S.Kerr
Document Control 20/10/2023

ASSIGNMENT L100632-S06
DOCUMENT L-100632-S06-A-REPT-007

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West of Orkney Windfarm

West of Orkney Windfarm:
Terrestrial Non-Avian Ecology Technical Supporting Study

Ref: CC0548/R2

18th April 2023

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1 Introduction

This technical supporting study presents the following information in support of chapter 10: Terrestrial non-avian ecology of the West of Orkney Windfarm Onshore Environmental Impact Assessment (EIA) Report. This technical supporting study only refers to terrestrial non-avian ecology, with ornithological data presented and discussed within chapter 11: Terrestrial ornithology.

- Terrestrial non-avian ecology survey methods: the methodology employed by Caledonian Conservation Ltd between 18th April to 23rd September 2022 in order to provide baseline information on the habitat and protected species interests within the current onshore Project area and surroundings. All deviations from guidance due to access restrictions are discussed and justified;
- Existing records: a summary of records of sensitive ecological features (i.e. sites, habitats and non-avian species that are afforded special protection, and/or are of conservation concern) were received through data requests as part of the desk study; and
- Additional botanical survey results recorded during the National Vegetation Classification (NVC) surveys.

2 Terrestrial Non-avian Ecology Survey Methods

The following surveys were undertaken to determine the terrestrial non-avian ecological baseline within the terrestrial non-avian ecology onshore study area (herein referred to as the onshore study area) (defined as the onshore Project area and an additional 'buffer area' encompassing the zone of influence (ZOI) over which ecological receptors may be affected):

- Desk Study;
- NVC Survey;
- Scottish Primrose Survey; and
- Protected Species Survey (including the following surveys):
    - Badger Survey;
    - Bat Roost Potential Survey;
    - Great Crested Newt Habitat Suitability Index (HSI) Survey
    - Otter Survey;
    - Pine Marten Survey;
    - Water Vole Survey;
    - Red Squirrel Survey; and
    - Reptile Survey.

Further details of the surveys are provided in the following sections.

3 Desk Study

A detailed desk study of the existing literature and data relating to terrestrial non-avian ecology was undertaken. As part of this desk study, requests for ecological data recorded within 2 km of the onshore Project area were made to organisations on 22nd March 2022 and 25th May 2022. In addition, relevant available digital datasets and published reports were also reviewed. The National Biodiversity Network (NBN) Atlas database was searched for non-avian biological records on 6th April 2022. Only records with licences allowing commercial use were included (Creative Commons License with attribution (CC-BY), Creative Commons No rights reserved licence (CCO) and Open Government Licence (OGL)). The NBN Atlas also provides Creative Comms with attribution Non-Commercial (CC-BY-NC) data. CC_BY_NC data can only be used for non-commercial purposes and can therefore not be referenced by this supporting study.

Data requests for information were made with British Trust for Ornithology (BTO), Royal Society for the Protection of Birds (RSPB), Wildfowl and Wetlands Trust (WWT), Highland Raptor Study Group (HRSG), Scottish Ornithologists Club (SOC), NatureScot, Highland Biological Recording Group (HBRG), Scottish Badgers, Amphibian and Reptile Conservation Trust (ARC), Botanical Society of the British Isles (BSBI), North Scotland Bat Network, Bumblebee Conservation Trust (BBCT), The Mammal Society, Butterfly Conservation and Caithness Biodiversity Group. Initial requests were made on 22nd March and 25th May 2022.

In addition, relevant available digital datasets and published reports were also reviewed.

The NBN database was searched for non-avian biological records. The onshore study area includes the onshore Project area and a 2 km buffer and records from the past ten years were considered in this study, as older records are less likely to be an accurate reflection of the current baseline.

In addition, a search of available datatsets was made to identify any site designated for ecology features which may be affected by the onshore Project. Designated sites were considered where any part of the site fell within a 5 km buffer (for designations of national importance) or a 20 km buffer (for designations of international importance) of the data search area boundary.

Please refer to chapter 11: Terrestrial ornithology for the bird desk-based study methods.

3.1 Desk Study Limitations

Several of the data providers identified during the data search did not provide any data (WWT, HRSG, SOC, BBCT, The Mammal Society, North Scotland Bat Network and Caithness Biodiversity Group). However, records received from other data providers included many of the same taxonomic groups covered by the above organisations and so this is not considered to be a significant limitation. In particular, the North Scotland Bat Network advised that any records held by the group would be available from HBRG.

Many of the data providers which did provide data held very few relevant records for the onshore study area within the timescale specified. It is likely that the onshore study area is under-recorded and, therefore, the records received are not an accurate representation of the presence or absence of species of conservation concern within the terrestrial non-avian ecology onshore study area. Absence of data should not be considered to indicate that species are absent from the search

area or wider landscape. However, detailed Project specific surveys, which have been undertaken, will provide a more robust baseline, and so this is not considered to be a significant limitation provided appropriate surveys are undertaken.

3.2 Data Search

Data was supplied by:

- BTO
- RSPB
- HBRG
- BSBI
- Scottish Badgers
- ARC
- NatureScot
- Butterfly Conservation

Data held by Caledonian Conservation was also used in the desk study.

Butterfly Conservation did not share records but did provide advice on species with conservation and statutory designations that are known to be present within the data search area.

BTO provided a report summarising species associated with the data search area and the importance of the site at various spatial scales. This report is informed by data from the 2007-11 Bird Atlas and BirdTrack and Breeding Bird Survey data from the last five years.

3.3 Designated Sites

A search of available digital datasets for designated sites with terrestrial non-avian ecology features indicates that there are six statutory designations of international importance within 20 km of the data search area (Caithness and Sutherland Peatlands Special Area of Conservation SAC and Ramsar site, Broubster Leans SAC, Loch Watten SAC, Loch of Wester SAC and Strathy Point SAC).

There are ten designations of national importance within 5 km of the data search area (Ushat Head, Loch Lieurary, Westfield Bridge, River Thurso, Newlands of Geise Mire, Broubster Leans, Loch Scarmclate, Holborn Head, Sandside Bay and Red Point Coast Sites of Special Scientific Interest (SSSI)).

Table 1 provides details of statutory designations of international importance (SACs, Special Protection Areas (SPAs) and RAMSAR sites) within 20 km and those of national importance (SSSIs) within 5 km of the data search area. These are illustrated in Figure 18 of Appendix 1. Full citations for statutory designated sites can be requested from Caledonian Conservation Ltd or can be obtained at https://sitelink.nature.scot/home. For further information on the assessment of potential effects for each of the statutory designations, see chapter 10: Terrestrial non-avian ecology.

Table 1 Designated Sites Relevant to Terrestrial Non-Avian Ecology

Designation	Site name	Distance and direction from onshore Project area (km)	Comments
SSSI	Ushat Head	Abuts onshore Project area	Maritime heath of botanical importance found only in Caithness, Sutherland, and Orkney. Also supports colonies of Scottish primrose (*Primula scotica*) which only grows in Caithness, Sutherland and Orkney and the rare small-fruited sedge (*Carex viridula*).
SSSI	Loch Lieurary	0.1 km south	One of the largest examples of basin fen habitat in Caithness.
SSSI	Westfield Bridge	0.6 km south-east	Nationally important fen meadow and calcareous grassland vegetation. Species-rich, calcareous grassland is a rare habitat in Caithness.
SSSI	River Thurso	1.1 km south-west	SSSI: Nationally important example of flood-plain fen habitat. Also supports several nationally rare or scarce plants: holy grass (*Hierochloe odorata*), estuarine sedge (*Carex recta*), shady horsetail (*Equisetum pratense*), pyramidal bugle (*Ajuga pyramidalis*), and juniper (*Juniperus communis*).
SSSI	Newlands of Geise Mire	2.4 km north-east	Nationally important example of valley fen habitat including a complete transition from drier fen to floating moss carpet which is rare in Caithness.
SAC and SSSI	Broubster Leans	2.8 km west	SAC: internationally important very wet mire habitat with unstable quaking surface. SSSI: nationally important variety of mire habitats and one of the largest wetlands in Caithness.
SSSI	Loch Scarmclate	3.1 km east	Nationally important example of a base-rich loch which is the only shallow, nutrient rich, marl loch in Caithness. Supports nationally scarce slender-leaved pondweed (*Potamogeton filiformis*).
SSSI	Holborn Head	3.4 km north-east	Nationally important example of maritime heath and maritime grassland habitat. Also supports colonies of Scottish primrose.
SSSI	Sandside Bay	4.6 km north-west	Nationally important example of foreshore, dunes, and dune slack habitat, as well as herb-rich grassland habitat within Reay golf course. Supports nationally scarce curved sedge (*Carex maritima*).

Designation	Site name	Distance and direction from onshore Project area (km)	Comments
SSSI	Red Point Coast	4.6 km north-west	An area of maritime cliff vegetation that is an excellent example of cliff-top habitats in northern Scotland, with a complex mixture of species-rich maritime grassland and heath communities. Also supports a nationally important population of Scottish primrose.
SAC and SSSI	Loch Watten	5.3 km east	SAC: Natural eutrophic lake dominated by pondweed vegetation (an Annex I habitat) and one of the least affected by nutrient enrichment in Scotland. SSSI: Base-rich loch and supports nationally important open water habitat with well-developed surrounding fen and swamp vegetation. Supports nationally rare slender-leaved pondweed (*Potamogeton filiformis*), long-stalked pondweed (*Potamogeton praelongus*), and nationally scarce small reed (*Calamagrostis stricta*).
SAC and Ramsar	Caithness and Sutherland Peatlands	5.4 km south-east	SAC: Internationally important habitats listed under Annex I of the Habitats Directive: - Depressions on peat substrates; - Blanket bog; - Wet heathland with cross-leaved heath; - Very wet mires often inundated by an unstable 'quaking' surface; and - Acid peat-stained lakes and ponds. - Clear-water lakes with aquatic vegetation and poor to moderate nutrient levels Internationally rare species listed under Annex II of the Habitats Directive: - Otter (*Lutra lutra*); and - Marsh saxifrage (*Saxifraga hirculus*).

Designation	Site name	Distance and direction from onshore Project area (km)	Comments
			RAMSAR: Largest and most intact area of blanket bog in Scotland designated for the following habitats and species: - Blanket bog (including vegetation and surface pattern types not found elsewhere); - Mire; - Oligotrophic lochs, dystrophic lochs, lochans and pools; - Fen; - Wet heath; - Mosaics of grassland and river within blanket bog and mire; - *Sphagnum lindbergii* and *S. majus* (Nationally scarce mosses); - Bog orchid (*Hammarbya paludosa*) (Nationally scarce higher plant); - *Oreodytes alpinus* (Nationally rare water beetle); - Otter; and - Freshwater pearl mussel (*Margaritifera margaritifera*). For further information, see chapter 9: Freshwater ecology.
SAC and SSSI	Loch of Wester	16.1 km south-east	SAC: Naturally nutrient-rich loch which is dominated by pondweed vegetation (an Annex I habitat). SSSI: Mesotrophic loch supporting several notable and uncommon species of aquatic plant.
SAC	Strathy Point	16.3 km west	Internationally important vegetated sea cliff habitat (an Annex I habitat). Also supports Scottish primrose

3.4 Desk Study Results

The following section gives an overview of records of protected species.

3.4.1 Badger

No statutory designated sites which include badger (*Meles meles*) (as a qualifying feature were identified within 5 km of the Projected area. The desk study and consultation responses provided one record of badgers within the data search area (based on Scottish Badgers data). This record pertained to a single dead badger found on the A9 road 2 km south of the most southern extent of the onshore Project area boundary (grid reference ND169529). Based on data from Scottish Badgers, the nearest record of a badger sett was from outside of the data search area.

Badgers are protected under the Protection of Badgers Act (PBA) 1992.

3.4.2 Bats

No statutory designated sites which include bats as a qualifying feature were identified within 5 km of the onshore Project area. The desk study and consultation responses provided three records of bats within the data search area (based on the HBRG data) since 2012. These records of bats comprised of one record of Daubenton's bat *(Myotis daubentonii*) and two records of common pipistrelle (*Pipistrellus pipistrellus*).

All bat species are listed under Annex II of the Habitats Directive and Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 (as amended). In addition, both species recorded within the data search area are listed under the "avoid negative impacts" category of the Scottish Biodiversity List (SBL).

3.4.3 Amphibians (including Great Crested Newt)

No statutory designated sites which include great crested newt (*Triturus cristatus*) as a qualifying feature were identified within 5 km of the onshore Project area and desk study and consultation responses revealed no records of great crested newt in the terrestrial non-avian ecology onshore study area. Whilst the desk study and consultation responses did not return any great crested newt records, four records of the SBL species common toad (*Bufo bufo*) were recorded, and the NBN data search revealed three records of common toad supplied by Froglife and the HBRG.

Great crested newts have full protection under the Conservation (Natural habitats, &dc.) Regulations 1994 (as amended) and Schedule 5 of the WCA 1981 (as amended). In addition, great crested newts are listed under the "avoid negative impacts" category of the SBL.

3.4.4 Otter

Caithness and Sutherland Peatlands Ramsar is within 5 km of the onshore Project area which include otter as a qualifying feature. Two otter records were received from the HBRG data search within the data search area and one further record was received from RSPB data. The HBRG otter records related to dead otters found on roads, one on the A836 near Buldoo (grid reference ND000672) and one on a road near Sordale (grid reference ND142628). The RSPB data was located to the west of the Project boundary, near Broubster (grid reference ND036608).

Otters are listed under Annex II of the Habitats Directive and Schedule 5 of the WCA 1981 (as amended). In addition, otters are listed under the "avoid negative impacts" category of the SBL.

3.4.5 Pine marten

No statutory designated sites which include pine marten as a qualifying feature were identified within 5 km of the onshore Project area. Desk study and consultation responses revealed two pine marten (*Martes martes***)** records within the 5 km search area. The closest of these, a pine marten record from The Mammal Society and Biological Records Centre (BRC), was located approximately 250 m from outside the onshore Project area; east of Reay (grid reference NC960648). The second was returned by the BTO. This was recorded approximately 2.9 km outside the onshore Project area; south-west of Loch Scarmclate (grid reference ND1859)

Pine martens are protected under Schedule 5 of the WCA 1981 (as amended) and listed under the "avoid negative impacts" category of the SBL.

3.4.6 Red squirrel

No statutory designated sites which include red squirrel (*Sciurus vulgaris*) as a qualifying feature were identified within 5 km of the onshore Project area, and desk study and consultation responses revealed no records of red squirrel in the terrestrial non-avian ecology onshore study area. This species' most northern range is recorded as being near the red squirrel stronghold site at Morangie Forest, in Tain; over 80 km south-east of the terrestrial non-avian ecology onshore study area. Whilst red squirrels were historically recorded further north; in 1999 and before, current distribution data indicates that they are no longer present in Caithness (Scott, 2011).

Red squirrels are protected under Schedules 5 and 6 of the WCA 1981 (as amended) and listed under the "avoid negative impacts" category of the SBL.

3.4.7 Reptiles

No statutory designated sites which include reptiles as a qualifying feature were identified within 5 km of the onshore Project area. Desk study and consultation responses revealed one adder (*Vipera berus*) record within the data search area. The HBRG record related to a female adder recorded on the track of Broubster Forest, approximately 4.8 km from the onshore Project area (grid reference ND024604).

Reptiles are protected from intentional and reckless harm under Schedule 5 of the WCA 1981 (as amended). All three established native reptile species in Scotland; adder, slow-worm (*Anguis fragilis*), and common lizard (*Zootoca vivipara*) are listed under the "avoid negative impacts" category of the SBL.

3.4.8 Water vole

No statutory designated sites which include water vole (*Arvicola amphibius*) as a qualifying feature were identified within 5 km of the onshore Project area. The desk study data revealed one record of water vole, based on BTO data, potentially on site (grid reference ND1056) within the western branch of the onshore Project area, near the River Thurso.

Water vole is protected under Schedule 5 of the WCA 1981 (as amended) and is listed under “conservation action needed” and “avoid negative impacts” categories of the SBL.

3.4.9 Other species

Desk study and consultation responses provided records of common toad (*Bufo bufo*) within the terrestrial non-avian ecology onshore study area, with three records of common toad supplied by RSPB and the one from HBRG.

Common toad is listed under the “avoid negative impacts” category of the SBL.

3.4.10 Plants

Scottish primrose is a qualifying feature of Red Point Coast SSSI and Strathy Point SAC. Although there are many historic records of this species along the coastline within the data search area, there have been no records of this species in the area within the past 10 years. However, coastal grassland and maritime heath suitable for supporting this species can be found within the data search area and some may be present within the site itself. Scottish primrose is endemic to Scotland and is listed on the watching brief of the SBL.

Narrow small-reed (*Calamagrostis stricta*) has been recorded 329 times within the data search area but not within the onshore study area (based on RSPB and BSBI records). This species can be found in mires and loch margins which are unlikely to be present within the site. However, narrow small-reed is sensitive to drainage. This species is listed as a priority species on the SBL and is listed on the Scarce Plants of Caithness.

Three records of holy-grass (*Hierochloe odorata*) were found within the data search area (based on BSBI records). This is a rare species in the United Kingdom (UK), with a very scattered distribution across Scotland where it is found in wetland habitats. Holy-grass is on the watching brief of the SBL.

Bluebell (*Hyacinthoides non-scripta*) has been recorded twice within the data search area since 2012 (BSBI data). Although this species is usually associated with deciduous woodlands, it can be found in other shaded habitats such as banks and under bracken (*Pteridium aquilinum*), especially in the north of Scotland. Bluebell is protected under Schedule 8 of the WCA 1981 (as amended).

Five records of juniper (*Juniperus communis*) were found within the data search area (BSBI records). Juniper can be found in a range of habitats, including habitat such as moorland and maritime heath, which can be found within the site. This species is listed on the watching brief of the SBL.

Corn mint (*Mentha arvensis*) has been recorded once within the data search area (BSBI data). Corn mint is a herb of arable fields and marshy pastures. This species is a priority species on the SBL, listed under the “conservation action needed” category.

Wild pansy (*Viola tricolor*) has been recorded once within the data search area (BSBI data). This species can be found in a variety of habitats, including those found on site, such as acidic grassland on heath and on cultivated ground. Wild pansy is listed under the “conservation action needed” category of the SBL.

4 Survey Methodology

4.1 National Vegetation Classification Survey

Surveying habitats to NVC level allows identification of habitats corresponding with those listed on Annex I of the Habitats Directive. In addition, NVC survey ensures that any potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs) are identified in accordance with guidance (Scottish Environmental Protection Agency (SEPA), 2012; UKTAG, 2009).

The NVC survey was undertaken between 5th July and 31st August 2022 and between 26th and 28th September 2022. The onshore study area comprised the onshore Project area and a 250 m buffer where access was possible.

The NVC survey was completed following the methods described in Rodwell (2006). Aerial photos were reviewed prior to the field survey in order to give an overview of the onshore study area and to identify broad distributions of vegetation types. An initial site walkover was undertaken, noting the main NVC communities and mosaics present. Where appropriate, 2 m^2 x 2 m^2 quadrats were used to collect data for comparison with published species accounts. Otherwise, the DAFOR dominance scale was used to record a list of the vegetation assemblage present for examples of each habitat type. The DAFOR scale uses the following categories to determine the abundance of the vegetation assemblage within each habitat type; Dominant, Abundant, Frequent, Occasional or Rare. Habitats were classified to NVC level based on published descriptions (Averis *et al*., 2004; Rodwell, 1991a; 1991b; 1992; 1995; 2001) and mapped in the field.

Vascular plant species names (common and scientific) follow Stace (2019), and bryophyte names follow Hill *et al*. (2008). Descriptions of each of the NVC communities present were also recorded.

4.2 Scottish Primrose Survey

Scottish primrose surveys were undertaken in areas where the presence of this species was most likely to occur; typically, in short vegetations, where there is damp, grazed unimproved grassland, usually with sloping ground and near the coast. A 250 m survey buffer was included for the terrestrial non-avian ecology onshore study area.

Survey visits coincided with the two Scottish primroses flowering periods, which occur in May and July/August. Although most rosettes do not flower, conducting the surveys during the main flowering periods provide better confidence that the plant is present as the rosette is quite inconspicuous.

Existing known locations were revisited (Morris, 2009), in addition to other potential habitats (e.g. coastal grassland and heathland, including areas near the sea cliffs), to detect further unrecorded populations. Physical counts of the plants were made up to 200, with populations larger than 200 individual plants being estimated based on density and extend following methods describe by Morris (2009) and Rich *et al.* (2005).

4.3 Protected Species Survey

Protected species surveys were undertaken within the terrestrial non-avian ecology onshore study area, which included searches for signs of protected species such as mammal dens, feeding signs, footprints and reptile refuges. Reference was made to

relevant field guides, and standard survey guidance was followed. The protected species survey was undertaken within the terrestrial non-avian ecology onshore study area, including a survey buffer.

4.3.1 Protected Mammal Species Survey

A summary of the relevant guidance and field signs for each species, along with the survey buffers for each species is presented in Table 2.

Table 2. Summary of relevant field guides/survey guidance, signs searched for and survey buffer area for the protected mammal surveys.

Species	Survey buffer	Relevant guidance/survey method followed	Field signs
Badger	250 m	• Roper (2010) • Bang & Dahlstrøm (2006) • Scottish Natural Heritage[1] (SNH), 2002	• Setts; • Footprints; • Latrines/dung pits (used as territorial markers); • Hairs – highly distinctive, and often become snagged on fences; • Feeding signs – snuffle holes (small scrapes where badgers have searched for earthworms; insects or tubers); and • Paths.
Bats	30 m	• Collins (2016)	• See Section 4.3.2 for further information.
Otter	250 m	• SNH (2008) • Bang & Dahlstrøm (2006) • Chanin (2003)	• Holts – below ground resting places; • Couches – above ground resting places; • Footprints; • Spraints – faeces used as territorial markers; with a characteristic sweet odour; • Prey remains; and • Paths and slides.

[1] NatureScot, formally known as Scottish Natural Heritage (SNH).

Species	Survey buffer	Relevant guidance/survey method followed	Field signs
Pine marten	250 m	• Bang & Dahlstrøm (2006) • Cresswell *et al*. (2012)	• Faeces – recognisable by their size, shape, and content, and also distinguishable from fox (*Vulpes vulpes*) droppings by their smell, if not desiccated; • Dens – usually in hollows in trees, but also subterranean dens amongst tree roots, should no suitable tree dens be present; and • Footprints – may be found on softer ground and can be differentiated from fox and other mustelids by size and shape.
Red squirrel	250 m	• Gurnell *et al.* (2009)	• Visual observations of animals; • Squirrel dreys – a sheltering nest of interwoven twigs (ball shaped/size) found on both broadleaf and conifer trees; • Footprints; and • Feeding signs (such as conifer cones gnawed in a manner characteristic to squirrels).
Water vole	250 m	• Dean (2021) • Dean *et al*. (2016) • Strachan *et al*. (2011)	• Burrows; • Droppings/latrines; and • Footprints; and feeding signs – gnawed vegetation, and grazed 'lawns' which are often associated with burrows.

4.3.2 Bats

Online mapping tools, including detailed aerial imagery and Ordnance Survey (OS) maps, were used to identify features within the onshore study area potentially suitable for roosting, foraging and commuting bats. Features identified as having the potential to be used by roosting bats included trees, buildings, bridges (and other built structures), quarries and sea cliffs. These natural and man-made features were subject to external bat roost potential surveys carried out between 27th June and 4th July 2022 and between 29th November and 1st December 2022.

The bat roost potential survey was carried out by a licensed bat roost surveyor and the methodology used followed current Bat Conservation Trust (BCT) guidelines (Collins, 2016), as well as other best practice guidance (Boye and Dietz, 2005; Forestry Commission Scotland (FCS), 2006[2]; Mitchell-Jones, 2004; Mitchell-Jones and McLeish, 2004). The purpose of the survey was to identify any features within the trees, buildings, rock faces and other built structures with the potential to support

[2] FCS was devolved in 2019, with responsibilities being transferred to Forestry and Land Scotland (FLS) and Scottish Forestry.

roosting bats and assess any habitat features which may support commuting or foraging bats. Where adjoining buildings were of similar structure and suitability for roosting bats, they are described together.

Buildings and built structures were assessed from ground level only. Any potential bat ingress opportunities or roost features, such as areas of degraded mortar, lifted lead flashing and zinc ridging, cracked stonework, gaps beneath fascia boarding, gaps at the eaves etc., were noted. These buildings and built structures were then classified as Negligible to High (see Table 3), in terms of their suitability for roosting bats, in accordance with BCT guidelines (Collins, 2016).

Whilst trees, woodland areas, tree lines and groups of trees within the onshore study area were assessed for their suitability for roosting bats, this assessment did not include a detailed ground-based survey of every tree present. Although some of the trees were classified individually according to BCT guidelines (Collins, 2016), others were categorised as a group, with pockets of woodland, tree lines and groups of trees given category ranges (e.g., Low to Moderate) depending on the suitability of the trees present. The BCT categories provided in the results tables and maps correspond to the categories of the highest suitability trees present in an area. BCT categories were determined by the number, extent and apparent suitability of the features present within the trees. Features including split limbs, rot holes, woodpecker holes, areas of lifted bark and knot holes, were noted.

Table 3. Guidelines for assessing the potential suitability of habitat features for bats (Collins, 2016).

Suitability	Description	
	Roosting	**Foraging/Commuting**
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by foraging or commuting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically, but not on a regular basis due to marginal conditions. A tree of sufficient size and age to contain potential roost features but with none seen from the ground, or with very limited potential.	Habitat that could be used by small numbers of foraging or commuting bats, but which is isolated from surrounding habitat (e.g. gappy hedgerow or unvegetated stream).
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status (with respect to roost type only).	Continuous habitat connected to the wider landscape that could be used by foraging or commuting bats, such as lines of trees or scrub.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and for longer periods of time.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging or commuting bats (e.g. river valleys, woodland edge, tree-lined watercourses).

4.3.3 Great Crested Newt Habitat Suitability Index

Ponds within the onshore study area were assessed to determine their suitability for great crested newts. This was achieved using the great crested newt HSI, following the standard methods described in Oldham *et al*. (2000), as amended by Amphibian and Reptile Groups of the UK (ARG UK) (2010), and using the updated Geographic Suitability Index (SI) Factor map published by O'Brien *et al.* (2017). HSI scores are categorised as detailed in Table 4 below. HSI is a ten-factor numeric index in which each factor relates to an aspect of habitat which affects the likelihood that a body of water is suitable for great crested newts. Note that the HSI score only gives an informed likelihood of great crested newts occurring in a pond. For example, great crested newts could occur in a pond assessed as 'poor' using the HSI but are less likely to occur in a pond which scores 'excellent.'

Suitable ponds within the onshore Project area, plus a 250 m buffer, were assessed. A total of 37 ponds were surveyed. Whilst approximately double that number of waterbodies are present within the onshore study area, those that were clearly sub-optimal for great crested newts were scoped out for further assessment following a desk-based exercise. This desk-based exercise allowed identification of unsuitable ponds using OS maps and aerial imagery. Indices used to calculate the HSI of a pond, including geographic location, pond area, likely permanence, pond count and terrestrial habitat, were determined. Where it was determined impossible or improbable for the indices calculated in the field to elevate the final HSI scores to a category of below average or above, the waterbodies were scoped out, allowing surveyors to prioritise those likely to return higher suitability scores. As all of the ponds subject to a detailed field-based HSI returned scores of poor or below average, it is considered highly unlikely that those scoped-out during the planning stage would have provided great crested newts with suitable breeding opportunities.

Table 4. Great crested newt HSI score categories (ARG UK (2010)).

HSI Score	Category	Percentage of Ponds Occupied by Great Crested Newts
<0.5	Poor	3% pond occupancy
0.5 – 0.59	Below average	20% pond occupancy
0.6 – 0.69	Average	55% pond occupancy
0.7 – 0.79	Good	79% pond occupancy
>0.8	Excellent	93% pond occupancy

Note that the HSI score only gives an informed likelihood of great crested newts occurring in a pond (see Table 3).

4.3.4 Reptile Survey

The presence of any reptiles was noted, and habitat was assessed as to its suitability to support reptiles following best practice guidance (Cathrine, 2018), within the onshore Project area and 250 m buffer. Potential reptile habitat includes dense scrub, heathland, peatland, or tussocky grassland with a south-facing aspect. Potential refugia include rocks, rubble, and wood piles.

4.3.5 Incidental Records

Invasive non-native species (INNS), such as giant hogweed (*Heracleum mantegazzianum*), Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera)* and rhododendron (*Rhododendron ponticum*) were recorded as incidental records during the ecological surveys.

4.4 Survey Limitations

Access was granted from the relevant landowners, but it was not possible to access some areas for the following reasons:

- Surveys were restricted at certain locations, namely the small areas of land between Forss and Westfield, towards the northern extent of the onshore export cable corridor route.
- Access to areas of land on the west side of the Forss valley was not permitted.
- Parts of the Loch Lieurary SSSI site could not be accessed because of high water levels which made it impossible to cross water-filled ditches safely. During the additional surveys in September, the Moss of Geise could not be safely accessed on health and safety grounds because of increased water levels. Both sites were assessed from a distance using high powered magnification (e.g. binoculars).
- No rocky shore or maritime cliff communities were identified during the survey period. For most of the shoreline the cliff faces, and bases were inaccessible without climbing gear, and the cliff slopes were avoided on health and safety grounds. Typical shoreline communities are recorded from the Dounreay area, and the same communities are likely to be present within the current onshore study area.
- Owing to the large area of land to be surveyed, small habitat patches were not surveyed unless they were deemed to have significant botanical interest that would contribute to the overall understanding of the onshore study area, such as ponds or vegetated ditches. Typically, areas that were not assessed included road verges and field margins, and areas around gates, where vegetation is sparse.
- Several fields, and farm building could not be accessed safely due to the presence of cattle or by the railway track. These fields were surveyed from a distance from various vantage points using binoculars.
- Two ponds to be surveyed for great crested newt HSI could not be accessed safely due to the presence of the railway track and no access granted by the landowner.
- Buildings and built structures assessed for bat roost potential were subjected to an external assessment only. No internal surveys, endoscope inspections or nocturnal surveys were undertaken. Surveys of scattered trees were limited to a ground-based assessment, with no detailed at-height inspection of potential roost features undertaken, and woodland areas were classified as a group, with no assessment of individual trees undertaken. This method was employed due to the large onshore study area. In addition, some access was not permitted due to health and safety grounds.

- Dense vegetation, such as gorse or marginal grass on banks of watercourses, limited the ability to see the full extent of the area.

Limitations regarding field access are not likely to present a significant data gap, as the remote surveys indicated that the majority of the habitat types within the inaccessible areas were comprised of improved grassland or pockets of coniferous plantation. As such they had low ecological value and no GWDTEs. However, small areas of Annex I and GWDTE habitats were likely located along the Forss Water valley at inaccessible areas. However, this would be expected following the assessment of similar habitats along the Forss Water either side of the inaccessible areas.

Limitations regarding access to ponds is not likely to present a significant data gap, as out of the 39 ponds proposed to be assessed for HSI, only two ponds could not be accessed for assessment. The data derived from the remaining ponds will provide an appropriate dataset to base assumptions on the habitat suitability for great crested newts.

Limitations regarding the lack of access to buildings for the bat roost potential is considered to have resulted in a significant data gap for determining bat roost potential of buildings. As such, these will have to be mitigated to prevent disturbance, modification, or destruction of bat roosts within the onshore Project area. For further details see Chapter 10: terrestrial non-avian ecology.

Limitations regarding dense vegetation is not considered to have resulted in a significant data gap, as an increased survey effort was expended at those locations where collaborating protected species signs were noted. Even if smaller burrows were missed, such as those made by water voles, additional signs, such as territorial latrines, would indicate the species presence.

5 Survey Results

5.1 National Vegetation Classification

Survey results for the NVC surveys are shown in Figure 1 and 2 (Appendix 1).

Thirty-five different plant communities, and a further 19 sub-communities were recorded during the NVC survey. Fourteen of the habitats (23 including sub-communities) correspond with Annex I habitats. Twenty-seven communities (42 including sub-communities) were identified as SBL priority habitats. Seven were identified as highly groundwater dependent and a further nine were moderately groundwater dependent NVC communities as described in Table 5. Sixteen different mosaic habitats, consisting of a mix of two or more distinct classifications, were identified. They are included in the figures above in terms of Annex I, SBL and GWDTE designations, and are summarised in Table 6. Figures 3 and 4 show the locations of the GWDTEs and the Figures 5 and 6 depict the Annex I habitats.

5.1.1 NVC Classifications

The full list of individual NVC classifications identified within the onshore study area is detailed in Table 5.

Table 5. NVC classifications identified within the onshore study area.

NVC Classification	Annex I Habitat	Scottish Biodiversity List (SBL) Priority Habitat	GWDTE level	Area within the onshore Project boundary, excluding buffer (Ha)	Area within the onshore Project boundary, including buffer (Ha)
H7 *Calluna vulgaris-Scilla verna* heath	H4030 Dry heaths	Lowland Heathland	None	8.19	12.18
M10 *Carex dioica-Pinguicula vulgaris* mire	H7230 Calcium rich springwater fed fens	None	High	0.00	0.04
M15 *Scirpus cespitosus-Erica tetralix* wet heath	H4010 Wet heathland with cross-leaved heath	Lowland Heathland	Moderate	46.00	100.69
M16 *Ericetum tetralicis* wet heath	H4010 Wet heathland with cross-leaved heath	Lowland Heathland	High	39.20	61.80
M22 *Juncus subnodulosus-Cirsium palustre* fen-meadow	None	Purple moor-grass and rush pasture	High	0.66	0.66

NVC Classification	Annex I Habitat	Scottish Biodiversity List (SBL) Priority Habitat	GWDTE level	Area within the onshore Project boundary, excluding buffer (Ha)	Area within the onshore Project boundary, including buffer (Ha)
M23 *Juncus effusus/acutiflorus -Galium palustre* rush-pasture	None	Coastal and floodplain grazing marsh	High	8.45	59.23
M24 *Molinia caerulea-Cirsium dissectum* fen-meadow	H6410 Purple moor-grass meadows	Purple moor-grass and rush pasture	High	Only present as part of M24/M25/M27 mosaics	Only present as part of M24/M25/M27 mosaics
M25 *Molinia caerulea-Potentilla erecta* mire	H7130 Blanket bog, and H7120 degraded raised bog	Purple moor-grass and rush pasture	Moderate	105.16	219.16
M27 *Filipendula ulmaria-Angelica sylvestris* mire	None	Lowland fens	Moderate	16.40	45.11
M28 *Iris pseudacorus-Filipendula ulmaria* mire	None	Lowland fens	Moderate	0.00	8.14
MC9 *Festuca rubra-Holcus lanatus* maritime grassland	H1230 Vegetated sea cliffs	Lowland fens	None	16.08	17.95
MC10 *Festuca rubra-Plantago spp.* maritime grassland	H1230 Vegetated sea cliffs	Maritime cliffs and slope	None	12.43	22.49
MG1 *Arrhenatherum elatius* grassland	None	Maritime cliffs and slope (A poor match in the onshore study area)	None	1.34	2.45
MG5 *Cynosurus cristatus-Centaurea nigra* grassland	None	Lowland meadows	None	0.41	1.55

NVC Classification	Annex I Habitat	Scottish Biodiversity List (SBL) Priority Habitat	GWDTE level	Area within the onshore Project boundary, excluding buffer (Ha)	Area within the onshore Project boundary, including buffer (Ha)
MG6 *Lolium perenne-Cynosurus cristatus* grassland & MG7 *Lolium perenne* leys and related grasslands	None	None	None	1700.41	2542.69
MG8 *Cynosurus cristatus-Caltha palustris* grassland	None	Lowland fens	Moderate	0.17	0.94
MG9 *Holcus lanatus-Deschampsia cespitosa* grassland	None	Coastal and floodplain grazing marsh	Moderate	33.23	36.63
MG10 *Holcus lanatus-Juncus effusus* rush-pasture	None	None	Moderate	226.77	307.99
OV22 *Poa annua-Taraxacum officinale* community	None	None	None	0.56	0.56
OV27 *Epilobium angustifolium* community	None	None	None	0.00	0.73
S8 *Scirpus lacustris ssp. Lacustris* swamp	None	Lowland fens	None	0.49	0.49
S9 *Carex rostrata* swamp	None	Lowland fens	None	0.07	1.35
S10 *Equisetum fluviatile* swamp	None	Lowland fens	None	0.20	0.20
S11 *Carex versicaria* swamp	None	Lowland fens	High	0.01	0.26

NVC Classification	Annex I Habitat	Scottish Biodiversity List (SBL) Priority Habitat	GWDTE level	Area within the onshore Project boundary, excluding buffer (Ha)	Area within the onshore Project boundary, including buffer (Ha)
S14 *Sparganium erectum* swamp	None	Lowland fens	None	2.10	2.10
S19 *Eleocharis palustris* swamp	None	Lowland fens	None	0.04	0.08
S22 *Glyceria fluitans* water-margin vegetation	None	Lowland fens	None	0.37	0.37
S27 *Carex rostrata-Potentilla palustris* tall-herb fen	H7140 Very wet mires often identified by an unstable 'quaking' surface	Lowland fens	Moderate	0.42	2.83
U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland	H6230 Species rich grassland with mat-grass, in upland areas	Lowland dry acid grassland	None	2.20	10.27
U5 *Nardus stricta-Galium saxatile* grassland	H6230 Species rich grassland with mat-grass, in upland areas	None	None	Only present as part of U5/M15 mosaic	Only present as part of U5/M15 mosaic
W4 *Betula pendula-Molinia caerulea* woodland	H91C0 Caledonian forest (A poor match in the onshore study area)	Wet woodlands	High	0.06	0.19
W6 *Alnus glutinosa-Urtica dioica* woodland	H91E0 Alder woodland on floodplains	Wet woodlands	Moderate	10.63	10.63
W8 *Fraxinus excelsior-Acer campestre-Mercurialis*	H9180 Mixed woodland on base-rich soils	Lowland mixed deciduous woodland	None	0.00	2.78

NVC Classification	Annex I Habitat	Scottish Biodiversity List (SBL) Priority Habitat	GWDTE level	Area within the onshore Project boundary, excluding buffer (Ha)	Area within the onshore Project boundary, including buffer (Ha)
perennis woodland	associated with rocky slopes (A poor match in the onshore study area)				
W21 *Crataegus monogyna-Hedera helix* scrub	H5130 Juniper on heaths or calcareous grassland (A poor match in the onshore study area)	None	None	0.00	0.38

5.1.2 Mosaic habitats

Sixteen types of mosaic habitats comprised of two or more classification types were identified and are shown in Table 6.

Table 6. NVC classifications identified that comprised of two or more classifications and total area of each mosaic classifications.

NVC classifications	Area within project boundary, excluding buffer (Ha)	Area within project boundary, including buffer (Ha)
M15/M16/M23/M25	124.85	131.27
M15/M16/M25	6.21	25.44
M15/M25	19.96	23.83
M16/M25	15.91	29.96
M23/M25	87.38	124.05
M23/MG10a	9.13	9.13
M23/M25/MG10a	31.74	34.52
M24/M25/M27	35.61	35.61
M25/MG10a	19.52	26.33

NVC classifications	Area within project boundary, excluding buffer (Ha)	Area within project boundary, including buffer (Ha)
M27/MG9	56.39	75.07
M28/MG9	5.05	5.05
MG9/MG10a	31.53	46.56
MG6/MG7/Gorse	8.31	9.66
U4/M25	68.89	133.05
U4/MG9	0.00	12.11
U5/M15	20.71	31.92

5.1.3 Habitat descriptions

5.1.3.1 Heaths

H7 *Calluna vulgaris-Scilla verna* heath overlaps with the Annex I classifications H4030 Dry heaths, and H1230 Vegetated Sea cliffs. Within the onshore study area H4030 Dry heaths is a better match for the vegetation seen. The majority of the H7 heath was present along the coastal strip east of Forss Water, but also occurred as small patches on the west side of the coastal strip, and on the ridge above Oust farm. All examples seen were degrading into MG10a grassland. H7 heath is dominated by heather (*Calluna vulgaris*) and *Festuca spp*. grasses, with frequent plantains (*Plantago lanceolata* and *P. maritima*), catsear (*Hypochaeris radicata*) and tormentil (*Potentilla erecta*).

M15 *Scirpus cespitosus-Erica tetralix* wet heath is contained within H4010 Wet heathland with cross-leaved heath. This classification is common and widespread in Scotland, but internationally important because Scotland contains most of the worldwide distribution of this habitat. This classification is important for rare bryophytes and in Caithness is a breeding habitat for greenshank (*Tringa nebularia*). It is typically dominated by heather, deergrass (*Trichophorum cespitosum*), cross-leaved heath (*Erica tetralix*) and purple moor-grass (*Molinea caerulea*). The M15c *Cladonia spp*. sub-community was widespread within the onshore study area, and represents slightly drier areas, where bell heather (*Erica cinerea*) and tormentil are frequent.

M16 *Ericetum tetralicis* wet heath is also contained within H4010 Wet heathland with cross-leaved heath. This is generally a species poor classification in which cross-leaved heath dominates, although at Achanarras the M16a typical sub-community occurs, in which *Sphagnum* species and other bryophytes are more abundant. M16 heath can be an important habitat for raptors.

Both wet heath types are widespread within the onshore study area but showed signs of significant drying out due to warmer summers, such as experienced in 2022.

All three heath habitats correspond to the Lowland Heathland SBL priority habitat. M16 heath is highly groundwater dependent, and M15 is moderately groundwater dependent.

5.1.3.2 Mires

M22 *Juncus subnodulosus-Cirsium palustre* fen-meadow corresponds to the SBL priority habitat purple moor-grass and rush pasture, and is highly groundwater dependent. It occurs in an extensive patch on the west bank of the river at Bridge of Forss. It is a botanically diverse classification in which rushes predominate, and jointed rush (*Juncus articulatus*) was also common. Angelica (*Angelica sylvestris*), meadowsweet (*Filipendula ulmaria*), marsh thistle (*Cirsium palustre*) and devil's bit scabious (*Succisa pratensis*) are frequent, sometimes in large stands.

M23 *Juncus effusus/acutiflorus-Galium palustre* rush pasture corresponds to the SBL priority habitat Coastal and floodplain grazing marsh, and is highly groundwater dependent. It is widespread throughout the onshore study area on wetter unimproved ground, including as parts of mosaics, and while botanically species poor it can be a valuable for invertebrates and birds. Two sub-communities are present within the onshore study area. The M23a *Juncus acutiflorus* sub-community occurs in the valley of the river Thurso, in which marsh bedstraw (*Galium palustre*), marsh willowherb (*Epilobium palustre*) are frequent and Yorkshire fog (*Holcus lanatus*) is the dominant grass. The M23b *Juncus effusus* sub-community is less species rich and is transitional between M23 mire and MG10 rush pasture. It is present at Spittal Mains, and at Acharadale, west of Halkirk.

M24 *Molinia caerulea-Cirsium dissectum* fen-meadow is included within H6410 Purple moor-grass meadows and the SBL priority habitat Purple moor-grass and rush pasture. It is highly groundwater dependent. Within the onshore study area it occurs only as part of habitat mosaics within the floodplain of the Forss Water. It is typically associated with peaty soils at the drier edges of wet mires, where meadowsweet, angelica and marsh thistle are frequent found, and *Carex panicea* is present.

M25 *Molinia caerulea-Potentilla erecta* mire corresponds to both H7130 Blanket bog, and H7120 degraded raised bog and corresponds to the SBL priority habitat purple moor-grass and rush pasture. It is moderately groundwater dependent. This is the commonest of the wet mire communities within the onshore study area, occurring on wet peaty soils. It is generally species poor, and most examples seen showed signs of degradation through drying. A good example was present at Moss of Geise and poorer examples on the west of the onshore study area around Buckies and North Calder. Three sub-communities were identified, in which tormentil is always present. M25a *Erica tetralix* sub-community occurred on the ridge above Oust in the Forss valley, in which common cotton-grass (*Eriophorum angustifolium*) and bog asphodel (*Narthecium ossifragum*) occurs. This sub-community is the most widespread in the UK, though it only occurred once within the onshore study area. The M25b *Anthoxanthum odoratum* sub-community was the most frequently found. This is a grass-dominated community with Yorkshire fog and fescues (*Festuca spp*.) common. Devil's bit scabious and common sorrel (*Rumex acetosa*) are also frequent. A single example of the M25c *Angelica sylvestris* sub-community, which is uncommon in Scotland, was seen on Spittal hill. It is characterised by a taller sward, with purple moor-grass (*Molinea caerulea*), and clumps of sharp-flowered rush (*Juncus acutiflorus*).

M28 *Iris pseudacorus-Filpendula ulmaria* mire forms part of the SBL priority list habitat Lowland fens and is assessed as a moderately groundwater dependent GWDTE. It is a botanically species-rich community, with common sorrel , ragged robin (*Silene flos-cuculi*), angelica, soft rush (*Juncus effusus*) and jointed rush all frequently present. Water horsetail (*Equisetum fluviatile*) was sometimes present beneath the taller vegetation. This community is typically an assemblage of

saltmarshes but occurred in the onshore study area in the lower Forss valley in hollows and vegetated pools.

S27 *Carex rostrata-Potentilla palustris* tall-herb fen – H7140 Very wet mires often identified by an unstable 'quaking' surface. The large pond north-east of Crosskirk at ND0351070567 corresponds to this habitat. These sites are typically too wet to be grazed, and consequently tend to be herb rich, with abundant marsh cinquefoil (*Potentilla palustris*) and bogbean (*Menyanthes trifoliata*) as well as herbs such as marsh bedstraw and marsh thistle. Most of the examples seen were partially dried due to a period of warm weather, but still floristically diverse. A number of small ponds throughout the onshore study area also matched S27 classifications and included examples of the S27a *Carex rostrata-Equisetum fluviatile* sub-community, which is more species poor and has larger amounts of water horsetail. This habitat is moderately groundwater dependent and corresponds to the SBL priority habitat of Lowland fens. It is important for wetland birds.

5.1.3.3 Fens

M10 *Carex dioica-pinguicula vulgaris* mire can be part of H7230 calcium rich spring water fed fens. The sole example seen was a species-rich wet flush, rich in butterwort (*Pinguiculas vulgaris*), toad rush (*Juncus bufonius*) and devil's bit scabious around the burn running from the reservoir above Oust farm. It is notable as one of the few clearly calcareous habitats seen in the onshore study area. This is a highly groundwater dependent classification.

M27 *Filpendula ulmaria-Angelica sylvestris* mire corresponds to the SBL priority habitat Lowland fens. This occurred along the floodplain of Forss Water in extensive patches in which meadowsweet dominated. The classification also occurs as a mosaic with other classifications along the riverside. It occurred as both remnant ponds, and vegetated flushes. Patches of reed canary-grass (*Phalaris arundinacea*) were frequent, with valerian (*Valeriana officinalis*) and angelica frequent. M27 is a moderately groundwater dependent classification that is typical of the edges of rivers and lowland floodplains. At Skinnet a single example of the grassier M27c *Juncus effusus-Holcus lanatus* sub-community was identified, which contains greater quantities of purple moor-grass (*Molinea caerulea*) and sharp-flowered rush. The M27c sub-community has a typically western distribution within the UK.

MG8 *Cynosurus cristatus-Caltha palustris* grassland also corresponds to the SBL priority habitat Lowland fens but occurred only in small patches at the edges of ponds, in the drier edges on the north side of Loch Lieurary, and in fragments at Skinnet and Achanarras. It is a moderately groundwater dependent classification that is usually dominated by grasses, and with marsh marigold (*Caltha palustris*), meadowsweet and buttercups (*Ranunculus spp*.) frequent.

5.1.3.4 Coastal Grassland

MC9 *Festuca rubra-Holcus lanatus* maritime grassland and MC10 *Festuca rubra-Plantago spp.* maritime grassland are part of the Annex I H1230 Vegetated sea cliffs classification. MC9 is the wetter of these two classifications, and matches the SBL priority habitat Lowland fens, whereas MC10 is SBL priority habitat Maritime cliff and slopes.

MC9 is dominated by red fescue (*Festuca rubra*), with frequent sea plantain (*Plantago maritima*) and white clover (*Trifolium repens*). One sub-community was identified, the MC9a *Plantago maritima* sub-community, in which spring squill (*Scilla verna*) and grass of parnassus (*Parnassia palustris*) were found.

MC10 grassland is similarly dominated by red fescue and sea plantain but contains more eyebrights (*Euphrasia spp*.). *E. arctica* was the most commonly recorded, but *E. scotica* and *E. foulaensis* were also recorded. Also present were spring squill and common mouse ear (*Cerastium fontanum*). The species poor MC10a *Armeria maritima* subcommunity was also identified, in which sea plantain dominates to an even greater extent.

These classifications form the majority of the vegetation along the coastal strip, particularly to the west of the Forss valley, and are the primary habitats in which Scottish primrose (*Primula scotica*) occurs. The MC10 examples gradually degrade into MG10a grassland further away from the shore.

5.1.3.5 Swamps

S11 *Carex versicaria* swamp forms part of the SBL priority habitat Lowland fens and is a highly groundwater dependent habitat. Within the onshore study area it was only found as the pond at Houstry Mains. Water horsetail was dominant at this site, with frequent meadowsweet, water forget-me-not (*Myosotis scorpioides*) and lesser spearwort (*Ranunculus flammula*). The pond margins were dominated by Yorkshire fog and cocksfoot grass (*Dactylis glomeratus*), with frequent marsh bedstraw. Within the UK, this is a habitat most frequently seen in Scotland. It is typical of deeper waters and can be important for wildfowl. The rare sedge *Carex aquaticus* has been recorded in this habitat but was not seen during the surveys.

S8 *Scirpus lacustris ssp. Lacustris* swamp (present as the S8c *Equisetum fluviatile* sub-community), S9 *Carex rostrata* swamp (occurring only as the S9b *Carex rostrata* sub-community), S10 *Equisetum fluviatile* swamp, S14 *Sparganium erectum* swamp (only seen as S14c *Mentha aquatica* sub-community), S19 *Eleocharis palustris* swamp (present only as S19b *Agrostis stolonifera* sub-community) and S22 *Glyceria fluitans* water-margin vegetation all fall under the SBL priority habitat classification of Lowland fens. Within the onshore study area these classifications are represented by marginal vegetation around small ponds and larger water-filled ditches, usually within grassland or mire communities, but also occurs as small patches of riverside vegetation along both the Forss and Thurso. They provide additional habitats for invertebrates, amphibians and birds, and contribute to increasing the overall biodiversity of otherwise species-poor sites. Water horsetail branched bur-reed (*Sparganium erectum*), lesser spearwort and soft rush were all commonly seen in these assemblages.

5.1.3.6 Grasslands

MG1 *Arrhenatherum elatius* grassland is an ungrazed grassland habitat associated with disturbed and waste ground. In some locations it may correspond to the SBL priority habitat Maritime cliffs and slope, but that is not the case within the onshore study area. It can be floristically diverse due to the absence of grazing. Good examples are found along the roadside of the track to North Calder farm, but it occurs scattered throughout the onshore study area. It is characterised by large grasses and tall herbs, mainly false oat-grass (*Arrhenatherum elatius*), cocksfoot grass (*Dactylis glomerata*), Yorkshire fog , hogweed (*Heracleum sphondylium*), and stinging nettle (*Urtica dioica*). The MG1b *Urtica dioica* sub-community was present at two young, planted woodlands at Aimster and Clatequoy as an understorey layer that is dominated by common nettle, with reduced general botanical diversity owing to the shade of the planted trees.

MG5 *Cynosurus cristatus-Centaurea nigra* grassland is a species-rich classification which corresponds to the SBL priority habitat Lowland meadows. It is usually rich in bryophytes. MG5 grassland is typical of less intensive management and more

traditional farm practices, with light grazing and cutting for hay. In the onshore study area the largest extent is the Moss of Halkirk, but it also occurs in small patches above Oust (where it occurs as the MG5c *Danthonia decumbens* sub-community that is rich in eyebrights, *Euphrasia spp*.) and adjacent to the pumping station near Halkirk on the River Thurso.

MG9 *Holcus lanatus-Deschampsia cespitosa* grassland makes up part of the SBL priority habitat Coastal and floodplain grazing marsh and is a moderately groundwater dependent terrestrial ecosystem. It is dominated by grasses, with meadow buttercup (*Ranunculus acris*), common mouse-ear and meadow vetchling (*Lathyrus pratensis*) growing between the large tussocks. This classification is common and widespread within the onshore study area where soils are damp or periodically inundated, occurring in river valleys, poorly-drained fields, and at the margins of wetland habitats. The only sub-community identified, MG9b *Arrhenatherum elatius* sub-community, is vegetatively similar, but includes common knapweed (*Centaurea nigra*), and was present at Sibster burn.

U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland corresponds to H6230 Species rich grassland with mat-grass, in upland areas. It is an SBL priority habitat, Lowland dry acid grassland. In the onshore study area it occurs either as small patches, or within habitat mosaics, and is widespread but not common. It occurs on better drained acid soils where there is significant grazing. Although typically classified as an upland habitat, in Caithness it occurs at lower altitudes due to the prevailing climatic conditions. In the onshore study area it is generally species poor, though contributes to overall habitat diversity.

U5 *Nardus stricta-Galium saxatile* grassland is part of the H6230 Species rich grassland with mat-grass, in upland areas and is a habitat commonest in upland western regions. It was only recorded once within the onshore study area, as part of a habitat mosaic near Houstry. It is a grazed grassland with relatively few species present, but in upland regions it is an important feeding and breeding habitat for skylarks, meadow pipits, and wheatears. Where it occurs at altitude it is also the primary habitat for mountain ringlet butterfly (*Erebia epiphron*).

5.1.3.7 Woodlands

Woodlands are scarce within the onshore study area, except as commercial plantations, native woodlands, or as young, planted woodlands that do not match any NVC classifications.

W4 *Betula pendula-Molinia caerulea* woodland may be part of the H91C0 Caledonian forest Annex I classification H91C0 Caledonian forest, but within the onshore study area this is felt not to be an appropriate classification, as W4 is only represented by small woodland fragments close to farms at Achalone and Houstry.

W6 *Alnus glutinosa-Urtica dioica* woodland corresponds to H91E0 Alder woodland on floodplains. This is seen as a mature and managed woodland adjacent to the Forss hotel. It is a sycamore (*Acer pseudoplatanus*) dominated woodland, but alder (*Alnus glutinosa*) occurs frequently within it, especially close to the river. This woodland is used as an amenity space and experiences disturbance from human activity but retains a moderately diverse understorey.

Both W4 and W6 woodlands fall under the SBL priority habitat Wet woodlands. W4 is highly groundwater dependent, and W6 is moderately groundwater dependent.

W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland includes H9180 Mixed woodland on base-rich soils associated with rocky slopes, and is also an SBL priority habitat, Lowland mixed deciduous woodland. The Annex I

categorisation is a poor match for the only example seen, a riverside woodland next to Braal castle, which contains large mature Sycamore. This woodland shows signs of extensive human disturbance, including fires, and has an understorey dominated by pink purslane (*Claytonia sibirica*).

W21 *Crataegus monogyna-Hedera helix* scrub includes part of the Annex 1 classification H5130 juniper on heaths or calcareous grassland, but this is a poor match for the only example seen, as no juniper was identified. The only example seen in the onshore study area was an area of hedge and scrubland at Achanarras, for which the W21 classification was the best match. This site is relatively species poor, but of conservation value owing to the general scarcity of woodland habitat within the onshore study area.

5.1.3.8 Ecological Features of Low Conservation Value

Several other habitats occur within the onshore study area which are not listed under Annex I and are not considered to be of conservation importance.

MG6 *Lolium perenne-Cynosurus cristatus* grassland and MG7 *Lolium perenne* leys and related grasslands are both SBL priority habitats as part of Coastal and floodplain grazing marsh. However, these are species poor grasslands that are generally agriculturally improved and have little conservation interest. Both are widespread within the onshore study area.

MG10 rush-pasture is a widespread habitat in lowland Britain and was the commonest NVC classification found within the onshore study area. The MG10 habitat recorded within the onshore study area was assessed as moderately groundwater-dependent. However, MG10 is an impoverished vegetation type and rarely contains any uncommon species. It is generally regarded as being of lower conservation value than other types of damp grassland, although it can provide important breeding habitat for waders and wildfowl (Averis *et al.*, 2004).

OV22 *Poa annua-Taraxacum officinale* community occurs on disturbed and lightly trampled ground, typically along paths and road verges. It was recorded at the edge of Aimster farm but is likely to have been under-recorded within the onshore study area. It is generally of low conservation interest.

OV27 *Epilobium angustifolium* community is characteristic of disturbed soils, or where burning has occurred. The vegetation is overwhelmingly dominated by the vigorous rosebay willowherb (*Epilobium angustifolium*), and little other vegetation can survive, resulting in very low biodiversity. It was recorded on the grounds of Skinnet farm but is likely to have been under-recorded within the onshore study area as it is a habitat of marginal areas.

5.1.3.9 Habitats without a designated NVC community

Habitats without a designated NVC community have been included on the NVC map for completeness. Habitats without designated NVC classifications identified within the onshore study area is shown in Table 7. These mainly comprise various types of plantation woodlands and crops, which do not key out under NVC methods. Several farm buildings and inhabited buildings are present within the onshore study area. Areas for which no access was permitted were assessed where possible from a distance. Furthermore, bare rock and open sea have no NVC community.

Table 7. Habitats without a NVC community identified within the onshore study area.

Habitat	Annex I Habitat	SBL Priority Habitat	GWDTE level	Area within the onshore Project boundary, excluding buffer (Ha)	Area within the onshore Project boundary, including buffer (Ha)
Bare ground	None	None	None	4.21	0.00
Bare rock	None	None	None	1.31	0.00
Bare rock/Open sea	None	None	None	35.54	39.00
Broadleaved plantation	None	None	None	90.63	122.15
Coniferous plantation	None	None	None	14.46	25.65
Crops	None	None	None	152.82	195.57
Gorse	None	None	None	20.93	33.79
Mixed plantation	None	None	None	29.16	86.78
Unable to access	N/A	N/A	N/A	100.48	182.17

5.1.4 Species of Conservation Interest

5.1.4.1 Scottish Primrose

Scottish primrose is an endemic plant that occurs only in Caithness, Sutherland and Orkney (Morris, 2009). It is included in the SBL watching brief and Highland Biodiversity Action Plan (HBAP), which means the population should be monitored to ensure that it is not declining. Scottish primrose is a designated feature of Red Point Coast SSSI; approximately 1.1 km west of the onshore Project area. The population at Red Point Coast SSSI holds over 1 % of the word population of Scottish primrose. During the NVC survey, Scottish primrose was found to be ubiquitous along the coast of the onshore study area in areas of short vegetation or bare soil. Inland, the vegetation surveyed was rough grassland and much less suitable.

5.1.4.2 Northern Knotgrass

Northern knotgrass (*Polygonum boreale*) is a Nationally Scarce arable weed associated with disturbed arable ground. The species is thought to be declining because of changes in agricultural practices.

Northern knotgrass was found at the side of a track on the ridge above Oust farm. It was also casually observed outside the onshore study area at Dounreay, and on a road verge at Westfield. Butler (No date) describes it as an agricultural weed that is common near the coast, and states that it can easily be observed in turnip fields in

coastal Caithness. It is likely that it was under-recorded during the current survey as agricultural crop fields were not examined for NVC purposes.

5.1.4.3 Field Gentian

Field gentian (*Gentianella campestris*) is a Nationally Scarce plant that is recorded by Butler (No date) as occurring at the roadside at ND148300, outside the onshore study area.

This particular group of plants is an unusual all-white form. The species was not observed during the survey period, but a conversation took place with local residents who described a population of white-flowered field gentian as occurring on the road verge of the access road to Forss Business and Technology Park, at ND022691. The residents stated that the plants appeared every year but did not last long as they were mown down by the grass cutting of the road verges by site maintenance staff. The site was examined, but had been recently mown to almost ground level, and no field gentian were observed, although the vegetation present appeared to indicate suitable habitat for field gentian.

5.1.4.4 Rare Eyebrights

Butler (No date) records three rare species of eyebrights (*Euphrasia* spp.) and a single rare hybrid as present within Caithness, of which *Euphrasia marshallii* is recorded from within the onshore study area at ND9968. Eyebrights are a difficult group of plants to identify with certainty, and specialist knowledge is usually required to record with certainty. No rare *Euphrasia* spp. were recorded during the survey, but it is possible that one or more of the rare species occur within the onshore study area.

5.1.5 Invasive Species

5.1.5.1 Monkeyflower

Monkeyflower (*Erythranthe guttata*) is a non-native invasive species that colonises shallow streams and rivers, and shingle bed areas. It was commonly observed in shallow water locations where shingle and stony substrates were present, on both the River Thurso and Forss Water. Monkeyflower has been present in the UK since the mid-19th century (ohbr.org.uk) and is well established in many places. It can form dense stands that potentially exclude native species. No such large stands were observed during the survey period.

5.1.5.2 Pink Purslane

Pink purslane is a well-established and naturalised non-native plant originating from north America and Siberia. It was introduced to the UK in the 18th century, and is now widespread, particularly in the north and west. It is not considered to be an invasive species but can suppress the growth of native plants on the woodland floor. It forms a dense carpet of leaves that grow early in the spring, shading out and suppressing other plants. It was observed within the onshore study area within the woodland at Braal Castle, and the woodland next to the pumping station on the River Thurso, near Halkirk. In both woodlands it was the overwhelmingly dominant ground flora species, forming a thick carpet of plants with, in places, no other non-woody species present.

5.2 Scottish Primrose Survey

Survey results for the Scottish primrose survey are shown in Figure 7 (Appendix 1).

During the Scottish primrose survey, the species was ubiquitously found within the Scottish primrose onshore study area (500 m buffer from the coastline) across locations that were suitable habitat (lightly grazed areas or short coastal habitat). Overall, the distribution of the species did not extend further than 50 m from the coast, as beyond this distance the habitat was generally farmland or tall rough grassland and, as such, was less suitable. No records from the desk study consultation responses provided recent data for Scottish primrose distribution, however, data that is over 10 years old was noted, with the records all within the onshore study area.

5.3 Protected Species

5.3.1 Badger

No conclusive evidence of badger activity (in the form of setts, latrine sites, foraging areas, guard hairs etc.) was recorded and only one record was provided from the desk study consultation response, approximately 2 km from the onshore Project area boundary. Whilst pockets of suitable foraging and commuting habitat were noted within the terrestrial non-avian ecology onshore study area, such as riparian corridors and woodland habitats, the majority of the onshore study area is comprised of flat areas of arable and pastoral land, with fewer field boundaries comprised of tree lines or hedgerows, which would be the optimal form of habitat for commuting badger. For sheltering purposes, although arable and pastoral land can be utilised by badgers, the flat topography within such locations would make it less suitable for badgers. In addition, the lack of mature woodland, tree lines or other suitable sheltering habitats within the onshore study area means such habitats are relatively isolated and fragmented.

Badger territory sizes range from 0.3 km² in optimal habitat, to over 1.5 km² in marginal habitat (Harris, 2008). The habitats present on site and in the wider area are predominantly sub-optimal for badger. Therefore, it is considered likely that any badgers present outwith the site boundaries have a larger territory. As evidence of badger activity within larger territories can be more difficult to identify, and badger are known to be present in the wider area, it is considered likely that badgers do occasionally commute through or forage within the onshore study area.

5.3.2 Bat

Survey results for the bat surveys are shown in Figures 8 and 9 (Appendix 1). A summary of the bat survey is provided below, with more detailed information provided in Table A2.1 (Appendix 2) and Table A3.1 (Appendix 3).

The survey identified 325 buildings or building complexes that were assessed for bat roost potential. Of the buildings, 84 were identified as having Moderate / High to High roost potential, 143 buildings of Low / Moderate to Moderate bat roost potential and 98 buildings of Negligible / Low to Low bat roost potential. Twenty-one buildings or building complexes were identified to be of Negligible roost potential for bats and largely comprised of single-skinned corrugated metal structures. The Moderate / High to High buildings mainly comprised of traditional stone-build farm buildings, residential dwelling and agricultural buildings with pitched slated or flagstone roofs. Key features identified at these buildings were gaps at the eaves, lifted slates or flagstones, areas of degraded mortar beneath the ridges, and deep crevices within the stone walls. The Low / Moderate to Moderate buildings were mainly dominated by modern harled residential dwellings, dilapidated or roofless stone-build farm buildings or concrete and corrugated asbestos roofed barns. Key features identified

at such buildings were gaps beneath the ridges, gaps at the eaves, lifted tiles, deep crevices in the stone walls of roofless buildings, crevices between asbestos edge flashing and concrete walls, and gaps between overlapping asbestos sheets.

Four stone-built bridges were surveyed, two identified as being of Low to Moderate suitability and two of Negligible suitability. A small, smoothed sided culvert, with a drystone head- wall was identified as being of Low / Moderate suitability. Key features included crevices in the dry-stone headwall, gaps in degraded mortar and gaps between steel supports and the stone abutments.

A small, disused quarry was recorded, north-east of Forss. No close inspection was undertaken; however, deep crevices were observed within the rock faces and were considered to be of Moderate suitability for roosting bats; with species including common pipistrelle and brown long-eared bat known to exploit such features within these artificial landforms (Bat Rock Habitat Key, 2021). The rock faces along the coastline to the northern extent of the onshore study area also support deep crevices. However, as these features would be regularly exposed to salty sea spray, waves, wind, and rain, with no sea caves present which are known to be utilised by roosting bats (Bat Rock Habitat Key, 2021) and could provide shelter from the elements, they are considered to be of Negligible to Low suitability for roosting bats.

There were few trees within the terrestrial non-avian ecology onshore study area, and the majority were young to semi-mature. As such they supported few or no features for roosting bats. Trees that did provide potential included mature elm trees, with rot holes and split limbs, sycamore trees with rot holes and dead Sitka spruce, which featured raised barks. Only 8 individual trees were recorded as being Moderate to High bat roost potential. However, clusters of trees (woodland, tree lines or scattered trees) were present and were classified as a group. Due to this grouping, there will be significantly more Moderate to High roost potential trees present, with some areas of woodland, tree lines or scattered trees containing a number of specimens with suitable bat roost features. Areas within the onshore study area that contained a number of trees with bat roost potential were located in Forss and along the River Thurso, east of Halkirk, where broadleaved woodland was present.

Suitable foraging and commuting habitat within the onshore study area include small pockets of woodland, woodland edges, and riparian habitats. However, much of the onshore study area is comprised of wide expanses of farmland, leaving these suitable habitats relatively isolated from each other.

5.3.3 Great Crested Newts

Surveyed pond locations for the great crested newt HSI surveys are shown in Figure 10 (Appendix 1). A summary of the HSI survey data is provided in Table A4.1 (Appendix 4).

The great crested newt is classed as Least Concern on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. However, in spite of this, the population trend is classed as decreasing. In Scotland, it is estimated that the number of great crested newt ‘occupied ponds’ is 1,542, with an estimated 1,156 ‘breeding ponds’ (i.e. ponds within which great crested newts have been observed to breed) (Wilkinson *et al*., 2011). Forty breeding ponds are known around Inverness, with great crested newts known to have been introduced to one site in Caithness (McInerny, 2018), but outwith the terrestrial non-avian ecology onshore study area.

Great crested newts spend much of their time on land, utilising habitats such as deciduous woodland, grassland, and arable areas. However, they require aquatic

habitats for breeding and, as such, will live near a breeding pond. The distances from breeding ponds can vary and are dependent on the quality and availability of surrounding habitat. Whilst great crested newts have been recorded travelling up to 1.3 km between breeding ponds, at most sites the migratory range is no more than 250 m (Kovar *et al*., 2009).

In addition to the more traditional terrestrial habitats, populations of great crested newts; found in the Highlands, Perth and Kinross, and Dumfries and Galloway are known to use coniferous woodland and heathland habitats. Additionally, newts have also found a niche in brownfield habitats such as quarries and post-industrial sites containing flooded pits. Threats to great crested newts include the loss of breeding ponds from pollution, destruction, introduction of fish, or through natural succession, where the pond fills with vegetation and silt. In addition, the loss and fragmentation of essential terrestrial habitat has a detrimental effect on great crested newt numbers. Finally, an increasing number of amphibian diseases has arisen in recent years, such as chytridiomycosis and ranavirus which pose a major threat to great crested newt populations.

No desk study and consultation responses returned any great crested newt records.

A total of 39 ponds in the initial onshore study area were subject to HSI assessments. Two ponds could not be assessed due to access issues and a further four locations were determined to be not ponds but instead were saturated grassland. HSI is a ten-factor numeric index in which each factor relates to an aspect of habitat which affects the likelihood that a body of water is suitable for great crested newts. The results of the HSI calculations of the ponds assessed are presented in detail in Table A4.1 (Appendix 4).

As all the ponds surveyed returned results of ‘poor’ or ‘below average’ in terms of their suitability for great crested newts, no further surveys were undertaken.

Several palmate newts (adults and juveniles) were recorded during the HSI surveys. No other amphibians, including great crested newts, were recorded during the survey. However, it is likely that suitable breeding, foraging, and hibernation habitat exits within the onshore study area for common species such as common frog (*Rana temporaria*) and common toad.

5.3.4 Otter

Survey results for the otter surveys are shown in Figures 11 and 12 (Appendix 1).

Otter activity along named watercourses and drains was recorded throughout the terrestrial non-avian ecology onshore study area, with the desk study providing three records near Buldoo, Sordale and Broubster. The highest levels of otter activity were recorded along the River Thurso and Forss Water. Along the River Thurso, a series of spraints, paths and slides were identified, including two holts and a couch located southwest of Halkirk, located just outwith the onshore study area (Figure 12). In the periphery to River Thurso, spraints, sprainting locations, paths, slides, and couches were located, mainly located near Calder Burn, Burn of Sour and Burn of Carnavagry. Along Forss Water, between Crosskirk at the northern coast and Westfield at the centre of the terrestrial non-avian ecology onshore study area, a series of spraints, sprainting locations and tracks were identified, including two holts, both located within the terrestrial non-avian ecology onshore study area. In the periphery to Forss Water, east of Westfield, two couches, spraints, sprainting locations and tracks were located, mainly within the unnamed drains near Achnavast.

The highest quality habitat for otter was assessed to be along the River Thurso and Forss Water. These larger watercourses provide easy access from the coast to

beyond the onshore study area in the south. The larger watercourses provide links to minor watercourse and drains within the onshore study area and create suitable commuting routes, appropriate sheltering locations and even suitable waterbodies that are located outwith the terrestrial non-avian ecology onshore study area. The watercourses also provide a range of prey species which will be supported by the good quality water found within River Thurso and Forss Water.

Habitats of a moderate suitability for otters included tributaries of the River Thurso and Forss Water. These would provide alternative commuting and foraging routes that will be influenced less by recreational activities, such as fishing or water sports. Habitats of a lower suitability were determined to be in locations that were comprised of farm drains showing frequent signs of use from livestock. These were found within the Aimster branch of the terrestrial non-avian ecology onshore study area, and at the south of the terrestrial non-avian ecology onshore study area, from Achalone to Achanarras. Although the field drains would provide good commuting routes, foraging opportunities would be more limited and sheltering locations would need to be undertaken away from occupied fields. However, due to otter's large home ranges (males 32 km; females 20 km) (NatureScot, 2020) and their known presence during the baseline surveys, it is expected otter could utilise any riparian areas within the terrestrial non-avian ecology onshore study area.

5.3.5 Pine Marten

Survey results for the pine marten surveys are shown in Figure 13 (Appendix 1).

No den sites were noted for pine marten. However, at the very south of the onshore study area (west of Spital Substation), the landowner provided anecdotal evidence that pine marten had been nesting in the farm building at Achanarras Farm (within the onshore study area) and at a farm building at Spittal Mains (outside the onshore study area – south of Spittal Substation). Pine marten scat was recorded in relatively low numbers across the onshore study area and a pine marten was sighted approximately 2 km outwith the onshore Project area; near the eastern banks of Loch Calder. Anecdotal evidence of pine marten presence was also recorded, with sightings to the south of the onshore study area and within the grounds of a residential property to the east of the Burn of Baillie (outside the terrestrial non-avian ecology onshore study area). Two records were provided from the desk study consultation response, near east Forss and Loch Scarmclate.

Areas of suitable habitat present within the onshore study area are limited to the small pockets of more mature woodland in Forss and along the River Thurso; to the east of Halkirk. Both locations of woodland at these locations were further evidenced by the presence of pine marten scat. It is understood that these woodland areas were planted approximately 80 years ago and as they were small and isolated within the surrounding landscape and with no significant denning potential, their quality for pine marten was considered to be relatively low. Due to the relatively scarce evidence of pine marten activity across the terrestrial non-avian ecology onshore study area, and the fragmented nature of the suitable pine marten habitats, it is likely that the density of pine marten is low across the terrestrial non-avian ecology onshore study area.

5.3.6 Red Squirrel

Red squirrels most northern range is recorded as being near the red squirrel stronghold site at Morangie Forest, in Tain; over 80 km south-east of the terrestrial non-avian ecology onshore study area. Whilst red squirrel were historically recorded further north; in 1999 and before, current distribution data indicates that they are no

longer present in Caithness (Scott, 2011). No desk study and consultation responses returned any red squirrel records.

No evidence of red squirrel activity was recorded within the terrestrial non-avian ecology onshore study area, and areas of suitable habitat are limited to small pockets of woodland near Forss and along the River Thurso; to the east of Halkirk. The woodland area near Forss was planted approximately 80 years ago and the pockets of woodland along the River Thurso appear to be of a similar age. Whilst these areas could provide suitable foraging and drey-building habitat for red squirrel, they are small and isolated from other areas of suitable habitat in the wider area.

Small, isolated strips of young to semi-mature coniferous plantation woodland are also present. These areas are considered to be of low suitability for red squirrel due to their small size, the relative immaturity (low cone-producing capacity) of the trees, the limited ground-flora or shrub layer and the isolation of these woodland areas from other suitable habitats in the wider area.

As red squirrel is reliant on the availability of a range of suitable foraging resources throughout the year, the lack of evidence of squirrel activity is likely due to the fact that the pockets of woodland across the onshore study area are relatively sparse, small, isolated and are generally comprised of young to semi-mature trees. As such, the likelihood of red squirrels being present in the onshore study area is low.

5.3.7 Reptiles

Survey results for the reptile surveys are shown in Figures 14 and 15 (Appendix 1).

Five common lizard sightings, four of which were located outwith the onshore study area were recorded. One record was to the south of Achanarras, two were approximately 3 km south-west of Halkirk and one was recorded north-east of Westfield. The single record of common lizard within the onshore study area was approximately 1.4 km south of Halkirk, in wet, neutral grassland. One female adder record was provided from the desk study consultation response, located on a track at Broubster Forest.

Large swathes of the onshore study area comprise heavily grazed and/or managed fields, lacking features such as hedgerows, tree lines or wet ditches. Due to the lack of structural complexity, these habitats are considered sub-optimal for reptiles. In addition to lacking suitable areas for thermoregulation, refuge from predation, and potential hibernacula, the lack of habitat diversity will also result in a reduction in invertebrate and small mammal prey for reptiles.

Areas with the highest suitability were those with a diverse vegetation structure. Suitable habitats included marsh and marshy grassland, embankments with areas of rough grassland and tall ruderal vegetation, scattered scrub and scattered trees, railway embankments and riparian habitat. Woodland edges were also present and considered suitable for reptiles as the interface between woodland areas and surrounding habitats can provide a variety of microclimates and vegetation structures, refuge from predation and potential overwintering opportunities beneath tree roots and within small mammal burrows. Although pockets of high suitability habitat were recorded across the terrestrial non-avian ecology onshore study area, larger sections of good habitat were located along Forss Water on the banks of the watercourse, from the north at the coastline to north of Westfield. In addition, larger areas at the north and south of Halkirk were recorded as suitable habitat, along the eastern and western onshore export cable corridor routes of the onshore terrestrial non-avian ecology onshore study area.

Potential refugia or hibernacula (including rubble piles, rubble mounds, rocks and drystone walls) were largely confined to the southern portion of the onshore study area. These included features such as rock piles, drystone walls and ruined buildings. Although few south-facing slopes were observed due to the relatively flat topography of the onshore terrestrial non-avian ecology onshore study area, basking opportunities were present in more open areas. Areas south of Halkirk are composed of saturated neutral and/or marshy grassland. Although such conditions are suitable for common lizard and adder, they may be too wet for hibernation and due to the semi-fossorial nature of slow worms, these wetter habitats are likely to be unsuitable for their burrows.

5.3.8 Water Vole

Survey results for the water vole surveys are shown in Figures 16 and 17 (Appendix 1). Suitable habitat along watercourses, wet ditches and waterbodies were recorded throughout the ecology onshore study area and conclusive evidence of water vole activity; in the form of burrows, feeding signs and latrine sites, were identified during the surveys. Much of the evidence was located along the north of Forss Water, Calder Burn; approximately 2 km west of Halkirk, and along a tributary of River Thurso; approximately 2.4 km south-west of Halkirk. The water vole signs along Forss Water comprised of feeding signs, a three-entrance burrow, and an audible indication that a small mammal had entered the watercourse (near the burrow). The sound was consistent with the characteristic 'plop' associated with a water vole entering the water. The water vole signs observed along Calder Burn (Figure 17) were located just outwith the terrestrial non-avian ecology onshore study area, to the west of Halkirk. At this location fresh droppings were noted within three of the four latrines, four individual burrow entrances were identified and feeding signs were observed. It is likely additional burrow entrances and further evidence of water vole activity is present at this location but obscured by dense vegetation during the survey. One water vole record was provided from the desk study consultation response, located within the western branch of the terrestrial non-avian ecology onshore study area, near River Thurso.

Good quality water vole habitat is present where watercourses, wet ditches or drain margins are less impacted by grazing or other agricultural activities. However, locations described as 'suitable but poor' could still be utilised. If these lower suitability areas become fenced-off to exclude livestock, the habitats would become more suitable, due to the increase in vegetative growth, creating cover and food resource. Overall, due to the variation in water level and grazing pressures on the banks of River Thurso, the river is described as 'suitable but poor' in terms of suitability for water vole. However, tributaries leading into the River Thurso were noted to be of good suitability, which was evidenced by the recorded feeding signs and the desk study data.

5.3.9 Invasive Non-native Species (Incidental)

INNS were recorded to include American mink (*Neovison vision*) signs and rhododendron. Rhododendron was recorded outside the terrestrial non-avian ecology onshore study area, south of Sibster Moss, near Banniskirk House. American mink was recorded at three locations during the surveys, with two located outside the Projected area, north of Loch Calder and along Calder Burn, west of Halkirk. The third record of American mink was within the terrestrial non-avian ecology onshore study area, located south of Halkirk. Mink records were evidenced by the presence of scat or footprints.

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Appendix 1: Figures

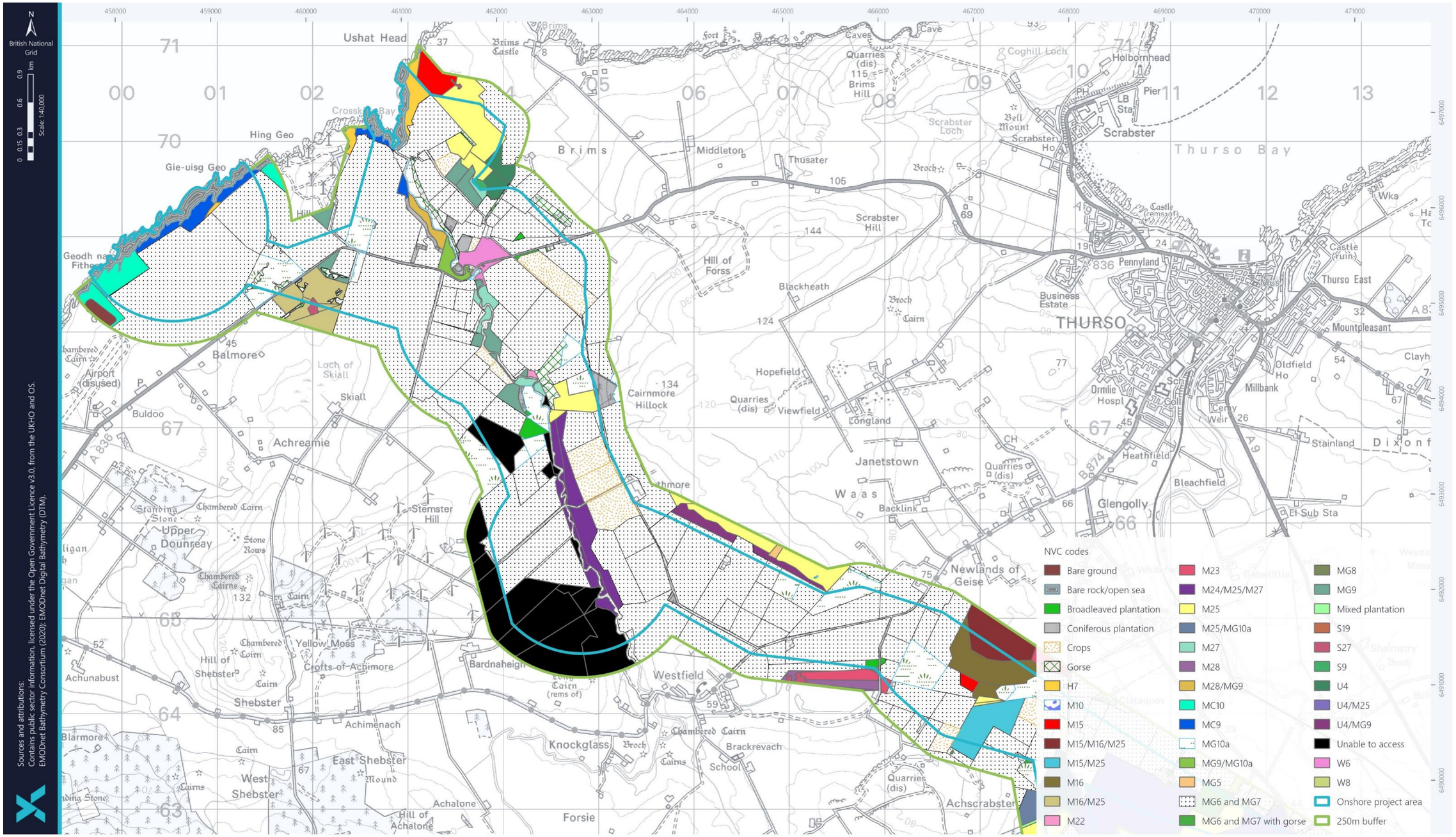

Figure 1: NVC classification categories, northern section of survey area.

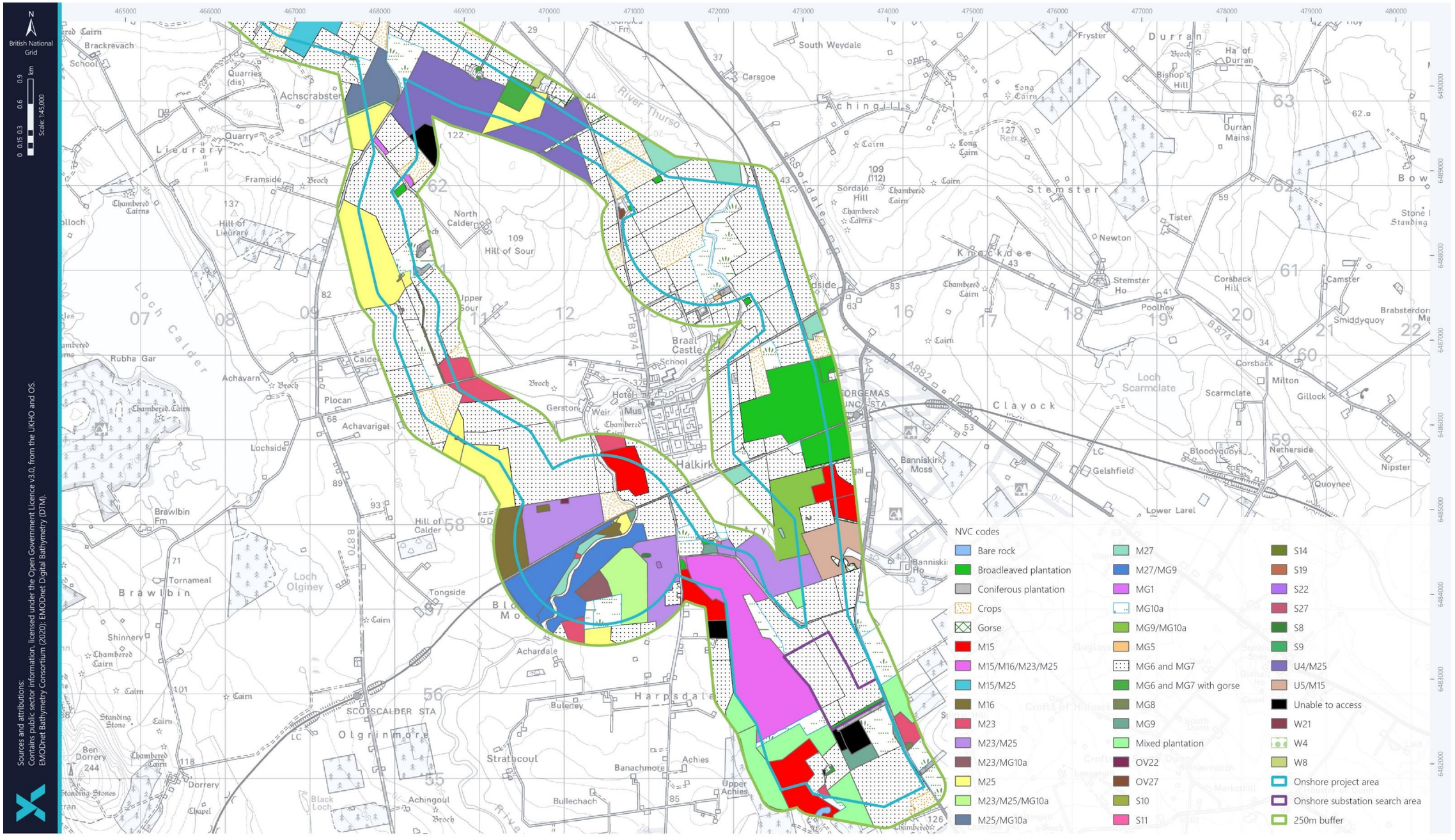

Figure 2: NVC classification categories, southern section of survey area.

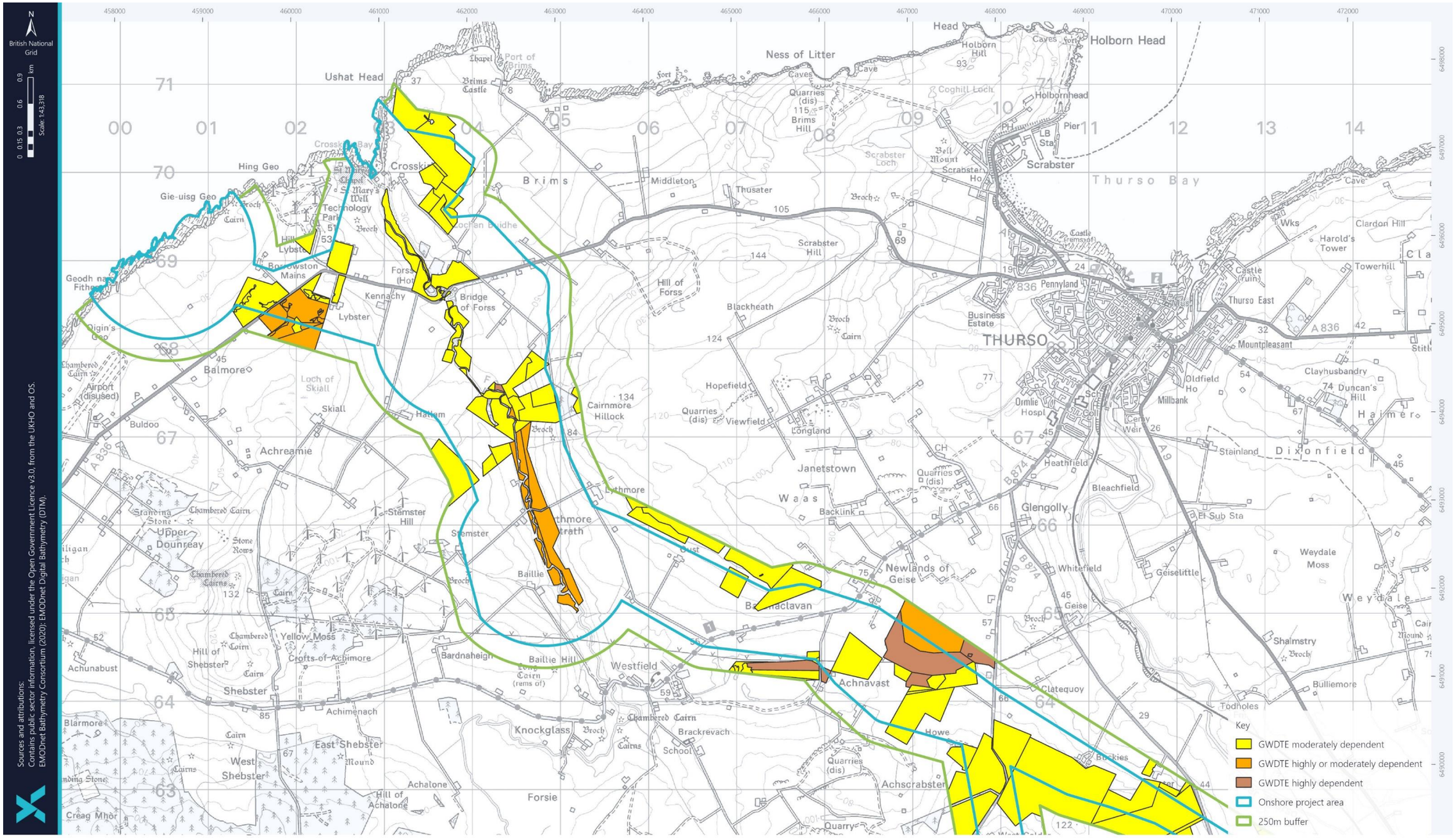

Figure 3: GWDTEs within northern section of the onshore study area.

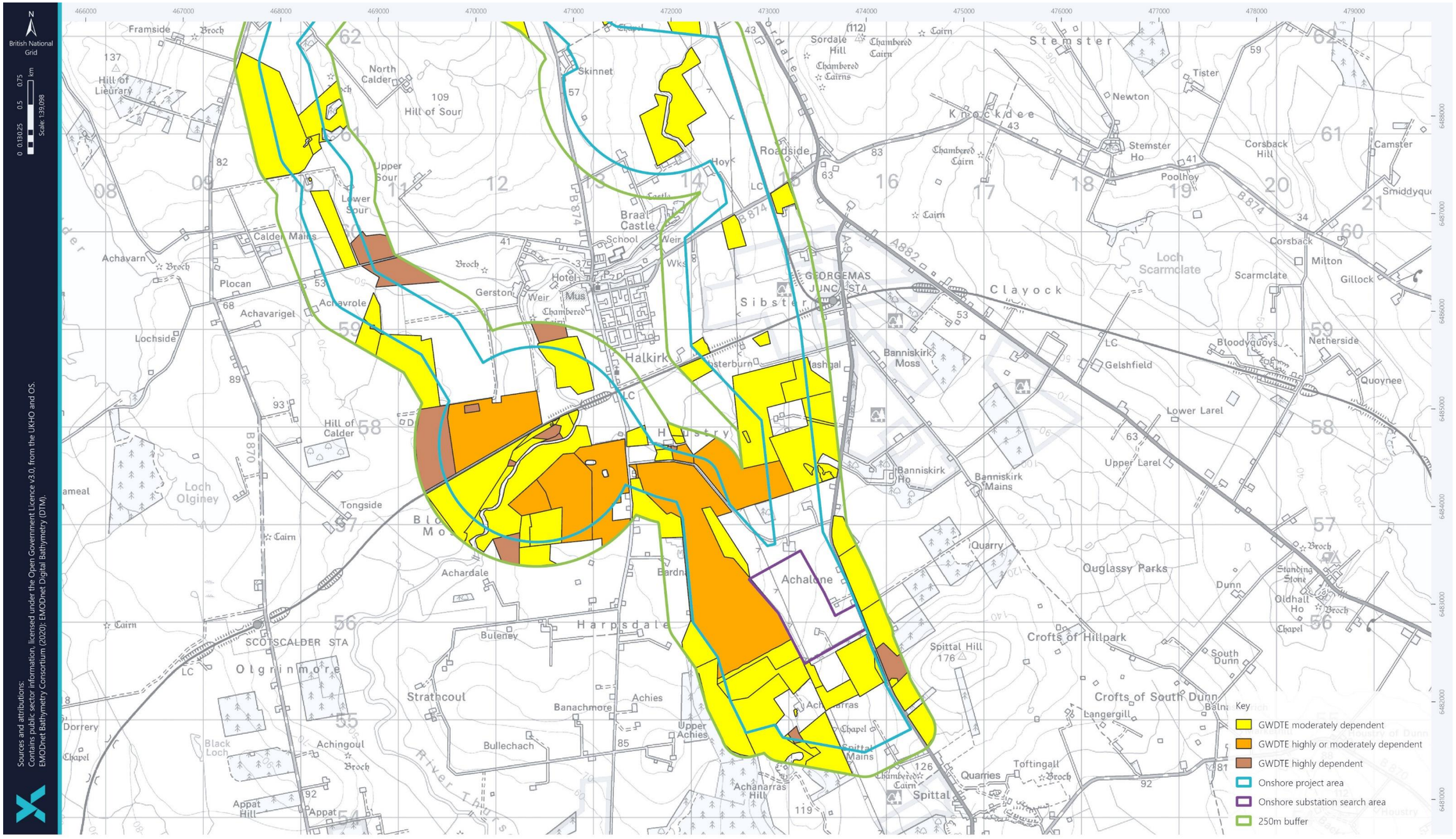

Figure 4: GWDTEs within southern section of the onshore study area.

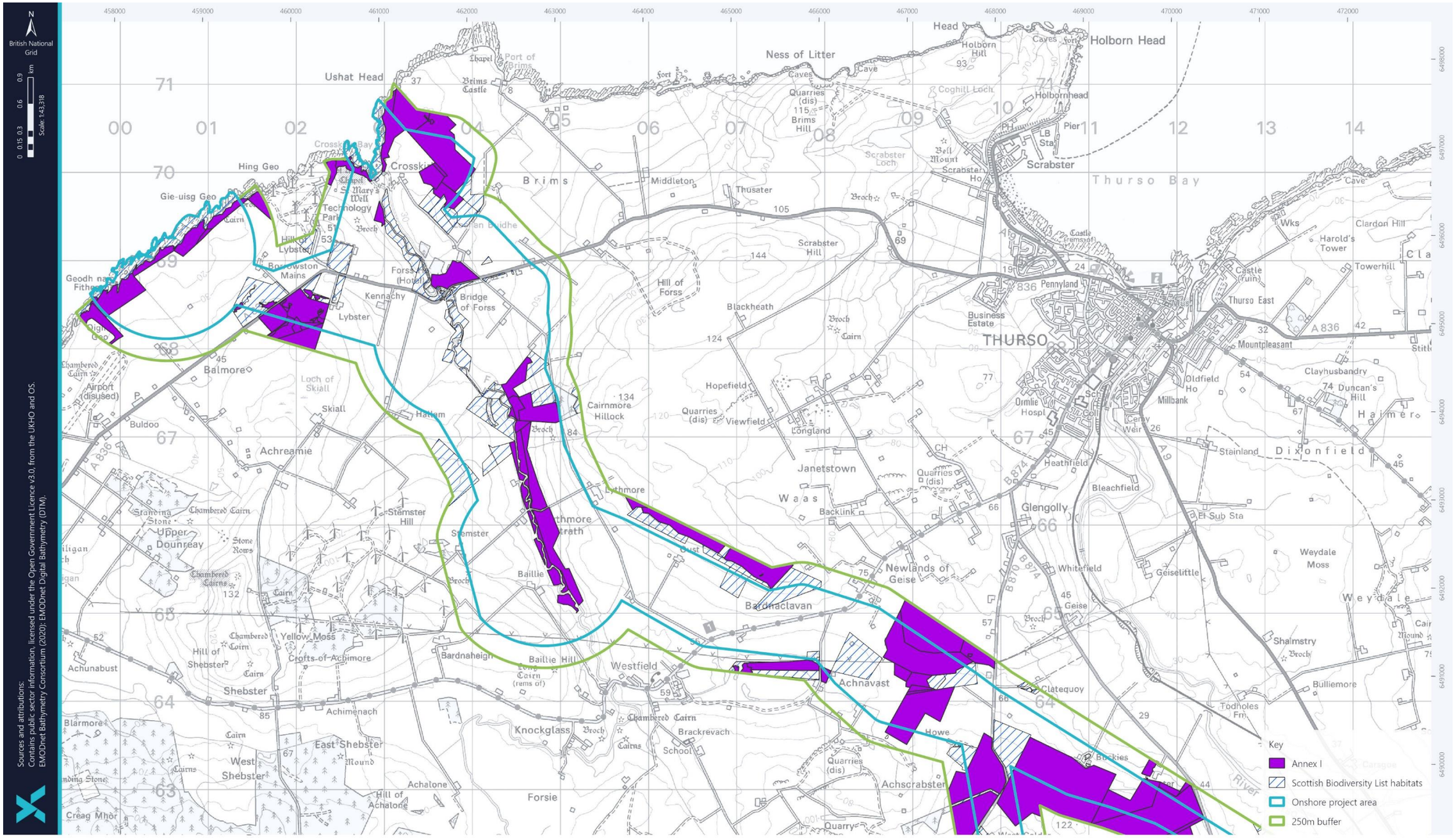

Figure 5: Annex 1 habitats within northern section of the onshore study area.

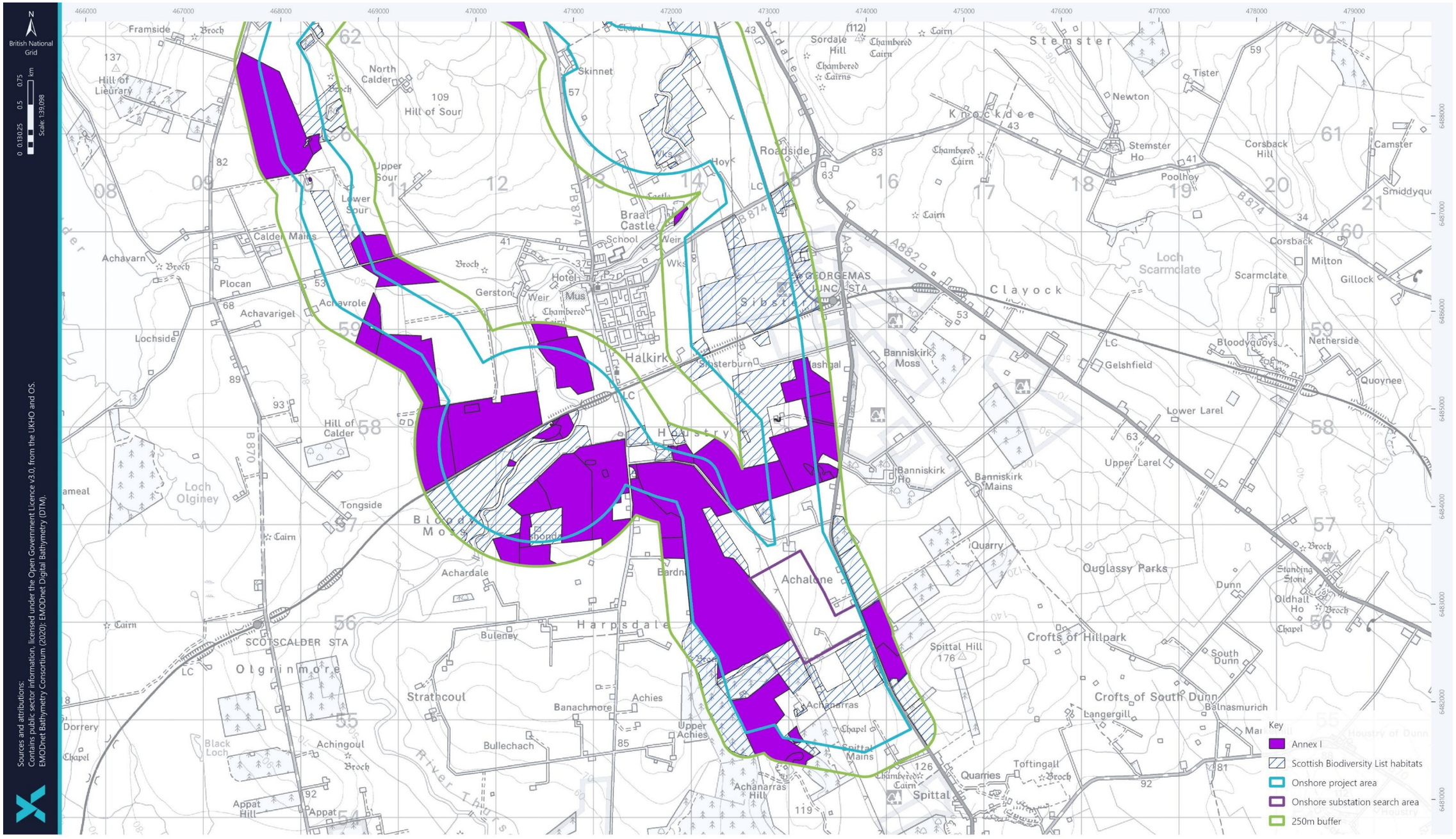

Figure 6: Annex 1 habitats within southern section of the onshore study area.

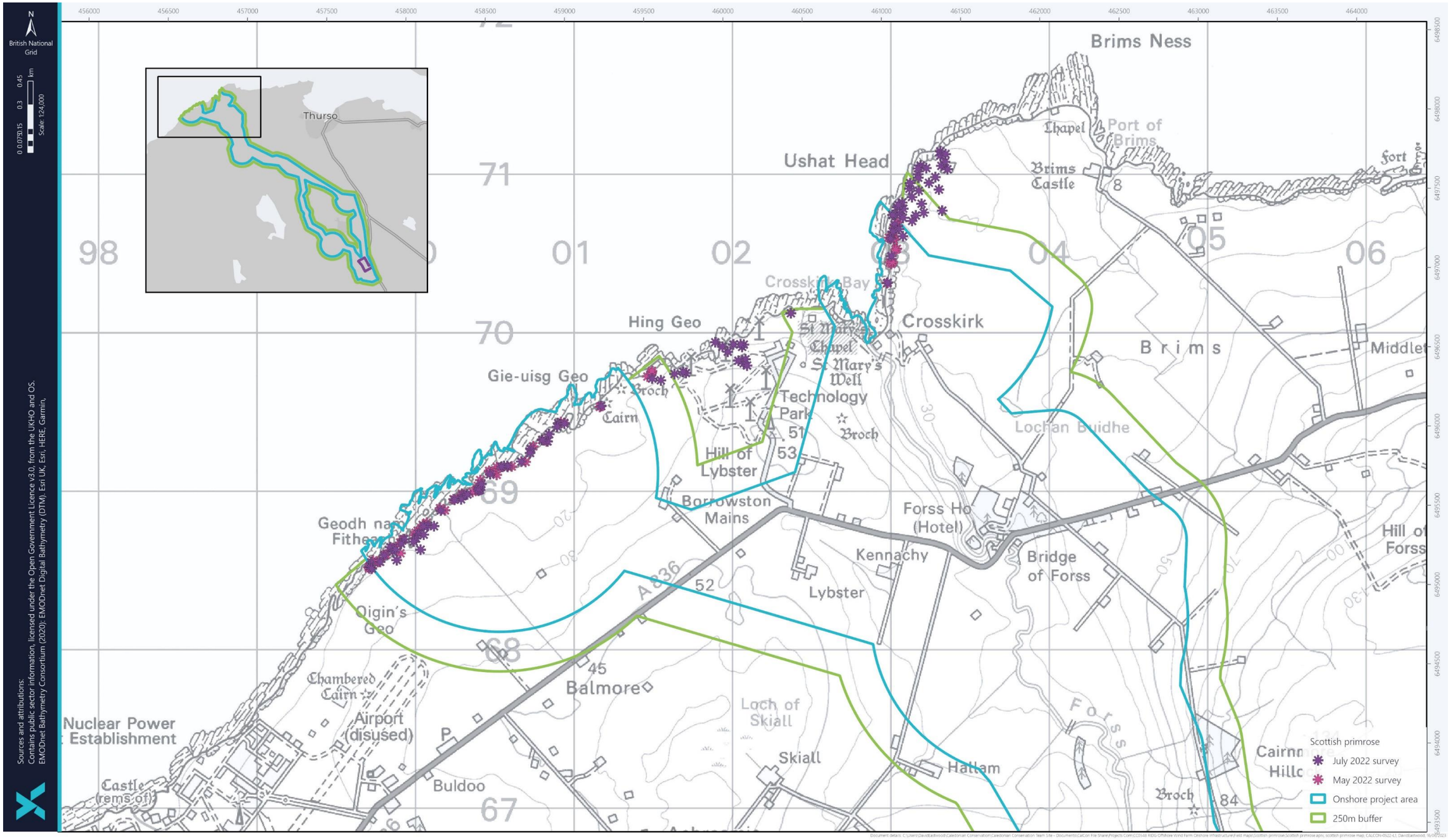

Figure 7: Scottish primrose survey results.

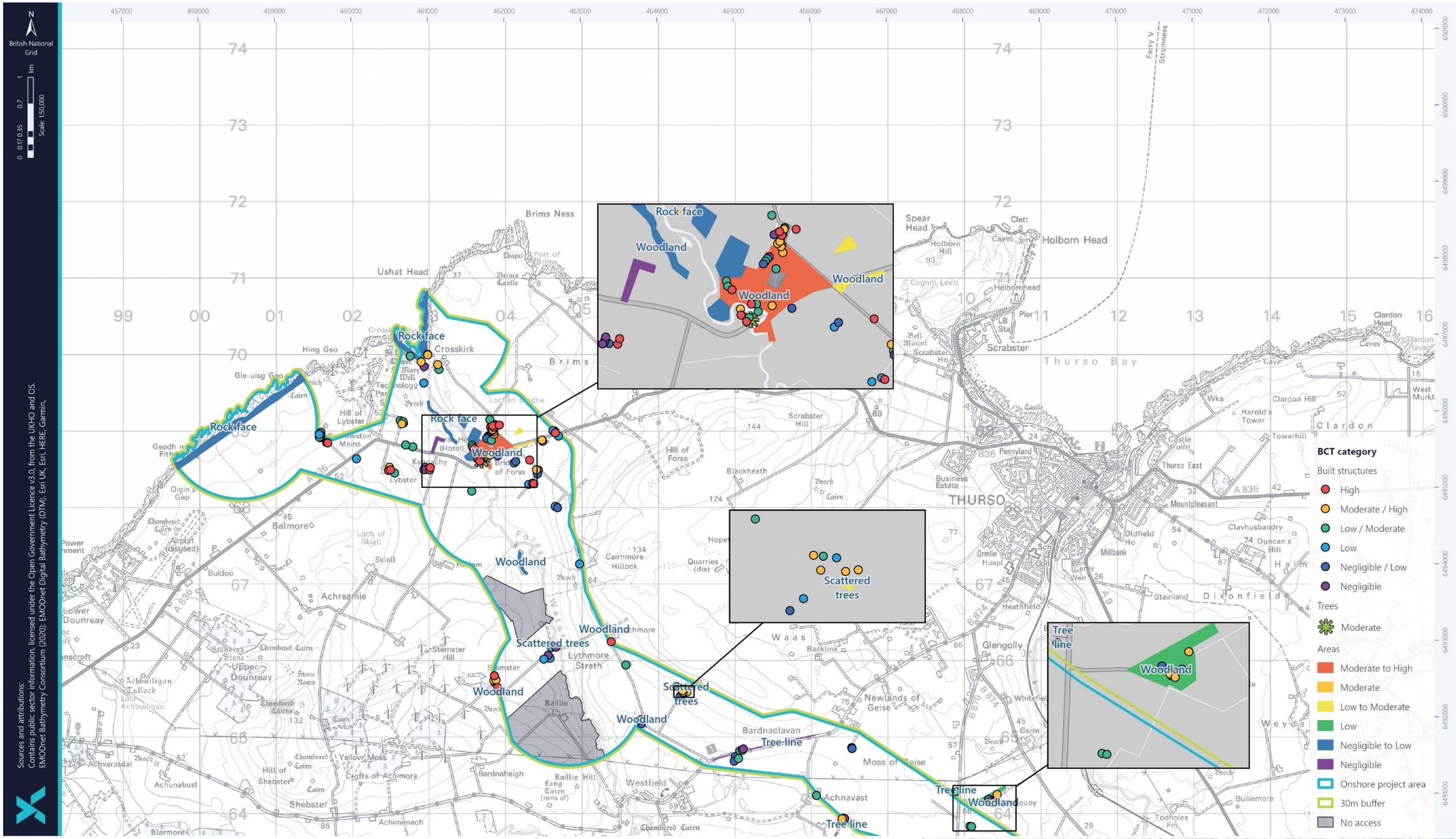

Figure 8: Bat survey - suitability of buildings, built structures, trees and woodland within the northern portion of the onshore study area

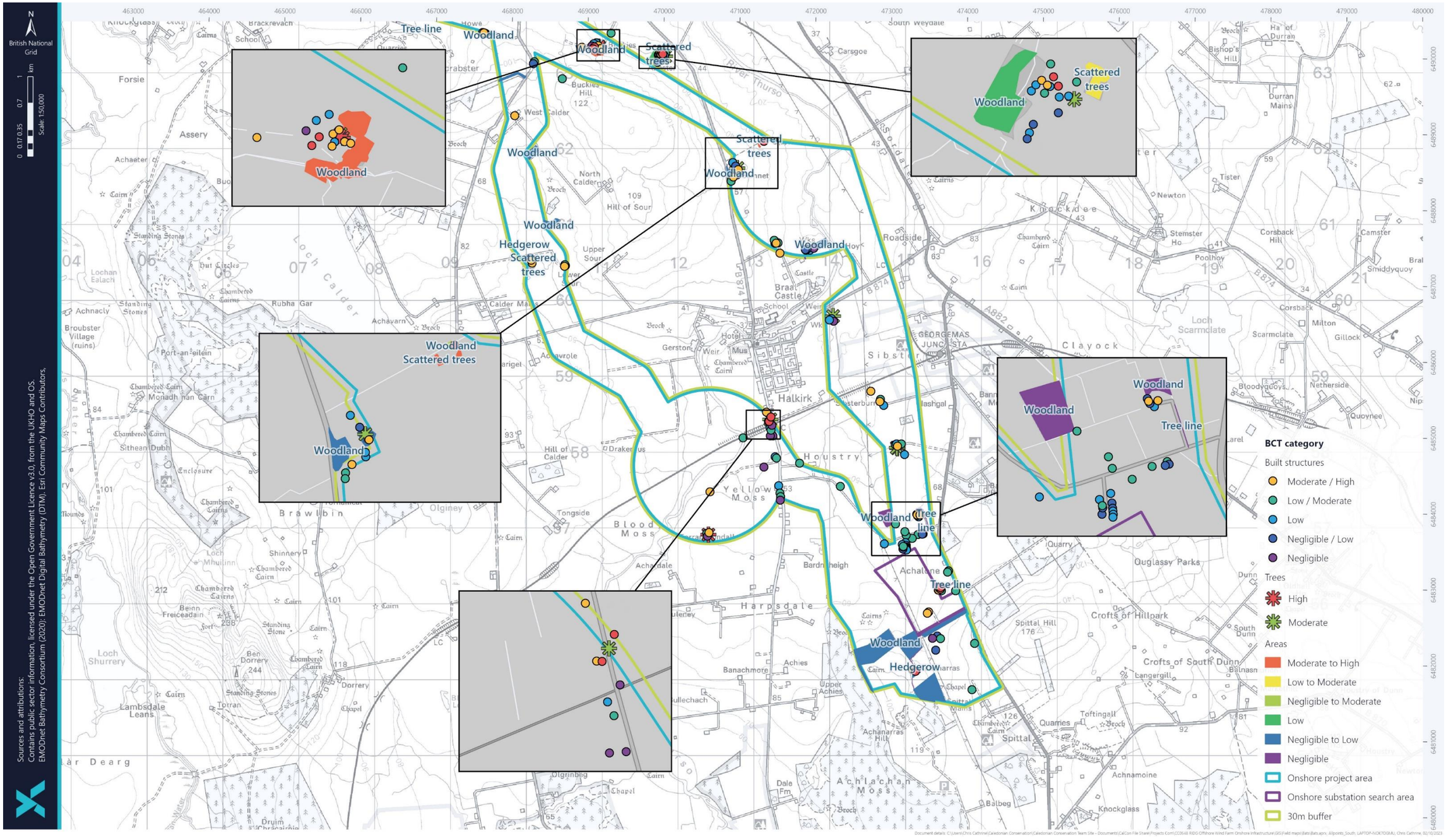

Figure 9: Bat survey – suitability of buildings, built structures, trees and woodland within the southern portion of the onshore study area

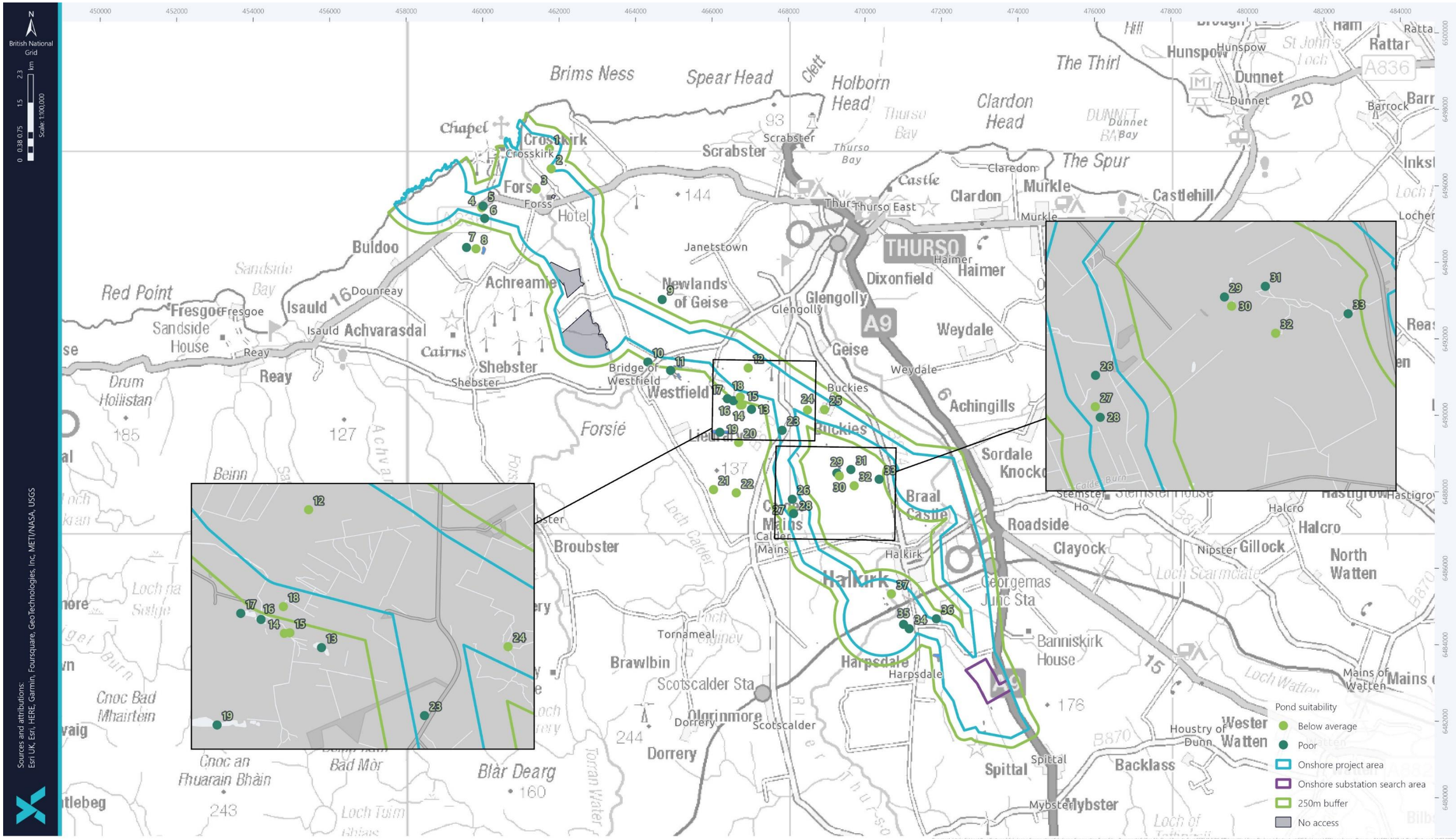

Figure 10: Great crested newt HSI survey pond locations in the onshore study area.

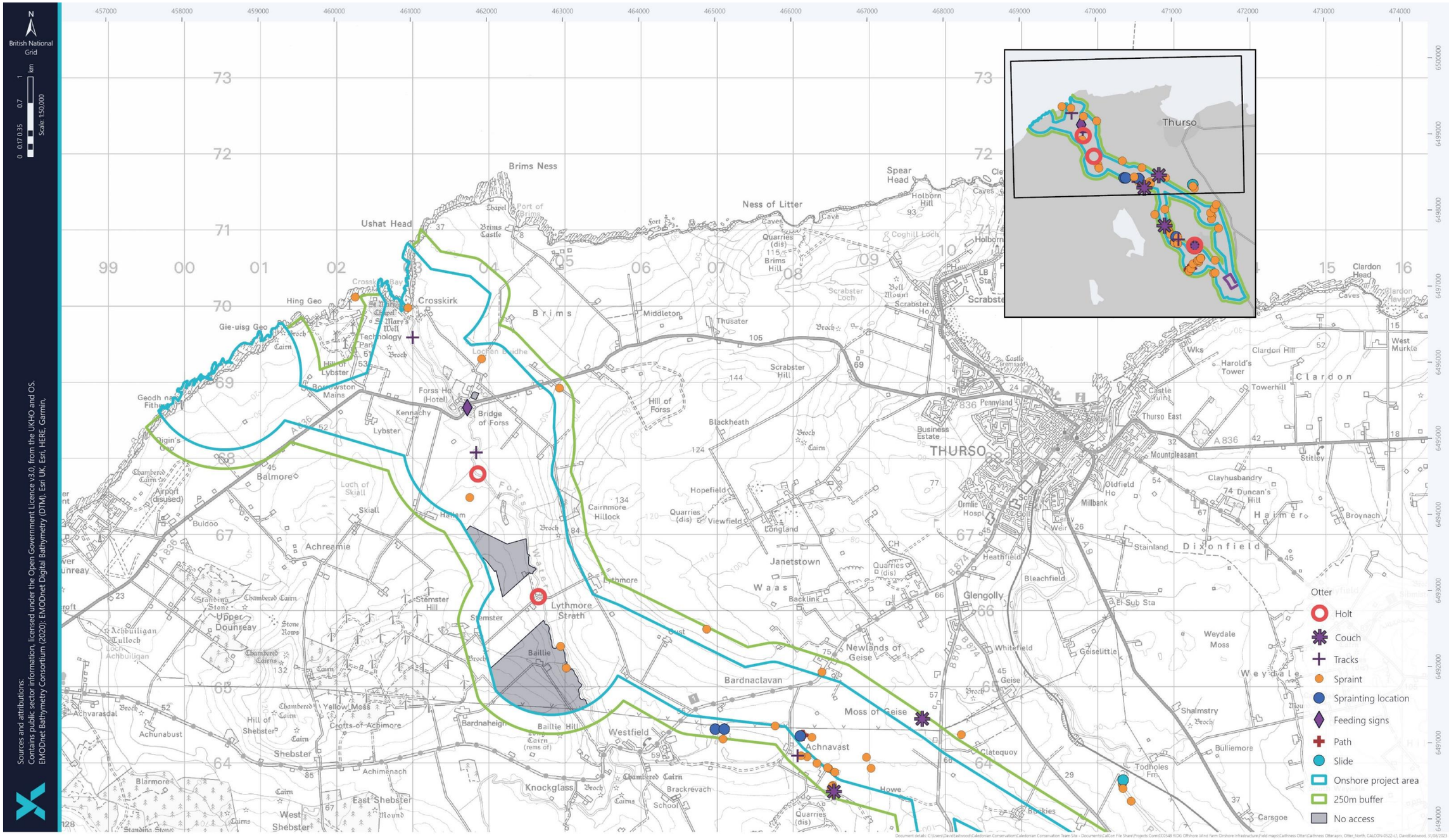

Figure 11: Otter survey results, northern portion of the onshore study area.

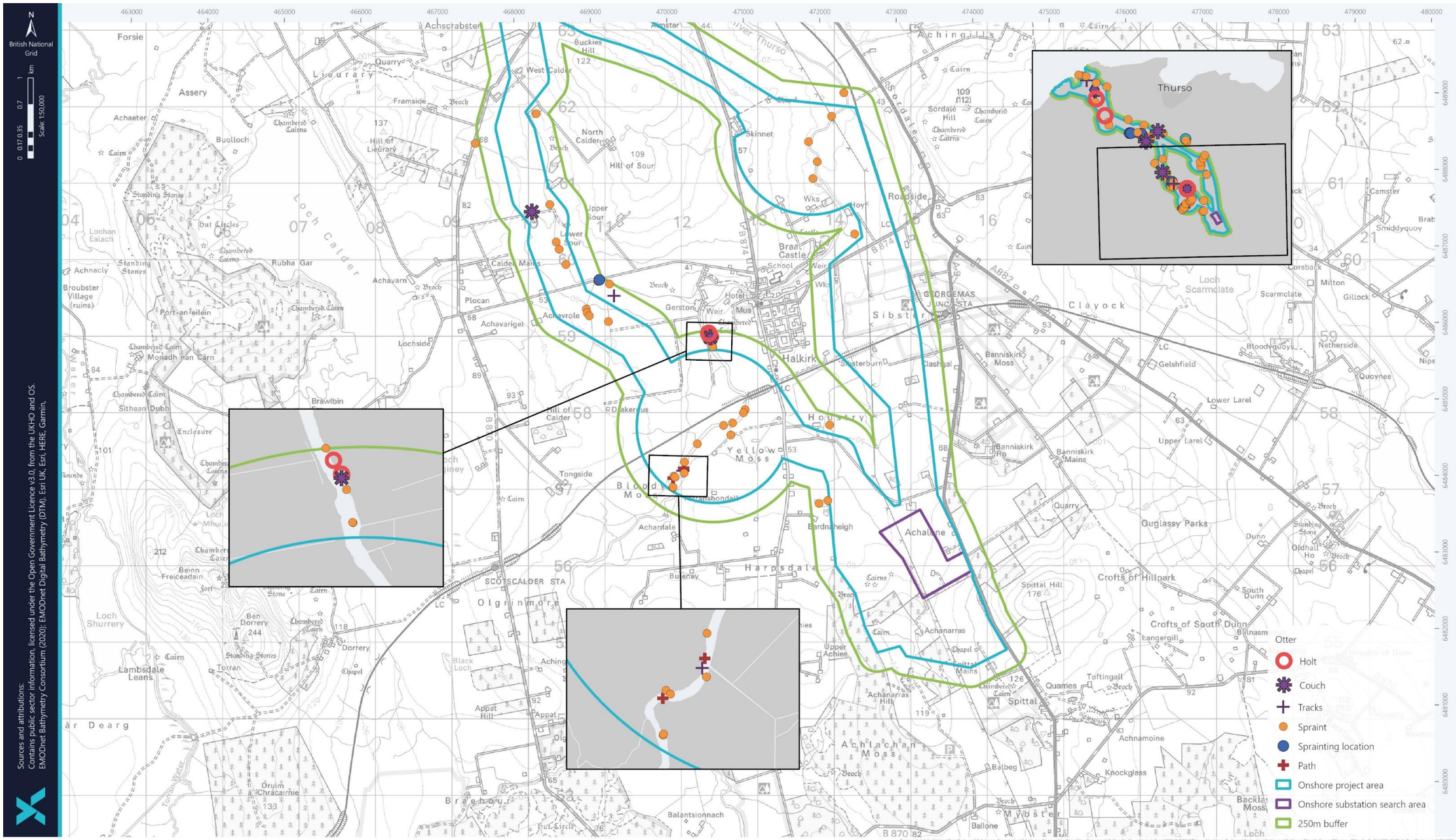

Figure 12: Otter survey results, southern portion of the onshore study area.

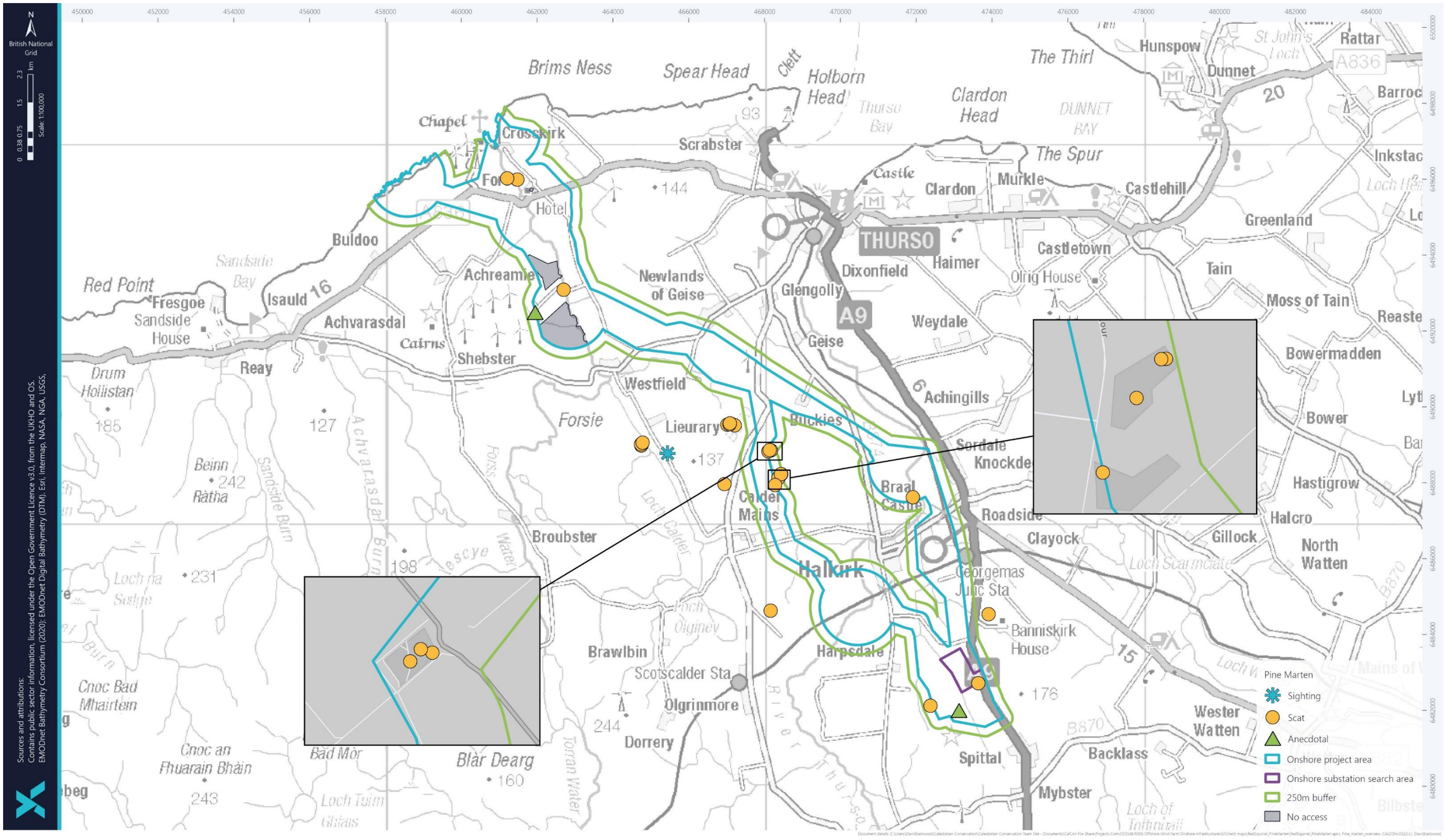

Figure 13: Pine marten survey results in the onshore study area.

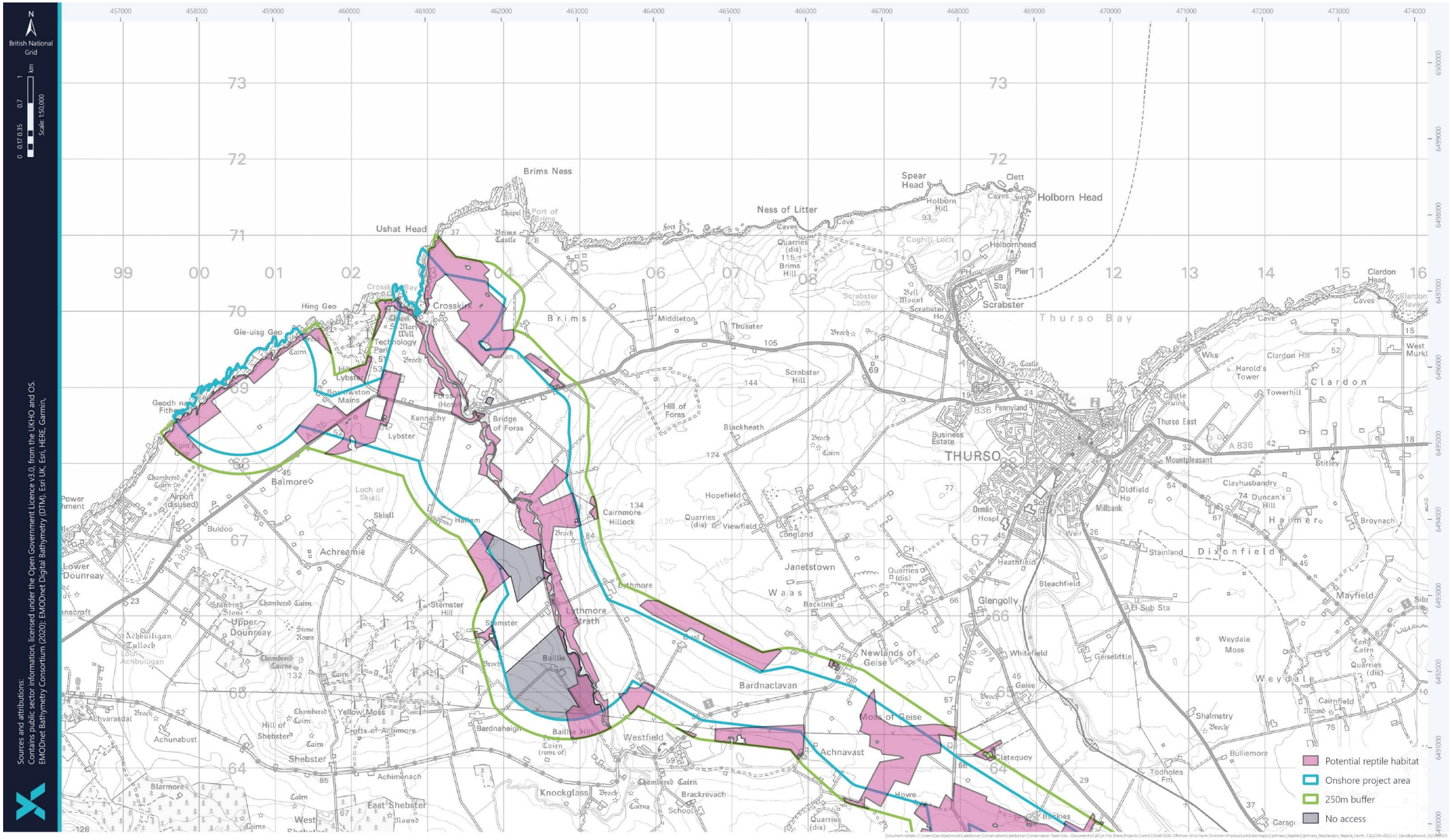

Figure 14: Reptile survey results, northern portion of the onshore study area.

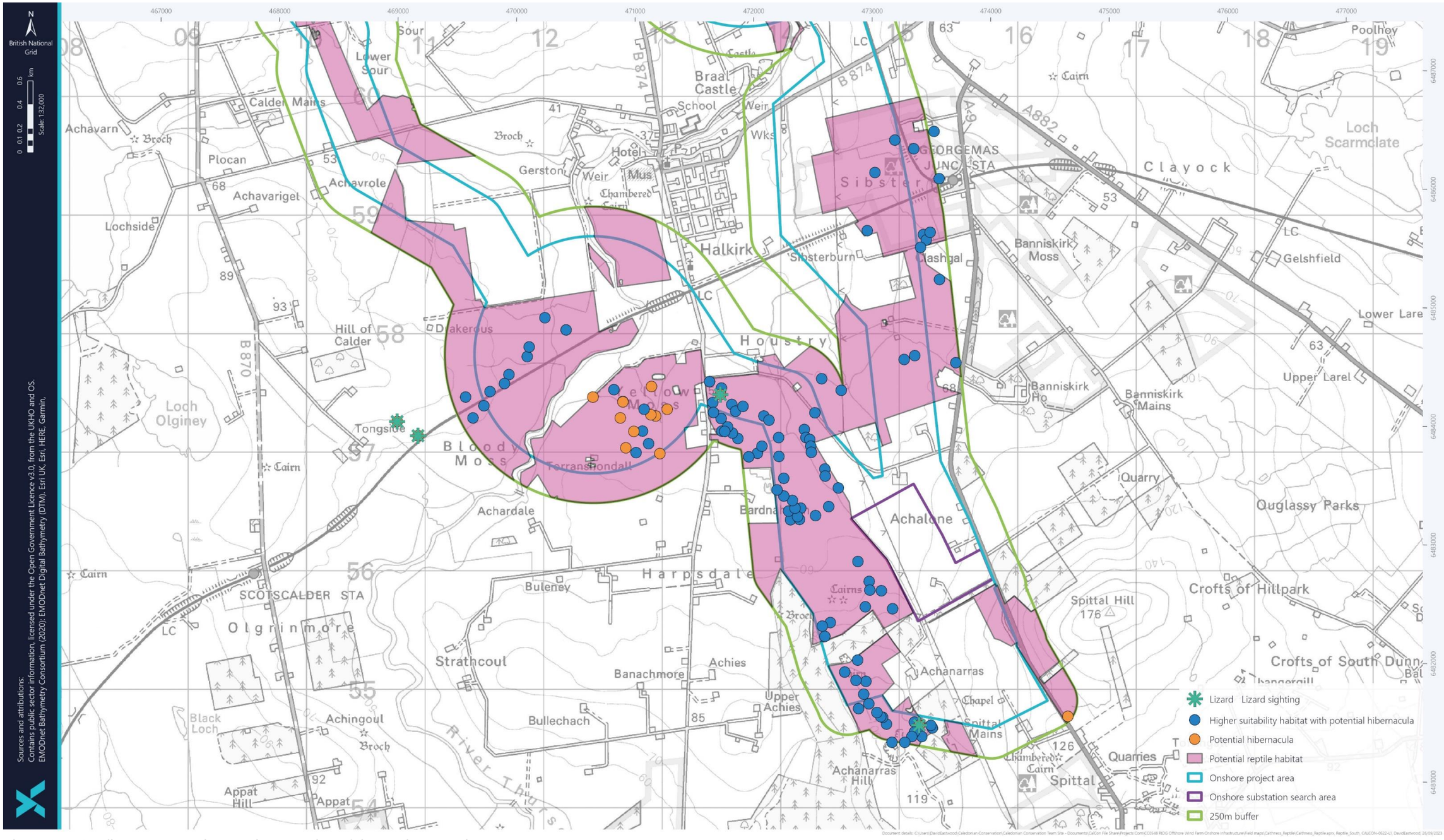

Figure 15: Reptile survey results, southern portion of the onshore study area.

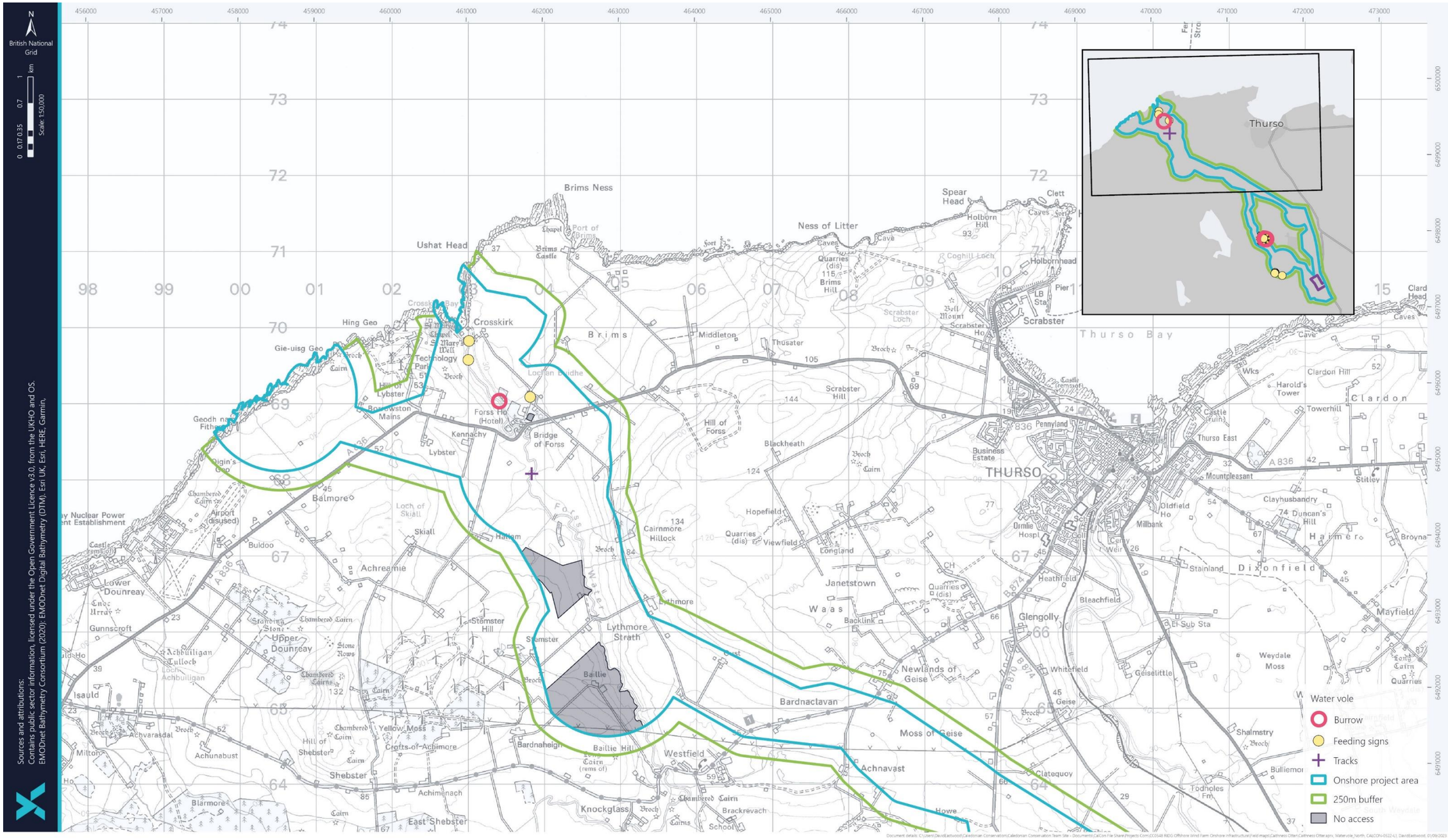

Figure 16: Water vole survey results, northern portion of the onshore study area.

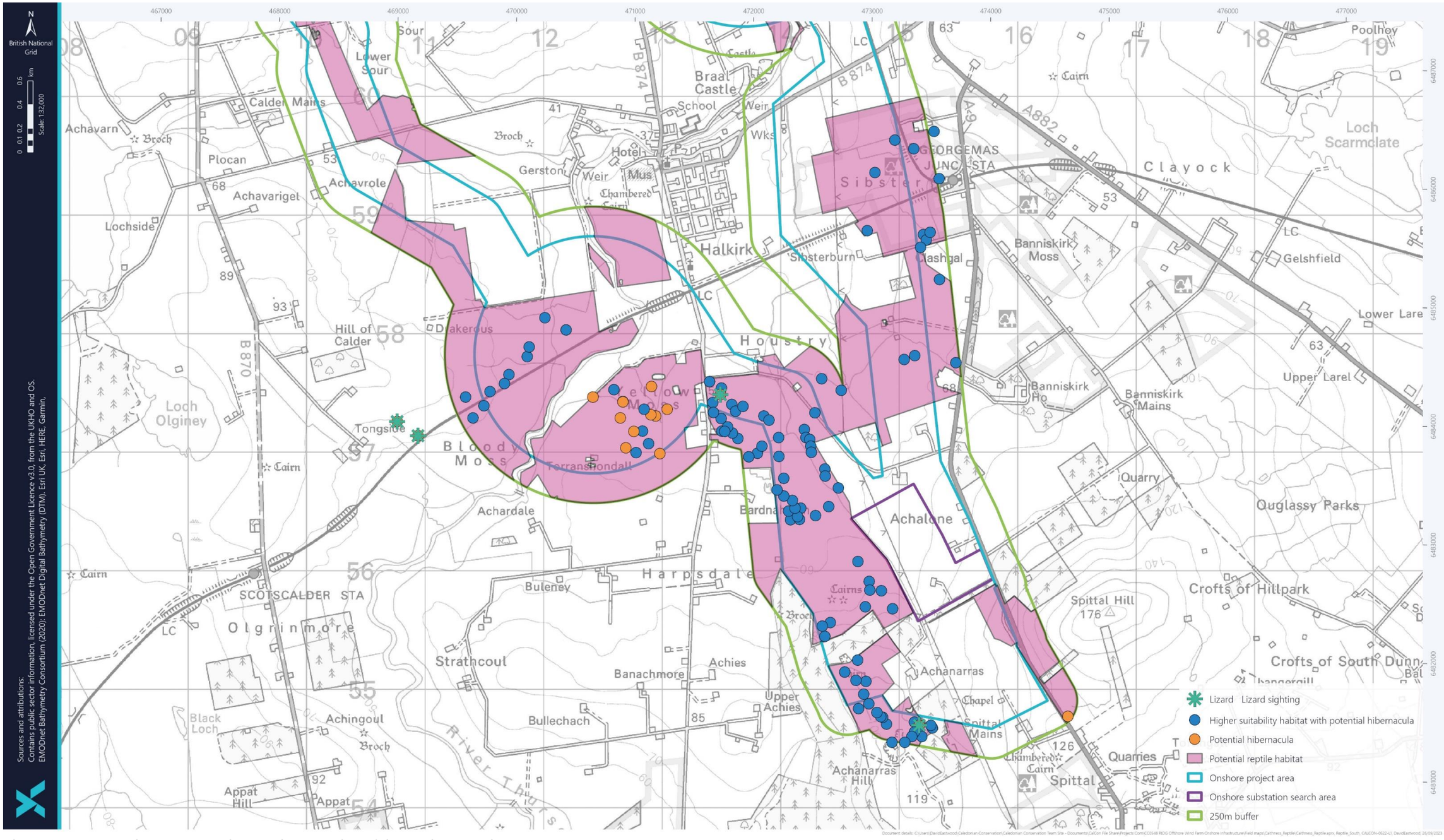

Figure 17: Water vole survey results, southern portion of the onshore study area.

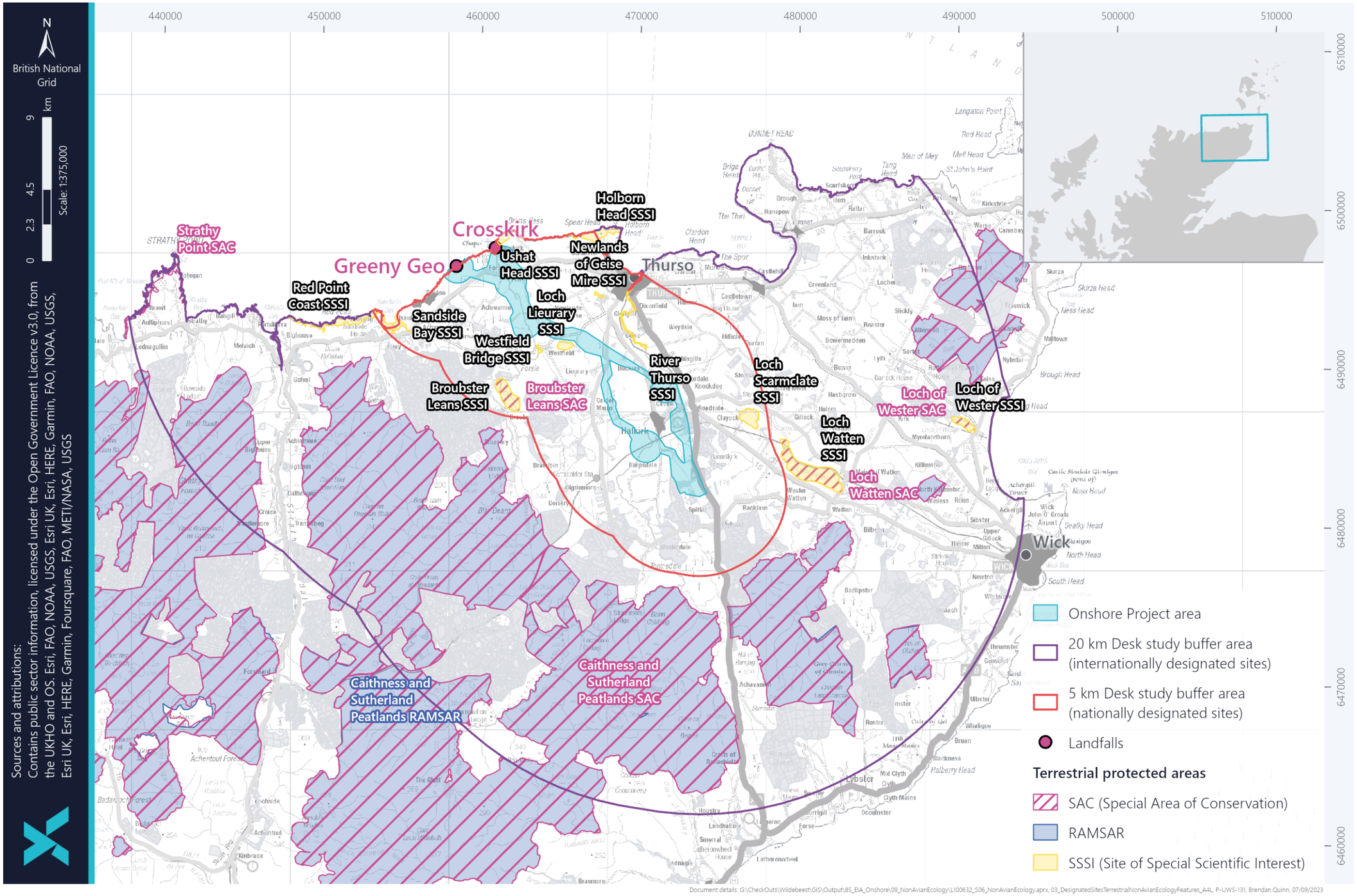

Figure 18: Designated sites in the vicinity of the onshore Project area

Appendix 2: Bat Survey Results: Building Structures, Bridges and Culvert Target Notes

Table A2.1: Bat Survey Results: Building Structures, Bridges and Culvert Target Notes (TN).

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
1	Building	Main Spittal substation building. A large structure with metal walls and a pitched corrugated metal roof.	Very limited bat roost potential. Whilst there may be gaps at the eaves and gables, the metal walls would provide very limited purchase for bats. The thermal properties of metal further reduce the suitability of the structure for roosting bats.	Negligible / Low	ND1541855575
2	Building	A large metal building with smooth metal walls and a pitched corrugated metal roof. Part of the Spittal Substation.	Very limited bat roost potential. Whilst there may be gaps at the eaves and the gables, the metal walls would provide very limited purchase for bats. The thermal properties of metal further reduce the suitability of the structure for roosting bats.	Negligible / Low	ND1539955389
3	Building	A building within the grounds of Spittal Substation. This small brick-built structure has a metal door within the southern aspect and a flat roof with metal edge flashing.	Through binoculars, there appear to be gaps present between the edge flashing and brick walls. Such features could support roosting bats; in particular crevice dwelling species such as common pipistrelles and soprano pipistrelles. These gaps could also provide bats with access into the gap above the wall head and/or into the cavity of the wall.	Low / Moderate	ND1546355543
4	Building	Concrete block agricultural barn with a pitched corrugated metal roof and metal edge flashing. Timber fascia boarding is present.	The building has a number of features suitable for roosting bats, in particular crevice-dwelling species. Features include gaps between the metal edge flashing and the gable walls, gaps at the eaves providing potential access to crevices at the wall heads and into the building itself, gaps at the ridge and crevices between the timber fascia boards and the walls. However, the lack of internal sarking, the structure of	Low / Moderate	ND1547356172

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			the roof and the presence of corrugated plastic skylights reduces the suitability of the building for roosting bats.		
5	Building	Two adjoining stone-built structures with pitched roofs. The eastern-most building has a corrugated asbestos roof with no internal sarking, whilst the western portion has a flagstone roof with clay ridge tiles and internal sarking. Unrestricted flight access into the building is present in the form of a damaged skylight within the western half of the building.	Multiple potential roost features were identified. Within the roofs of the structures these included crevices between lifted flagstones and internal sarking, gaps beneath lifted asbestos ridges, areas of degraded mortar beneath the claypan tiles, and gaps at the eaves. Within the walls, areas of degraded mortar and cracks in the stonework created deep crevices which could provide bats with access into the rubble filled cavity. There were also gaps present between the timber door and window frames and the surrounding stone walls.	Moderate / High	ND1530655894
6	Building	Single storey, stone built agricultural building with a pitched flagstone roof with claypan ridge tiles. Unrestricted flight access via unglazed windows and an open barn door to the east. Gaps were noted above one remaining door.	Multiple potential roost features were identified. Within the roofs of the structures these included crevices between lifted flagstones and the internal sarking, areas of degraded mortar beneath the claypan tiles, and large gaps at the eaves. Within the walls, areas of degraded mortar and cracks in the stonework created deep crevices which could provide bats with access into the rubble filled cavity. There were also gaps present between the timber door and window frames and the surrounding stone walls. Deep crevices in stone walls where mortar has degraded. Large gaps at wallheads, areas of degraded mortar beneath ridge, lifted slates, crevice between slates and internal timber sarking. Rot hole in timber beam above barn entrance with bat roost potential.	Moderate / High	ND1528855877

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
7	Building	Agricultural barn with concrete block (c. 2 m) and corrugated asbestos walls and a pitched corrugated asbestos roof. Unrestricted flight access via open barn doors in the southern gable, damaged corrugated asbestos walls and large vents in roof panel.	Areas of overlapping asbestos; particularly at the ridge, gables and between the corrugated asbestos walls and asbestos edge flashing at gables.	Low / Moderate	ND1543056180
8	Building	Stone-built agricultural barn with an open barn door entrance to south, a steep-pitched flagstone roof and clay ridge tiles. Adjoined to a corrugated asbestos barn to the west and a metal barn to the east.	Multiple potential roost features were identified. These included missing and lifted ridge tiles, crevices between the lifted flagstones and the internal sarking, areas of degraded mortar beneath ridges and in the stone walls, and large gaps / areas of damaged stonework around the gable wallheads. Crevices were also noted between the steel H-beam lintel of the doorway and the surrounding stonework, and between the timber lintels.	Moderate / High	ND1543656183
9	Building	Agricultural barn with a shallow-pitched corrugated asbestos roof abutting the stone-built barn (TN 8) along the western aspect. Concrete block walls at the base with corrugated metal gables and timber slats elsewhere.	Narrow crevices (overlap not extensive <5 cm) where the corrugated metal and timber slats overlap the concrete walls. Crevices between the asbestos roofing sheets; in particular at the ridge and gables. No internal sarking present.	Low	ND1544656186
10	Building	A small stone-built storage building with a pitched flagstone roof and clay ridge tiles. A timber-framed glazed window is present within the southern gable wall and there are sliding metal barn doors.	Multiple potential roost features were identified. These included crevices between the lifted flagstone roof tiles and the internal sarking, areas of degraded mortar beneath the ridge tiles, degraded mortar along the exposed tile edge, at the gable wallheads and within the stone walls, and missing ridge tiles.	High	ND1546056192

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
11	Building	A metal building with smooth metal walls and a pitched corrugated metal roof. Part of the Spittal Substation.	Very limited bat roost potential due to smooth-sided metal walls and corrugated metal roof. Possible gaps at the eaves and gables, but the metal walls would provide very limited purchase for bats. The thermal properties of metal further reduce the suitability of the structure for roosting bats.	Negligible	ND1535355547
12	Building	L- shaped dormer farmhouse with stone walls and two pitched slate roofs with concrete tiles. New concrete copes to the south and east. Three stone chimney stacks present. Evidence of recent works to roof and building, with tightly fitted double glazed windows present.	Multiple potential roost features identified. Lifted and missing slates, lifted lead flashing at base of chimneys, gaps beneath ridge tiles, gaps at the wall heads beneath the guttering, areas of degraded mortar at the exposed slate edge and hanging slates at dormers. Stone walls well pointed. Roof void likely limited in its extent due to the presence of dormer rooms in the roof.	High	ND1513355112
13	Building	Remnants of a stone-built structure. None of the original roofs remaining and the walls are largely devoid of mortar. The southern portion has been modified with timber struts and clear, corrugated plastic forming the walls and roof of a glasshouse. The northern walls form three sides of a patio area with no roof.	Walls c. 0.6 m thick with deep crevices between the stones that could support roosting bats. Transient summer roosting bat potential (non-maternity), autumn and some suitability for hibernating bats (although generally the crevices are too open to provide sufficient shelter in winter).	Moderate	ND1510855114
14	Building	Long, single storey, stone-built barn with a corrugated asbestos roof. Adjoining stone-built barn with a pitched flagstone roof to the south (TN 15).	Corrugated roof with narrow gaps between overlapping roofing sheets. Gaps at the eaves and around the barn doors. Holes within the walls along the northern aspect of the building where clay pipes pass through the stonework, areas of degraded mortar in the walls and gaps between the stone walls and a timber window frame.	Moderate	ND1511555143

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
15	Building	A single-storey stone-built barn with a pitched flagstone roof with clay ridge tiles. Timber sarking present internally. Adjoined to the north by a stone-built barn with a pitched corrugated asbestos roof (TN 14).	Multiple potential bat roost features identified. Lifted flagstone tiles, degraded mortar beneath the ridges and gaps between the flagstones and the metal-framed skylights. Gaps were noted at the eaves. In addition to gaps resulting from areas of degraded mortar, ventilation holes were also present. Crevices were noted between the barn doors and the surrounding stonework and there were holes along the northern aspect where clay pipes pass through the stonework.	Moderate / High	ND1509355131
16	Building	Stone barn with open barn door within the southeast gable. Stone/ slate pitched roof. Unrestricted flight access for bats via open entrance in the south-eastern gable and an unglazed window to the south-west.	Multiple potential bat roost features identified. Lifted flagstone tiles, degraded mortar beneath the ridge, gaps beneath shuttered windows, gaps at eaves, and crevices between the internal sarking and the external flagstones.	Moderate	ND1507055127
17	Building	Dilapidated stone-built farm building. Walls remaining to a maximum height of c. 2 m. with no roof present. Approx. 35 x 5 m.	Deep crevices within the stone walls where the mortar has degraded. Walls approximately 0.75 m thick. Crevices within the stonework likely relatively sheltered, although there will be some water ingress due to the lack of roof or coping stones. Suitable for use by a small number of non-breeding bats, likely on a transient basis, including in winter. Unlikely to provide the stable conditions for use as a more permanent roost at any time of year.	Low / Moderate	ND1590855479
18	Building	Dilapidated farm building. Walls remaining to a maximum height of c. 2 m. and no roof.	Deep crevices in stone walls where the mortar has degraded. Walls approximately 0.75 m thick. Crevices within likely relatively sheltered, although there will be some water ingress due to lack of roof or coping stones.	Low / Moderate	ND1587854867

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			Suitable for use by a small number of non-breeding bats, likely on a transient basis, including in winter. Unlikely to provide stable conditions for use as a more permanent roost at any time of year.		
19	Building	Single-storey residential dwelling with a pitched concrete tiled roof, double glazed windows, harled walls and a chimney. Harling in good condition with no lifted or damaged areas that could support roosting bats noted.	Gaps at eaves, gaps beneath lifted roof tiles; in particular around the chimneys, and areas of degraded mortar at the exposed tile edges; along the gables. Otherwise relatively tightly fitted.	Moderate	ND1567356190
20	Building	Small brick-built garage with harled walls and a corrugated asbestos roof.	Possible gaps between overlapping sheets of asbestos; in particular at the ridge, and gaps at the eaves.	Low / Moderate	ND1565956174
21	Building	Single storey agricultural barn with stone walls and a flagstone roof. Single glazed windows present in the walls and skylights in the roof. Smaller adjoining stone-built barn to the east with a corrugated asbestos roof.	Multiple potential bat roost features identified. These include lifted flagstones, areas of degraded mortar beneath the ridge, areas of degraded mortar in walls, gaps at eaves, gaps between overlapping corrugated asbestos sheets, gaps beneath the zinc ridging on the corrugated asbestos roof and gaps between the asbestos edge flashing and the eastern gable wall.	Moderate / High	ND1545056200
22	Building	Farmhouse bungalow with a pitched flagstone roof, clay ridge and stone walls. More modern brick-built harled extension to the north and west with concrete tiles and plastic dry-verge system at the gables. Tightly sealed double glazed windows and well fitted doors.	Gaps beneath flagstones; particularly beneath the chimneys, degraded mortar beneath the ridge tiles, and occasional gaps at the eaves; potentially leading into the roof void as well as gaps at the wall heads. Stone walls well pointed. Harling to the rear in good condition with no gaps noted that could support roosting bats.	High	ND1546256215

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
23	Building	Relatively modern bungalow with harled walls and a pitched concrete tiled roof.	Roof in good condition with no significant gaps noted. Small gaps at the ridge and beneath slightly lifted tiles may provide some limited bat roost potential. Tiles well mortared at exposed edge. Tightly fitted uPVC windows and soffits. Gaps beneath the concrete tiles; just above gutters.	Low / Moderate	ND1556956434
24	Building	Dormer bungalow with harled stone walls, a pitched flagstone roof and two dormer windows in the southern aspect.	A number of potential bat roost features were identified. These included lifted flagstones, areas of degraded mortar beneath the ridge tiles and gaps at the eaves of the dormer windows. No bat roost features were identified within the walls of the building or at the eaves due to new harling, and there were no gaps present at the gable-wall heads as the harled walls are capped with uPVC plastic. The windows and doors are tightly fitted and the extension to the rear of the property has a well fitted concrete-tiled roof.	Moderate	ND1553256539
25	Building	Two adjoining outbuildings with corrugated asbestos roofs. The building to the south has exposed stone walls whilst the building to north has harled concrete walls. No internal sarking present. To the west is a timber-framed corrugated metal lean-to with limited bat roost potential.	Potential bat roost features included significant gaps at the eaves, crevices between overlapping corrugated asbestos, uncapped chimneys and cracks in stone walls. The harled concrete building to the north has gaps at the eaves and crevices between overlapping corrugated asbestos roofing sheets. Crevices are present between the timber joists of the lean-to and the harled wall.	Moderate	ND1552656563
26	Building	A small stone-built shed; approximately 3 m in height, with a corrugated metal pitched roof.	Significant gaps in the stone walls where the mortar has degraded, gaps around gable wallheads and at eaves. Potential bat ingress opportunities present in large gaps	Moderate	ND1551356571

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			between the stone wallheads and the corrugated metal roof above. Plastic sheeting inside indicates significant water ingress and prevented detailed inspection of the rafters or sarking above.		
27	Building	A dormer bungalow with a small extension to the west and a detached double garage. The garage, extension and bungalow were of similar construction with harled walls and pitched concrete-tiled roofs. Tightly fitted uPVC and timber soffits present.	Roofs in good condition, although small gaps were noted beneath the concrete ridge tiles. Whilst generally tightly fitted, slightly lifted roof tiles may provide bats with access into the crevice between the tiles and the internal sarking. Gaps present beneath the roof tiles at the wall-heads, just above the gutters. Exposed tile edges well mortared, and no gaps were noted between the uPVC window and door frames and the surrounding harled walls. The soffit boxes were similarly tightly fitted.	Low / Moderate	ND1555456420
28	Building	Small timber shed with a corrugated metal roof and uPVC windows.	Gaps between the metal ridge and the corrugated sheets, gaps between timber barge boards and the timber walls at the gables. Gaps above the guttering, beneath the corrugated roofing sheet, which could provide bats with access into the crevice between the internal chipboard sarking and the external roof.	Low	ND1517457148
29	Building	Large, corrugated metal barn with steel H-beams and timber supports and a pitched corrugated asbestos roof.	Limited suitability for roosting bats as the building is a single-skinned structure and the thermal properties of metal, and the lack of purchase on such materials, further reduces its suitability for roosting bats. Nevertheless, some limited potential may be present in areas of overlapping corrugated asbestos roofing sheets; particularly at ridge.	Negligible / Low	ND1515557161

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
30	Building	Single-storey, L-shaped stone barn with a pitched flagstone roof and timber-framed windows and doors. Walls externally rendered.	Multiple potential bat ingress and roosting opportunities present. Gaps beneath flagstones providing access into a crevice above the internal timber sarking, damaged and missing flagstones, gaps beneath ridge tiles and at the eaves, crevices between the timber-framed windows and the surrounding walls, and areas of degraded mortar at the exposed tile edge.	Moderate / High	ND1515157170
31	Building	Large agricultural barn with harled concrete-block walls and a corrugated asbestos roof. No internal sarking.	A large crack was noted in the southern gable wall that could support crevice dwelling bats. Overlapping corrugated asbestos; in particular at the ridge and at northern gable, gaps beneath the ridge at the gable walls, and occasional gaps at eaves providing bats with access to roosting opportunities at the wallheads.	Moderate	ND1513957168
32	Building	Residential dwelling with harled walls and a multi-pitched concrete tiled roof. Harling and roof appear to be in relatively good condition, with tightly fitted uPVC windows and doors.	Gaps are present beneath the concrete ridge tiles and at the gables; along the exposed tile edges, where sections of mortar have degraded, and beneath slightly lifted roof tiles. At the eaves, there are gaps present between the roof tiles and the wallheads; above the gutters.	Moderate / High	ND1518857172
33	Building	Corrugated metal structure / lean-to with steel H-beams and timber supports. This structure abuts concrete barns with corrugated asbestos roofs to the west.	Limited suitability for roosting bats due to single skinned metal construction.	Negligible / Low	ND1514657180
34	Building	Harled bungalow with a pitched concrete tiled roof with dry verge and ridge system.	Building appears well sealed at eaves and gables with no gaps noted between soffits and walls. Tightly fitted roof tiles and dry ridge system offers little suitability for	Low / Moderate	ND1516556912

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			roosting bats. However, gaps were noted beneath the plastic ridge, potentially providing bats with access into the crevice beneath the ridge and/or access into the roof.		
35	Building	Harled bungalow with pitched concrete tiled roof. Plastic dry verge and dry ridge system.	Building appears well sealed at eaves and gables with no gaps noted between soffits and walls. Tightly fitted roof tiles and dry ridge system offers little suitability for roosting bats. However, gaps were noted beneath the plastic ridge, potentially providing bats with access into the crevice beneath the ridge and/or access into the roof.	Low / Moderate	ND1522556931
36	Building	Harled bungalow with pitched concrete tiled roof with dry verge and well-sealed soffits.	Building appears well sealed at eaves and gables with no gaps noted between soffits and walls. Tightly fitted roof tiles and dry ridge system offers little suitability for roosting bats. However, gaps were noted beneath the plastic ridge, potentially providing bats with access into the crevice beneath the ridge and/or access into the roof.	Low / Moderate	ND1508656861
37	Building	Harled bungalow with pitched concrete tiled roof. Upper floor built into the roof. Gaps beneath clay tiles above guttering likely to be more suitable for nesting birds than bats.	Building well sealed around the soffits at the gables and the eaves, with no gaps noted between soffits and walls. Tightly fitted roof tiles and dry verge and ridge system offers little suitability for roosting bats. However, gaps were noted beneath the plastic ridge, potentially providing bats with access into the crevice beneath the ridge and/or access into the roof. A gap was also noted where two roof sections join to west.	Low / Moderate	ND1500756905

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
38	Building	Harled bungalow with pitched concrete tiled roof. Dry verge and ridge system and wood effect soffits and double-glazed windows. Building well sealed around the soffits at the gables and the eaves, with no gaps noted between soffits and walls.	Building well sealed around the soffits at the gables and the eaves, with no gaps noted between soffits and walls. Tightly fitted roof tiles and dry verge and ridge system offers little suitability for roosting bats. However, gaps were noted beneath the plastic ridge, potentially providing bats with access into the crevice beneath the ridge and/or access into the roof. A gap was noted between a small hipped ended roof section to rear and the main roof. This was in use by nesting house sparrow and could also be utilised by bats.	Low / Moderate	ND1499256950
39	Building	Corrugated metal shed and timber shed with pitched bitumastic felt covered roofs.	No notable ingress or roosting opportunities noted.	Negligible / Low	ND1523356921
40	Building	Timber shed with corrugated metal roof	No notable ingress or roosting opportunities noted.	Negligible / Low	ND1521856915
41	Culvert	Small culvert / bridge over a small wet ditch. Maximum 1.75 m in height from base of ditch to top. Top of structure almost level with surrounding land due to depth of ditch and steep banks.	A smooth-sided clay pipe within; likely unsuitable for roosting bats. Drystone headwall and wingwalls with crevices which could be used by roosting bats on a transient basis.	Low / Moderate	ND1486857052
42	Building	Large open barns with pitched corrugated roofing sheets, concrete walls to c. 2 m and corrugated metal above. Both barns relatively newly built; between 1 and 4 years old at the time of survey.	Some limited suitability in overlapping roofing sheets and in areas where corrugated metal just overlaps concrete walls, but only suitable for individual transiently roosting bats.	Low	ND1500156806
43	Building	Three adjoining barns with concrete or steel pillars. Northern-most structure with no walls. Central structure with a combination of concrete block and	Suitable roosting opportunities limited to areas of overlapping asbestos at the ridges and gables. These	Low	ND1495656781

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		timber slat walls. Southern structure with rendered concrete walls to c. 1.75 m, with timber slats above.	open barns would provide shelter from the elements and therefore foraging opportunities for bats.		
44	Building	A series of adjoining stone-built barns with harled walls and pitched roofs. The central barn has a corrugated metal roof whilst the barns to the north of this has a pitched flagstone roof. No internal sarking was observed.	Potential roosting opportunities were noted. These included gaps at the eaves, crevices between the edge flashing of the northern-most barn and the harled gable wall, lifted and missing flagstone tiles, and gaps beneath the ridge tiles.	Moderate	ND1498156771
45	Building	A harled single-storey farmhouse with a multi-pitched roof. Whilst the majority of the roof was concrete-tiled, sections were asbestos, or flagstone tiled. The walls appear to have been recently harled and uPVC capping is present at the wallheads.	The asbestos and concrete-tiled roof sections appear to be relatively tightly fitted, with few gaps noted. However, potential ingress and roosting features were noted to the rear of the property where numerous gaps were observed beneath lifted flagstones and beneath the ridge tiles where areas of mortar had degraded.	Moderate	ND1498656739
46	Building	Four shed / storage buildings of concrete block, timber, and corrugated metal construction. Negligible bat roost potential for corrugated metal domed structures, and low bat roost potential for the concrete building with a corrugated metal roof.	Very limited bat roost potential within the storage buildings. The concrete structure is open to south providing bats with unrestricted flight access into the building. No potential roost features were identified externally. Inside the building, roosting opportunities were limited to shallow crevices between the internal timber supports and the surrounding walls.	Negligible / Low	ND1500756767
47	Building	Timber and flagstone walled shed with a corrugated metal roof.	Very limited potential where the corrugated metal overlaps the timber, forming a crevice which could be used by roosting bats. The thermal properties of metal do reduce the suitability of this feature for roosting bats.	Negligible / Low	ND1500956747
48	Building	Domed structure with rendered concrete walls and a domed corrugated metal roof. Small timber and	Some bat roost potential where crevices are formed between the metal edge flashing and the walls in the	Low	ND1501056735

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		flagstone shed with a single pitched corrugated asbestos roof to the south.	domed structure. Small gaps formed between the flagstones and the timber walls in the shed.		
49	Building	Corrugated metal domed structure with a timber wall to east.	No notable features identified, although areas of overlapping timber within the eastern wall could provide some limited potential for roosting bats. One such area is currently being used by nesting starling.	Low	ND1501256723
50	Building	Domed structure with rendered concrete walls and a domed corrugated metal roof.	Some limited bat roost potential where crevices are formed between the metal edge flashing and the concrete walls.	Low	ND1501056711
51	Building	Domed structure with concrete walls and a domed corrugated metal roof.	Some limited bat roost potential where crevices are formed between the metal edge flashing and the concrete walls.	Negligible / Low	ND1496756723
52	Building	Stone barn with harled walls and a pitched flagstone roof.	Potential roosting opportunities were noted. These included gaps at the eaves, lifted and missing flagstone tiles, and gaps beneath the ridge tiles.	Moderate	ND1498056746
53	Building	Farm buildings of various ages and construction. Timber framed corrugated metal sheds, one with flagstone section to wall, and a domed concrete and corrugated metal structure.	Possible roost features where corrugated metal overlaps flagstone. Very limited suitability in all three buildings	Negligible / Low	ND1497056748
54	Building	Harled building with significant cracks in the western gable and a pitched corrugated metal roof.	Cracks in the western and northern walls, gaps between edge flashing and harled walls, gaps at eaves.	Low / Moderate	ND1496856757
55	Building	New building completed last year. Single storey with rooms built into the roof. Multi pitched concrete roof	Very limited opportunities for roosting bats within this modern building due to tightly fitted roof tiles, the presence of a dry-verge and ridge system and tightly	Low	ND1472056791

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		with skylights, harled walls and chimneys, tightly fitted windows and doors.	fitted fascia. Gaps may be present beneath the plastic ridge.		
56	Building	Harled dormer bungalow with dormer windows along the south-western aspect and a pitched concrete tiled roof. Building well sealed around the soffits, at the gables and around the eaves. Tightly fitted windows and doors.	Tightly fitted roof tiles and dry verge and ridge system offers little suitability for roosting bats. Gaps where the dormer roofs join the main roof; currently in use by nesting house sparrows, and potential gaps beneath the plastic ridge.	Low / Moderate	ND1414157548
57	Building	Relatively new workshop building with harled concrete walls to c. 1.8 m and corrugated metal walls above to c. 4 m. To the rear is an extension to the main building. This has timber walls and a single pitched corrugated metal roof.	No notable bat roost potential within metal portion of the building. Within the extension with wood panel walls are gaps between the edge flashing and walls which could support a small number of non-breeding bats.	Low	ND1332957558
58	Building	Harled dormer bungalow with a pitched concrete tiled roof. Building well sealed around the soffits at the gables and the eaves, with no gaps noted between soffits and walls. Tightly fitted windows and doors and uPVC capping along wallheads, at the eaves and at the gable.	Potential gaps at the eaves; beneath gutters and lifted tiles. Extension to east with gaps between the edge flashing and the rendered walls. This residential dwelling abuts a ruined building to west. This has exposed stone walls with deep crevices where mortar has degraded and no roof.	Moderate	ND1333657523
59	Building	L-shaped harled bungalow with pitched concrete tiled roof. Dry verge and ridge system and wood effect soffits and double-glazed windows. Building well sealed around the soffits, at the gables and at the eaves.	New build with tightly fitted roof tiles and dry verge and ridge system offers little suitability for roosting bats. Some potential bat roost potential at internal corners where roof sections join and possible gaps beneath the plastic ridge. Likely more suitable for nesting birds than bats.	Low / Moderate	ND1334557459

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60	Building	Harled bungalow with pitched concrete tiled roof. Dry verge and ridge system and wood effect soffits and double-glazed windows. Building well sealed around the soffits at the gables, and at the eaves, with no gaps noted between soffits and walls.	Tightly fitted roof tiles and dry verge system offers little suitability for roosting bats. Possibly some limited roost potential within gaps beneath the plastic ridge.	Low / Moderate	ND1335357414
61	Building	Modern corrugated metal storage shed / workshop.	Very limited bat roost potential due to the thermal properties of metal and the lack of purchase on such materials for bats.	Negligible	ND1334957365
62	Building	Harled house with single and two-storey sections, pitched concrete tiled roof. Dry verge and ridge system and wood effect soffits and double-glazed windows. Building well sealed around the soffits, at the gables and at the eaves, with no gaps noted.	Tightly fitted roof tiles and dry verge system offers little suitability for roosting bats. Possibly some limited roost potential within gaps beneath the plastic ridge.	Low / Moderate	ND1237756932
63	Building	Stone building comprised of three adjoining portions. The western-most portion is an old stone-built cottage with a pitched flagstone roof, whilst the eastern sections have pitched corrugated metal roofs. The eastern-most portion is very dilapidated, with heavily degraded mortar within the stone walls.	Numerous potential bat ingress and roosting opportunities were noted within the building. These included unglazed windows and open doorways, crevices in stone walls, gaps at eaves, gaps at the exposed roof edge, lifted and missing flagstones, degraded mortar beneath the ridge tiles, deep crevices in chimney stacks, and access to the wallheads beneath corrugated metal roofing sheets.	Moderate / High	ND1240756938
64	Building	A large, modern, agricultural barn with harled concrete walls to c. 2m and corrugated metal above with a corrugated metal roof.	Very limited suitability for roosting bats. Very little (<3cm) overlap between metal walls and harling. Gaps between narrow timber fascia boards and the corrugated metal walls, but unlikely to be used by bats	Negligible	ND1238756891

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			due to the thermal properties of metal and the lack of purchase on such materials.		
65	Building	L- shaped stables with a pitched corrugated metal roof with corrugated plastic forming skylights. Deep overhanging timber eaves. No internal sarking.	Gaps were noted between the metal edge flashing and the timber cladding at the eaves. These were covered in dense cobwebs at the time of the survey visit, indicating no recent use by bats, but does have potential.	Low	ND1327957937
66	Building	Detached garage with original stone walls forming the northern, southern, and western aspects. Concrete block walls and a metal garage door present to the east. Gaps between the metal edge flashing and the concrete block walls to the east.	Deep crevices in the original stone walls where the mortar has degraded, in particular along the west aspect. Gaps were also noted beneath the corrugated roofing sheets at the gables and eaves. Evidence of use of the garage by nesting birds; likely house sparrow.	Moderate	ND1327757921
67	Building	Modern harled building with a pitched roof and dormer windows in both aspects. Tightly sealed uPVC soffit boxes and windows and doors. Slate roof with lead flashing along the hipped ends, and a dry ridge on the main roof.	Tightly fitted slates, lead flashing and dry ridge system offers little suitability for roosting bats, although there may be gaps beneath the dry ridge. Where slightly lifted slates were noted, in particular around the dormers, the gaps were generally considered too narrow for bats.	Low / Moderate	ND1329657920
68	Building	Large, corrugated metal barn with a corrugated metal roof	Negligible suitability due to thermal properties of metal, the lack of purchase on such materials and the fact that the building is single skinned.	Negligible	ND1313257800
69	Building	Corrugated metal structure associated with electricity substation.	Negligible suitability due to thermal properties of metal, the lack of purchase on such materials and the fact that the building is single skinned.	Negligible	ND1325258214

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70	Building	Corrugated metal barn / workshop	Negligible suitability due to thermal properties of metal, the lack of purchase on such materials and the fact that the building is single skinned.	Negligible	ND1321758211
71	Building	Corrugated metal barn / workshop with harled concrete-block walls to c. 1.5 m and corrugated metal above. Corrugated concrete roofing sheets with solar panels on southern aspect.	Cracks in harled wall of the eastern gable wall with some potential for roosting bats, in particular crevice-dwelling species. Possible crevices between overlapping roofing sheets in roof (not visible from the ground).	Low	ND1321358319
72	Building	Harled bungalow with pitched concrete tiled roof. Dry verge system and wood effect soffits and double-glazed windows. Building well sealed around the soffits, at the gables and at the eaves.	Tightly fitted roof tiles and dry verge system offers little suitability for roosting bats, although there may be gaps beneath the plastic ridge. Gap at the eastern aspect of the roof where the hipped roof above the bay window joins main roof. This feature was used by a nesting house sparrow at the time of the survey visit.	Low / Moderate	ND1322658290
73	Building	Small flat-roofed metal structure on the side of the railway line in Halkirk with no bat roost potential.	No potential ingress opportunities or roosting features recorded.	Negligible	ND1323958354
74	Building	Large, dormer stone-built property with a multi pitched slate roof, clay ridge tiles, double glazed windows, and large stone chimneys.	Numerous potential bat roost features were identified. These included lifted slates, areas of degraded mortar beneath the ridge tiles, gaps at eaves of main roof and of the dormer windows and gaps beneath slates above the gable wall-heads. The walls and chimneys of the building appeared to be relatively well pointed, and the timber-framed windows and doors were well sealed to the surrounding stonework.	High	ND1320158404

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75	Building	Small outbuilding with stone walls and a pitched flagstone roof. A skylight is present in the eastern aspect of the roof.	Potential roost features within the outbuilding include gaps between the flagstones, gaps at the eaves and crevices along the exposed flagstone edge. The ridge tiles appeared to be well mortared, with no notable gaps observed.	Moderate / High	ND1319058404
76	Building	A large, two storeys, stone-built property with a multi pitched slate roof, decorative clay ridge tiles, timber sash windows and large stone chimneys. Whilst the walls appear relatively well pointed, potential bat roost features were noted.	These include lifted slates, gaps beneath ridge tiles where mortar has degraded, gaps at eaves and gaps around the exposed rafters tails.	High	ND1322758461
77	Building	An L- shaped stone-built property with exposed stonework to south and harling to the north, east and west. The building had a pitched clay-tiled roof and double-glazed uPVC windows and doors.	Gaps were noted where the two pitched roofs meet: beneath the concrete tiles either side of the valley. A starling was observed nesting in one of these areas. Gaps were also present at the eaves.	Moderate	ND1319058453
78	Building	A recently harled bungalow with a pitched concrete tiled roof, dry verges, uPVC capped wallheads and double-glazed windows. The building appeared to be well sealed around the soffits, at the gables and at the eaves.	The roof appeared to be in a relatively good state of repair, with tightly fitted tiles. However, there were gaps present beneath the tiles at the base of the chimneys, at the valleys and at the eaves.	Moderate	ND1318258484
79	Building	A stone-built church with a multi-pitched slate roof, constructed 1896. Whilst the modern uPVC double glazed windows appear tightly fitted and the walls well pointed, potential ingress and roosting opportunities were noted. These included gaps between timber louvred vents in western aspect of spire/ tower, lifted zinc ridging on the spire roof,	These included gaps between timber louvred vents in western aspect of spire/ tower, lifted zinc ridging on the spire roof, areas of degraded mortar beneath the clay ridge tiles and gaps at the eaves.	Moderate / High	ND1316658526

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		areas of degraded mortar beneath the clay ridge tiles and gaps at the eaves.			
80	Building	Old stone farmhouse with outbuildings. Flagstone roof on the farmhouse relatively intact to south-east, and large holes in north-western aspect. The stone walls, in particular those forming the north-eastern gable, are in a poor state of repair with degraded mortar and collapsed sections.	Numerous potential ingress and roosting opportunities were identified. Unrestricted flight access for bats is possible via unglazed windows and open doors, and large holes in the roof. Roosting opportunities include lifted flagstones, degraded mortar beneath ridge, crevices between the internal sarking and the external flagstones, gaps at eaves, areas of degraded mortar in external and internal walls, and gaps between timber door frame and the surrounding stonework.	Moderate / High	ND1242257476
81	Building	Dilapidated farm building with no roof.	Deep crevices in the remaining stone walls, gaps above the stone lintels, and gaps between remaining timber door frame and surrounding stonework. Relatively open and exposed to the elements.	Moderate	ND1242557459
82	Building	Harled stone farmhouse with a multi pitched slate roof, clay ridge tiles, timber soffits and uPVC windows. Window and door frames tightly fitted. Exposed timber sarking and rafter tails with no notable gaps at the eaves. uPVC caps along the wallheads.	Potential roosting features included lifted, slipped and missing slates, areas of degraded mortar beneath the ridge tiles and gaps at exposed slate edge. The exposed stonework of the chimneys are cracked and/or have areas of degraded mortar which could support crevice-dwelling bats. Significant gaps at apices of the roofs above the dormer windows.	Moderate / High	ND1007860489
83	Building	Stone farm building with a corrugated metal roof. Timber sarking and exposed timber rafters within. Damaged doors providing unrestricted flight access into the building.	Areas of degraded mortar leading into significant crevices within the stone walls, a single gap between the edge flashing and the gable wall (others well mortared), and gaps at the wallheads	Moderate	ND1006460510

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84	Building	Stone farm building with flagstone roof and clay ridge tiles. Timber sarking and exposed timber rafters within. Damaged or missing doors, windows, skylights and timber sarking providing unrestricted flight access into the building.	Areas of degraded mortar leading into significant crevices within the stone walls, gaps above door lintels, lifted flagstones and gaps beneath the ridges and gaps at the eaves. Floor separating ground floor area and roof void. Significant water ingress likely due to poor condition of the roof and walls.	Moderate / High	ND1006560527
85	Building	Concrete block lean-to with a corrugated asbestos roof and plastic skylights.	Gaps at the wallheads and small crevices in the concrete block walls.	Low	ND1007560531
86	Building	Concrete block farm building with corrugated metal roof. Exposed timber rafters within.	Gaps between the metal edge flashing and the gable walls, gaps at the wallheads, small cracks and areas of degraded mortar in walls. No internal sarking.	Low / Moderate	ND1006460531
87	Building	Semi-circular building with corrugated metal roof and sides and timber gables.	Some limited potential for a transiently roosting bat at the gables where the lead flashing overlaps and is slightly lifted.	Negligible / Low	ND1006160541
88	Building	Semi-circular building with corrugated asbestos roof and sides. Concrete block gables and concrete block sides to c. 1 m.	No bat roost potential noted.	Negligible	ND1005660548
89	Building	Timber framed hay storage structure with a pitched corrugated roof and well-spaced timber slats on the gables and sides from c. 3 m. The barn is open below these.	No suitable bat roost features but the barn may provide bats with shelter from the elements for foraging.	Negligible / Low	ND1005160559
90	Building	Small, ruined farm building with a pitched flagstone roof and stone walls. Timber sarking present internally. Unrestricted flight access via open doors	Lifted and missing flagstones, degraded mortar beneath the ridge tiles, and exposed gable wallheads due to the damaged roof. Deep crevices in the stone walls as a	Moderate	ND1048460451

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		and windows, open gables, and significant holes in the roof.	result of degraded mortar, gaps at the wallheads, and deep crevices within and around the timber lintels. Significant water ingress likely throughout.		
91	Building	Small ruined farmhouse with a pitched flagstone roof and stone walls. Timber sarking present internally. Two stone chimneys present. Unrestricted flight access via open doors and windows, and holes in the roof.	Lifted / missing flagstones, degraded mortar beneath ridge, exposed gable wallheads due to damaged roof. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in timber lintels. External and internal gaps in stonework of chimneys	Moderate / High	ND1050260448
92	Building	Remains of farm building. No roof and only two partial walls remaining.	Deep crevices within remaining stone walls with some suitability for roosting bats. Due to presence of remaining mortar in areas, crevices may be sheltered enough to support hibernating bats.	Low / Moderate	ND1051660456
93	Building	Ruined farmhouse with a pitched flagstone roof and stone walls. Timber sarking present internally. Unrestricted flight access via open doors, windows and skylights, a missing eastern gable wall and holes in the roof	Lifted / missing flagstones, degraded mortar beneath ridge, exposed gable wallheads due to damaged roof. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in timber lintels. Significant water ingress likely throughout.	Moderate	ND1050160474
94	Building	Remains of farm building. No roof and only two partial walls remaining.	Deep crevices within remaining stone walls with some suitability for roosting bats. Due to depth of walls presence of remaining mortar in areas, crevices may be sheltered enough to support hibernating bats.	Low / Moderate	ND1050660469
95	Building	Harled bungalow with flagstone roof. Double glazed windows. Building relatively well sealed at the wall heads, just beneath the gutters. Harled extension	Gaps beneath flagstones, degraded mortar beneath ridge, crevice between timber fascia boards and harled walls.	Moderate / High	ND0984762434

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		with a single pitched roof to the rear. Gaps between the timber fascia boarding and harled walls			
96	Building	Dilapidated farm building with a pitched flagstone roof and stone walls. Timber sarking present internally. Unrestricted flight access via open doors, windows, and skylights.	Lifted / missing flagstones, degraded mortar beneath ridge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in and around timber lintels, crevice between flagstones and internal sarking. Significant water ingress likely throughout.	Moderate	ND0987962448
97	Building	Dilapidated farm building with a pitched flagstone roof and stone walls. Timber sarking present internally. Unrestricted flight access via open barn doors and windows and holes in the roof	Lifted / missing flagstones, degraded mortar beneath ridge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in and around timber lintels, crevice between flagstones and internal sarking.	Moderate	ND0988062433
98	Building	Circular stone-built structure with walls a maximum of 1.75 m in height. Drystone walls with deep crevices.	Crevices within drystone walls suitable for roosting bats.	Low / Moderate	ND1047462920
99	Building	Large modern residential dwelling with timber clad walls and a multi-pitched metal agricultural-style roof. Exposed rafter tails and timber sarking. Swallow nests at eaves. Tightly fitted double glazed windows.	Occasional gap around the exposed rafter tails. Possible gaps leading behind timber cladding where the two roof sections join. Gaps beneath metal ridge. Subop6for roosting bats due to lack of purchase on metal and thermal properties.	Low / Moderate	ND1010763143
100	Building	Timber clads double garage with metal agricultural style roof. Tightly fitted garage door and window. Exposed rafter tails and chipboard sarking. Appears tightly fitted throughout.	Gaps beneath metal ridge. Suboptimal for roosting bats due to lack of purchase on metal and thermal properties.	Negligible / Low	ND1009263121
101	Building	Large cattle shed with concrete block walls to c. 2 m and timber slats above. The roof is pitched with	Some limited bat roost potential in areas of overlapping roofing sheets and crevices between timber rafters and	Low	ND0946363517

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		corrugated roofing sheets and plastic skylights. No timber sarking internally.	the roof above. Along north-west aspect, timber slats overlap the concrete block walls creating a crevice which might be suitable for 1 or 2 bats on a transient basis		
102	Building	Large cattle sheds (two adjoining units). One abutting the concrete block walls to the south-east, the other abutting the stone wall to the north-west. The roof is pitched with corrugated roofing sheets and plastic skylights. No timber sarking internally.	Some limited bat roost potential in areas of overlapping roofing sheets and crevices between timber rafters and the roof above.	Low	ND0945563521
103	Building	Large stone barn with flagstone roof. Exposed timber beams and sarking internally.	Negligible lifted / missing flagstones, degraded mortar beneath ridge and at exposed flagstone edge above gables. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in window and door lintels.	Moderate / High	ND0944063524
104	Building	Large modern agricultural barn. Concrete walls to c. 2m and corrugated metal above. Pitched roof with steel H-bean rafters and timber cross beams.	Some limited bat roost potential in areas of overlapping roofing sheets and crevices between timber rafters and the roof above. There may also be crevices where this building abuts the stone wall of the barn to the south-east.	Low	ND0942563530
105	Building	Harled bungalow with pitched flagstone roof with clay ridge tiles. Tightly fitted uPVC soffits around flat roofed portion. Double glazed windows. uPVC capping above newly harled portions of the building.	Lifted flagstones, degraded mortar beneath ridge, gaps at wallheads. Gaps where porch roof section joins main roof.	Moderate	ND0953363516
106	Building	Harled building with pitched concrete tiled roof. Dry verge and ridge system and uPVC soffits and double glazed-windows. Building well sealed around the	Tightly fitted roof tiles and dry ridge system offers little suitability for roosting bats. However, potential gaps were present beneath the ridge tiles and a gap was	Low / Moderate	ND1007363833

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		soffits at the gables and the eaves, with no gaps noted between soffits and walls.	noted at the top of the valley where the two roof sections join which may have some suitability for roosting bats.		
107	Building	Harled two storey building with pitched concrete tiled roof. Dry verge and ridge system, uPVC facias and double-glazed windows. Building appeared to be well sealed around the fascia and dry verge at the gables and the eaves.	Possibly some ingress and roosting opportunities beneath the ridges and at gaps in the dry verge caps above the windows.	Low / Moderate	ND1009363827
108	Building	Harled two storey building with a pitched slate roof with clay ridge tiles. More modern harled extension to west with concrete tiles.	Lifted and missing slates, areas of degraded mortar beneath ridge, possible gaps at eaves beneath gutters. Windows tightly fitted to surrounding walls. Living space built into roof reducing size of roof void.	Moderate / High	ND1042764248
109	Building	Two adjoining agricultural barns with concrete walls to c. 2 m along the sides and 3 m at the gables. Timber slats or corrugated sheets above. Corrugated concrete sheets form the roof. Northern most barn is missing its ridge.	Some limited roosting opportunities where the roofing sheets overlap at the ridge and gables, and between the timber or steel roof supports and the corrugated sheets.	Low	ND1040064176
110	Building	Dilapidated stone-built farm building with a pitched flagstone roof, timber framed windows and doors and metal framed skylights. Roof lined internally with timber sarking. Unrestricted flight access into building via damaged windows and holes in the roof	Lifted / missing flagstones, deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in timber lintels, crevices between external tiles and internal sarking.	Moderate / High	ND1037564162
111	Building	Dilapidated stone-built farm building with a pitched flagstone roof, timber framed windows and doors and metal framed skylights. No timber sarking. Unrestricted flight access into building via damaged	Lifted / missing flagstones, areas of degraded mortar beneath ridge tiles, deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in timber	Moderate	ND1035764171

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		holes in the roof and open barn door of adjoining barn.	lintels, crevices between external tiles and roofing battens.		
112	Building	Dilapidated stone-built farm building with a pitched flagstone roof, timber framed windows and doors and metal framed skylights. Roof lined internally with timber sarking. Unrestricted flight access into building via open doors in both aspects.	Lifted / missing flagstones, deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in stone lintels, crevices between external tiles and internal sarking. Separate roof void due to floor separating ground floor from upper level	Moderate / High	ND1035064156
113	Building	Concrete block barn with corrugated roofing sheets.	Some limited potential in crevices between internal rafters and battens and the roofing sheets. Crevice between timber rafters and southern gable wall. Areas of overlapping corrugated roofing sheets.	Low	ND1035664150
114	Building	Dilapidated stone-built farm building with a pitched flagstone roof and metal framed skylights. No internal timber sarking. Unrestricted flight access into building via completely open NE gable, holes in the roof and open doorway.	Lifted / missing flagstones, areas of degraded mortar beneath roofing tiles, deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps around stone lintels, crevices between external tiles and roofing battens and exposed timber rafters.	Moderate / High	ND1037364143
115	Building	Concrete block barn with corrugated roofing sheets.	Cracks in the gable walls, gaps between the corrugated roofing sheets and the wallheads, areas of overlapping corrugated roofing sheets, gaps between the timber frame of a door and the surrounding walls.	Moderate	ND1035264176
116	Building	Large, modern metal storage shed with corrugated cement fibre roofing sheets.	Very limited suitability for roosting bats. Some limited transient roost potential between timber roof supports and roof.	Negligible / Low	ND1031864189

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
117	Building	Harled bungalow with pitched concrete tiled roof. Dry verge and ridge system and wood effect soffits and double-glazed windows. Building well sealed around the soffits at the gables and the eaves, with no gaps noted between soffits and walls.	Tightly fitted roof tiles and dry ridge system offers little suitability for roosting bats, although there may be gaps present beneath the ridge and beneath the tiles either side of the valley. Gaps beneath tiles, just above the gutters, may provide some limited potential, but more likely to be used by nesting birds. Harling and walls in good condition.	Low / Moderate	ND0988864285
118	Building	Small stone building with a pitched flagstone roof, metal framed skylight and a single chimney. Timber framed door present in the north-east gable, and framed glazed windows are present in the other three aspects. Unrestricted flight access via damaged windows	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking	Moderate / High	ND1096463324
119	Building	Large stone barn with a pitched flagstone roof, timber framed doors and windows and metal framed skylights. Unrestricted flight access via damaged windows, open barn doors and open/ missing doors. Timber sarking within and exposed rafters	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking	Moderate / High	ND1093463345
120	Building	Stone barn with a dual pitched flagstone roof, timber framed doors and windows and metal framed skylights. Unrestricted flight access via damaged windows and open / missing doors. Timber sarking within and exposed rafters.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking	Moderate / High	ND1095063356
121	Building	Dilapidated single storey farmhouse with pitched flagstone roof, timber framed doors and windows and metal framed skylights. Two chimneys unrestricted	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads,	High	ND1089763337

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		flight access via damaged windows. Ceiling within creating a separate and likely dark roof void.	crevices between timber door / window frames and the surrounding stonework. Crevice above sarking		
122	Building	Dilapidated semi-detached buildings with a pitched flagstone roof above the south portion and concrete tiled roof to north. Timber framed doors and windows to south and uPVC to north. Ceiling within creating a separate and likely dark roof void.	Lifted / missing flagstones, degraded mortar at exposed tile edge, exposed wallhead due to damaged roof. Gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking	High	ND1087863314
123	Building	Large stone barn with a pitched flagstone roof, timber framed doors and windows and metal framed skylights. Unrestricted flight access via damaged windows, open open/ missing doors, and no eastern gable. Timber sarking within and exposed rafters.	Lifted / missing flagstones, degraded mortar beneath ridge and exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door frames and surrounding stonework. Exposed rafters, crevice above sarking	Moderate / High	ND1093163313
124	Building	Large stone and concrete block barn with a pitched corrugated asbestos roof, timber framed doors. Unrestricted flight access via open/ missing doors. No timber sarking within.	Cracks and degraded mortar within the stone walls, gaps at wallheads, crevices between timber door frames and surrounding stonework. Exposed rafters, crevice between rafters and corrugated roof, overlapping asbestos sheets at ridge. Crevices around lintel.	Moderate	ND1092163351
125	Building	Modern agricultural cattle shed with concrete walls to c. 1.5 m and timber slats above. Pitched corrugated cement fibre roof.	May be sone limited potential for bats between overlapping roofing sheets and where the edge flashing overlaps the timber slats at the gables.	Low	ND1093863324
126	Building	Agricultural barn with concrete block walls to c. 1.75 m and timber slats above. Pitched corrugated asbestos roof.	May be sone limited potential for bats between overlapping roofing sheets and where the edge flashing overlaps the corrugated asbestos walls at the gables.	Low	ND1092363397

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
127	Building	Large, modern agricultural cattle shed with corrugated metal walls and a pitched corrugated cement fibre roof. Extension to east has concrete block walls with timber slats above.	May be some limited potential for bats between overlapping roofing sheets and where the edge flashing overlaps the corrugated walls at the gables. Some very transient roost potential also between the timber roof supports and the roofing sheets.	Low	ND1089063380
128	Building	Large, modern agricultural shed with concrete walls to c. 2 m, corrugated metal walls above and a pitched corrugated metal roof. Steel roofing beams only.	Due to construction of metal, including for roof, no notable bat roost potential identified.	Negligible	ND1086363353
129	Building	Detached single storey property with harled walls, two chimneys and a pitched flagstone roof with clay ridge tiles. Metal framed skylights in the roof and uPVC windows elsewhere.	Lifted / damaged flagstones, degraded mortar beneath ridge and at exposed tile edge. Likely gaps at the wallheads and between timber fascia boarding and the harled walls.	Moderate / High	ND1073363335
130	Building	Two storey farmhouses with a multi pitched concrete tiled roof. Harled and rendered stone walls. uPVC windows and doors, tightly fitted. Timber front door and frame, similarly, well fitted to surrounding walls. Dry verge caps at gables. Harled chimneys.	While roof is in a relatively good state of repair, there are a number of gaps at the wallheads which could provide bats with access into the crevice above the wallheads and/ or into the roof void itself. Gaps where roof sections join could be used	Moderate / High	ND1098163320
131	Building	Harled bungalow with pitched concrete tiled roof. Dry verge and ridge system and wood effect soffits and double-glazed windows. Building well sealed around the soffits at the gables and the eaves, with no gaps noted between soffits and walls.	Tightly fitted roof tiles and dry ridge system offers little suitability for roosting bats. However, the gap at top of valley; where the two roof sections meet, may support roosting bats. Possible gaps also present beneath the ridge above the valleys. Shallow crevice between harled walls and soffits may provide some transient roosting opportunities.	Low / Moderate	ND1111863519

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
132	Building	Harled single storey dwelling (abandoned) with a multi pitched slate roof, timber framed windows, uPVC fascia and harled chimneys. Harling appears to be in a good state of repair. Timber window frames are degrading but do not currently form bat roost features	Lifted and missing slates, gaps at exposed slate edge, gaps between the fascia and the harled walls, gaps beneath the clay ridge tiles where the mortar has degraded, gaps at the wallheads.	Moderate / High	ND1489658078
133	Building	Stone barn with a pitched flagstone roof to east and corrugated asbestos to west, timber framed doors and windows and a metal framed skylight. Unrestricted flight access via holes in the roof, open gables and open doors. No timber sarking. Exposed rafters.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, gaps in stone/timber lintels. Gaps between ridge tiles and asbestos sheets	Moderate	ND1488258095
134	Building	Remnants of a stone barn with concrete walls added. A Few remaining rafters present with a couple of corrugated metal roofing sheets.	Crevices within the remaining stone walls and areas of shelter at the wall heads where the few remaining metal roofing sheets are present. Crevices between the timber door and window frames in the original portion of the building.	Low / Moderate	ND1486358097
135	Building	Large, open agricultural barn with steel and timber supports concrete block walls on two sides to a height of c. 1.75 m. corrugated metal and cement make up the walls and roof.	Some limited potential in crevices between overlapping roofing sheets.	Low	ND1488058106
136	Building	Small former dwelling with narrow harled concrete walls, a flat roof which has largely collapsed, metal framed windows and a timber door. Unrestricted flight access via damaged windows and open doors and a collapsed roof.	Damp and exposed to the elements. Some limited opportunities between the roof and the wallheads, and in crevices between timber fascia and the walls along the north aspect. Crevices also present internally between cement (asbestos?) sheets and the walls.	Low / Moderate	ND1494558105

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
137	Building	Small concrete block animal shelter with a corrugated metal roof and open doorways.	Some limited roost potential between the corrugated metal and the wallheads	Low	ND1498857968
138	Building	Harled single storey farmhouse with an asbestos tiled roof, timber framed windows and harled chimneys. Harling appears to be in a good state of repair. Timber window frames are degrading but do not currently form bat roost features.	Tiles are generally tightly fitted with no notable gaps. Building appears to be well sealed at the eaves. Gaps beneath the clay ridge tiles where the mortar has degraded.	Moderate	ND1467258654
139	Building	Farm steading with a pitched flagstone roof, timber framed doors and windows and metal framed skylights. Unrestricted flight access via damaged windows and open/ missing doors.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework.	Moderate / High	ND1466158667
140	Building	Open barn with steel H-beam supports, timber clad gables from c. 4 m above ground and a corrugated asbestos roof.	Some limited bat roost potential in crevices between the asbestos edge flashing and the timber cladding at the gables, and in areas where there are gaps between areas of overlapping roofing sheets, particularly at the ridge and gables	Low	ND1466858680
141	Building	Two adjoining agricultural buildings with harled concrete walls and pitched corrugated asbestos roofs. Unrestricted flight access via open barn doors	Some limited bat roost potential in crevices between the asbestos edge flashing and the harled walls at the gables, and in areas where there are gaps between areas of overlapping roofing sheets, particularly at the ridge and gables	Low / Moderate	ND1466958697
142	Building	Concrete kennels with a single pitched corrugated roof.	Some limited bat roost potential may be present between the corrugated roofing sheets and the wallheads.	Low	ND1471158614

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
143	Building	Hoy pumping station. Concrete block structure with bitumastic felt covered flat and domed roof sections and timber framed windows and doors. Concrete edging at wall heads well sealed.	Occasional gaps between and beneath concrete copes, possible roosting opportunities beneath boarded up doors to the north, with lifted timber panels providing access.	Low	ND1373760660
144	Building	Semi-detached bungalows with living accommodation built into the roof. Harled walls with a pitched slate roof and concrete ridge tiles. Harled chimneys present.	Slates are generally tightly fitted. However, gaps were noted at the base of the chimneys and at the exposed slate edges at the gables. Ridges generally well mortared.	Low / Moderate	ND1368960660
145	Building	Small concrete block structure with a flat roof and timber framed windows and doors.	Structure appears to be tightly sealed with no gaps noted between concrete blocks, between the roof and the walls or between the timber framed windows and doors and the surrounding walls.	Negligible	ND1379060686
146	Building	Harled concrete detached garage with a flat automatic felt covered roof. Generally, in a good state of repair.	Occasional gaps between the timber fascia and the harled walls.	Low	ND1369860677
147	Building	Timber clad shed with a corrugated flat roof.	Some possible gaps between areas of overlapping timber cladding on the walls.	Negligible / Low	ND1367960669
148	Building	Large stone barn with concrete block sections and a pitched corrugated sheet roof, timber framed doors and metal framed skylights. Corrugated metal barn doors present in the eastern aspect.	Deep crevices in stone walls due to degraded mortar, gaps at wallheads beneath the corrugated roofing sheets, areas of overlapping roofing sheets, particularly at the ridge and eastern gable.	Moderate	ND1333360638
149	Building	Harled two storey dwelling with a pitched slate roof, uPVC framed windows and doors, uPVC fascia and	Occasional gap beneath ridge tile where mortar has degraded, gaps at the lower corners of the exposed	Moderate / High	ND1334360622

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		harled chimneys. Harling appears to be in a good state of repair.	slate edge where the lead flashing doesn't extend to the base and a small number of slightly lifted tiles.		
150	Building	Small harled building with a pitched corrugated metal roof.	Large crack in the western wall, gaps between the metal edge flashing and the harled gables, gaps at the eaves and areas of overlapping metal at the ridge.	Low / Moderate	ND1331960756
151	Building	Harled two storey dwelling with a pitched slate roof, timber framed windows and doors, and harled chimneys. Harling appears to be in a good state of repair. Windows and doors tightly fitted to surrounding walls.	Occasional gap beneath ridge tile where mortar has degraded, gaps at the exposed slate edge, gaps at the eaves just above the gutters and a small number of slightly lifted tiles.	Moderate / High	ND1329260755
152	Building	Small garage / workshop with harled walls and a pitched corrugated asbestos roof.	Small gaps between corrugated roofing sheets and wallheads. Otherwise, the roof is tightly fitted and moss covers any potential gaps between the sheets. Gap between timber door and frame. Relatively open but may support a transiently roosting bat.	Low / Moderate	ND1327760752
153	Building	Small barn with harled walls and a pitched corrugated asbestos roof.	Small gaps between corrugated roofing sheets and wallheads and gaps between overlapping roofing sheets.	Low	ND1328160768
154	Building	Series of four adjoining agricultural barns with corrugated asbestos roofs. Three with concrete walls and one open with steel H beam supports. The two southern most barns have some of the original stone walls within with deep crevices.	Gaps between corrugated roofing sheets and wallheads, crevices between the edge flashing and gable walls and gaps between overlapping roofing sheets. In open barn, there are crevices between the concrete block wallhead and horizontal timber beams above.	Low / Moderate	ND1326960793

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155	Building	Two buildings. One with harled walls, a single pitched metal roof and sliding barn doors, the other with drystone walls, a timber framed window and a single pitched roof.	Gaps between the edge flashing and the walls on both buildings, deep crevices in the stone walls of the one structure and crevices between the timber framed windows and the surrounding wall.	Low / Moderate	ND1270361591
156	Building	Harled dormer bungalow with a pitched concrete tiled roof, timber framed windows, uPVC fascia and harled chimneys. Harling appears to be in a good state of repair. Soffits are well sealed to the surrounding harling.	Dry verge tightly fitted tiles and soffits offer limited suitability for bats. However, gaps may be present beneath the ridge, providing bats with potential access into the roof void and/or the crevice between the external tiles and the internal sarking.	Low / Moderate	ND1270261568
157	Building	Harled dormer bungalow with a pitched roof (half concrete tiled and half slate), uPVC windows and harled chimneys. Harling appears to be in a good state of repair. No gaps noted around exposed rafter tails and sarking at the eaves	Gaps at exposed slate edge, including where the original portion of the building joins the extension to the south-west, gaps beneath ridge tiles. Roof of newer portions of the building with fewer gaps due to narrow, well fitted tiles and well-sealed uPVC soffits	Moderate / High	ND1272961624
158	Building	Single storey stone farmhouse with a pitched flagstone roof, and timber framed doors and windows. Unrestricted flight access via damaged/ unglazed windows, open doors and holes in the roof. Timber sarking and exposed rafters within the separate roof void.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking. To the north, a smaller stone-built extension has a corrugated roof and no door. Barn owl pellets and droppings were found within.	High	ND1313462095
159	Building	Large agricultural barn with concrete block walls to c 1.5 m and timber slats above. Pitched corrugated cement roof.	Some limited roosting opportunities including crevices between overlapping roofing sheets, particularly at the ridge and gables, and areas where the timber slats overlap the concrete walls.	Low	ND1272261817

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160	Building	Large agricultural barn with harled concrete walls to c 1.5 m and corrugated metal above. Pitched corrugated cement roof.	Some limited roosting opportunities including crevices where the corrugated metal walls overlapping the walls. Corrugated metal roof unlikely to have any suitability for roosting bats.	Negligible / Low	ND1276061771
161	Building	L-shaped stone barn with a pitched corrugated asbestos roof with clay ridge tiles in south section and corrugated metal roof to north. Timber framed doors and windows. Unrestricted flight access via damaged windows and doors, open north-east gable. No timber sarking.	Degraded mortar beneath ridge, deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework, gaps in the lintels.	Moderate	ND1275261673
162	Building	Large agricultural barn with harled concrete walls to c 1.5 m and corrugated metal above. Pitched corrugated cement roof.	Some limited roosting opportunities including crevices where the corrugated metal walls overlapping the walls and areas of overlapping corrugated roofing sheets.	Low	ND1278361655
163	Building	Concrete block shelter with a single pitched corrugated cement roof on timber struts.	Some limited roosting opportunities in cracks in the concrete block walls, crevices between the corrugated roofing sheets and the wallheads and gaps between the internal timber supports and the roofing sheets. Features low suitability for transient use.	Low	ND1278261672
164	Building	Dilapidated farmhouse with a pitched flagstone roof, and timber framed doors and windows. Unrestricted flight access via damaged windows and large hole in the roof.	Degraded mortar beneath ridge, deep crevices in stone walls, gaps at wallheads, hanging tiles on dormer windows, crevices between timber door / window frames and the surrounding stonework, gaps in the lintels, crevices above internal sarking.	Moderate / High	ND1279561722
165	Building	Long narrow barn with a pitched corrugated metal roof. Walls are predominantly of stone construction,	Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door /	Moderate	ND1274361639

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		with small section of concrete block walls to south. Unrestricted flight access via a missing corrugated roof sheet at the northern end and open gable to south.	window frames and the surrounding stonework. Crevices between metal ridge and roofing sheets.		
166	Building	Small stone-built shelter with a pitched corrugated metal roof. Unrestricted flight access via an open doorway in the northern gable.	Deep crevices in stone walls due to degraded mortar, gaps at wallheads beneath corrugated metal roofing sheets.	Moderate	ND1267161558
167	Building	Stone barn with a pitched flagstone roof, timber framed doors and windows and metal framed skylights. Unrestricted flight access via damaged windows, holes in the roof, open barn doors and open/ missing doors. Timber sarking within and exposed rafters.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking.	Moderate	ND1291361171
168	Building	Harled dormer bungalow with a pitched concrete tiled roof, uPVC windows, doors and soffits and harled chimneys. Harling appears to be in a good state of repair. Soffits appear to be well sealed to the surrounding harling. Dry verge system.	Possible gaps beneath tiles at the valley and beneath the ridge, potential small gaps between the fascia and the harled walls. Otherwise, the building appears to be in a good state of repair with few notable bat roost features.	Low / Moderate	ND1183563254
169	Building	Small concrete block shed with harled walls and a pitched corrugated asbestos roof. No internal sarking. Large open doorway in the north-west gable.	Gaps between timber frame of door and walls, gaps between internal rafters and roof, crevices at the wallheads beneath the corrugated roofing sheets.	Low	ND1181863224
170	Building	Series of adjoining stone farm buildings with pitched flagstone roofs, timber framed doors and windows and metal framed skylights. Unrestricted flight	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads,	Moderate / High	ND1176263258

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		access via damaged windows, open/damaged doors. Timber sarking within and exposed rafters.	crevices between timber door / window frames and the surrounding stonework. Crevice above sarking		
171	Building	Lean-to shelter with timber supports, rafters and purlins, concrete block walls to c. 2 m with timber slats above and single pitched corrugated metal roof.	Limited suitability for roosting bats. Crevices in stone wall of adjacent barn where the timber rafters pass through the walls. Crevices between the timber purlins and the roofing sheets above, and areas of metal edge flashing at the gables.	Low	ND1174063235
172	Building	Building with harled concrete block walls and a pitched corrugated asbestos roof.	Possible gaps at wallheads and between overlapping roofing sheets.	Low	ND1174963248
173	Building	Dilapidated small farm building with no roof.	Deep crevices in the remaining stone walls	Low / Moderate	ND1178163292
174	Building	Dilapidated, large two storey farmhouse with timber framed windows and doors, harled walls, and a pitched flagstone roof. Unrestricted flight access via damaged windows and open doors and holes in the roof.	Lifted / missing flagstones, degraded mortar beneath ridge, gaps at wallheads, crevices between some window frames and the walls. Crevice above sarking, deep crevices in stone walls where damaged harling has exposed the stonework.	High	ND1178663265
175	Building	Stone barn with a pitched flagstone roof, timber framed doors and metal framed skylights. Unrestricted flight access via open barn door in north-west aspect. Timber sarking within and exposed rafters.	Lifted / missing flagstones, degraded mortar beneath ridge, gaps at wallheads, crevices within door lintels. Crevice above sarking.	Moderate	ND1179163254
176	Building	Barn with pitched corrugated cement roof – timber roof frame resting on the wallheads of the two adjacent stone barns.	Numerous crevices within the stone walls of the neighbouring barns. Features within the structure itself	Low	ND1177963245

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			are limited to the crevices between the timber purlins and the corrugated roofing sheets.		
177	Building	Large stone barn with a multi pitched flagstone roof, timber framed doors and metal framed skylights. Unrestricted flight access via open barn doorways, gaps above doors and holes in the roof. Timber sarking within and exposed rafters.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door frames and the surrounding stonework. Crevice above sarking.	Moderate / High	ND1177463247
178	Building	Barn with pitched corrugated cement roof with plastic skylight. Steel supports and rafters with roof on timber purlins. Barns abut stone walls of building to the east.	Crevices between edge flashing and harled walls, gaps between timber purlins and roofing sheets, crevices between concrete block walls and Steel H-beams internally	Low / Moderate	ND1176863230
179	Building	Corrugated asbestos and corrugated metal barn with steel supports and rafters and timber purlins.	Limited suitability for roosting bats. Crevices between the timber purlins and the roofing sheets above, and areas of overlapping roofing sheets, particularly at the ridge and eaves.	Negligible / Low	ND1174463165
180	Building	Barn with pitched corrugated cement roof and concrete block walls to c. 2.5 m at gables and 2 m along walls with corrugated sheets or timber slats above. Steel supports and rafters and timber purlins.	Limited suitability for roosting bats. Crevices between the timber purlins and the roofing sheets above. Areas of overlapping roofing sheets at the ridge and edge flashing, and corrugated asbestos / timber slats overlapping concrete walls.	Low	ND1173663147
181	Building	Large modern, metal barn with steel supports and rafters and timber purlins. Pitched corrugated cement fibre roof.	Limited suitability for roosting bats due to thermal properties of metal and lack of purchase. Some limited suitability where roofing sheets overlap at the eaves and ridge and in crevices between the timber purlins and the roof inside the barn.	Negligible / Low	ND1173163135

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
182	Building	Large modern, metal barn with steel supports and rafters and timber purlins. Corrugated metal roof.	Limited suitability for roosting bats due to thermal properties of metal and lack of purchase. Some limited suitability where corrugated metal overlaps harled walls.	Negligible / Low	ND1179763189
183	Building	Timber shed with moss covered corrugated asbestos roof. Large open doorway to the north-east aspect.	Some limited potential between the asbestos ridge and the roofing sheets and between the roofing sheets and the timber sarking within. Exposed timber rafters and ridge beam within.	Low	ND1179963222
184	Building	Dilapidated large 2 storey house with a pitched slate roof and flagstone on single storey extension. Timber framed doors and sash windows; metal framed skylights. Unrestricted flight access via damaged windows, gaps above doors.	Lifted / missing slates and flagstones, degraded mortar beneath ridge, gaps at wallheads, crevices between some window frames and the surrounding stonework. Crevice above sarking. Areas of damaged harling exposing deep crevices in stonework beneath.	High	ND1179763246
185	Bridge	Railway bridge with steel lattice sides resting on stone abutments.	Crack and areas of degraded mortar within the stone walls of the abutments. Possible gaps between the steel structure and the stone abutments. Good foraging habitat for Daubenton's and soprano pipistrelle bats.	Low / Moderate	ND1285758187
186	Building	Harled detached garage with a pitched concrete tiled roof and dry ridge and verge system. Timber soffits and timber garage doors. Internally lined with sarking.	Gaps beneath the curved tiles at the eaves; just above the gutters, and crevices between the timber fascia and the harled walls which could be used by crevice dwelling bats.	Low / Moderate	ND1360357851
187	Building	Harled residential dwelling with pitched concrete tiled roof, tightly fitted wood effect uPVC doors and windows, well-sealed timber soffits. Harling appears to be in a good state of repair. Windows and doors are tightly fitted. Dry verge and ridge system.	Curved roof tiles are tightly fitted, but there are gaps beneath the tiles at the valleys and just above the gutters. Slightly lifted tiles also noted along the gable wallheads. Dry ridge and verge system possibly reduces suitably of the roof.	Moderate	ND1362557853

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188	Building	Two adjoining corrugated metal barns with pitched corrugated metal roofs. A stone wall and corrugated metal are present along the southern aspect and the remaining walls are of concrete block and timber slat construction.	Crevices within southern wall and gaps in the lintel, limited opportunities between the timber purlins and the corrugated metal roof inside. Roof not considered suitable due to thermal properties of metal as well as the lack of purchase on such materials.	Low / Moderate	ND0840263905
189	Building	Traditional stone-built barn with areas of timber cladding inside. Roof and gables have since been covered in corrugated metal. Unrestricted flight access into the building via open barn doorway to the south-east.	Deep crevices within stone walls and in the lintels of the remaining windows and doors. Exposed timber rafters and sarking, gaps at the wallheads, crevices between the roofing sheets and the internal sarking.	Moderate	ND0841663917
190	Building	Modern agricultural barn with steel supports and rafters and timber purlins. Roof is of corrugated cement composite while walls are concrete to c. 1.5 m and corrugated metal above. Building abuts the stone walls of the original barns to the north-west and south-west.	Limited opportunities between the timber purlins and the roofing, crevices in the stone walls of the adjoining buildings. The structure itself has limited suitability for roosting bats.	Negligible	ND0841763938
191	Built Structure	Metal silo.	Single sheeted metal structure with no potential ingress or roosting features.	Negligible	ND0843463934
192	Building	Traditional stone-built barn with areas of timber cladding inside. Roof and gables have since been covered in corrugated metal. Unrestricted flight access into the building via open barn doorway to the south-west.	Deep crevices within stone walls and in the lintels of the remaining windows and doors. Exposed timber rafters and sarking, gaps at the wallheads, crevices between the roofing sheets and the internal sarking, crevices between the metal and the gable wall.	.Moderate	ND0838363911
193	Building	Traditional two storey stone building with upper floor intact. Windows boarded internally, so dark within.	Deep crevices within stone walls and in the lintels of the windows and doors. Gaps between window/door	Moderate / High	ND0839863930

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		Roof and gables have since been covered in corrugated metal.	frames and surrounding stonework. Gaps at the wallheads, crevices between the roofing sheets and the internal sarking.		
194	Building	Modern agricultural barn with concrete walls to c 1.75 m with timber slats above and a pitched corrugated cement fibre roof.	Some limited bat roost potential in areas of overlapping corrugated roofing, particularly at the eaves and ridges. Small area of overlap between timber slats and concrete walls and between edge flashing and timber slats.	Negligible / Low	ND0852864861
195	Building	Dilapidated agricultural shelter with concrete block walls along northern aspect and open on the other three sides. Timber supports and a corrugated metal roof.	Very limited bat roost potential in narrow cracks in the walls.	Negligible / Low	ND0853164848
196	Building	Small stone farm building with a pitched flagstone roof and metal framed skylights. Unrestricted flight access via collapsed S gable, unglazed window in north gable and holes in the roof.	Deep crevices within stone walls, crevices between flagstones and sarking, gaps at wallheads	Moderate	ND0852564877
197	Building	Harled residential dormer bungalow with pitched concrete tiled roof, uPVC fascia and windows harled. Harling appears to be in a good state of repair. Windows and doors are tightly fitted. Dry verge and ridge system	Facias appear well sealed to harled walls throughout, tiles, while generally tightly fitted, are slightly lifted around the dormer windows and there are potential gaps beneath the tiles at the valleys along either side of the dormer roofs.	Moderate	ND0809364323
198	Building	Harled residential dwelling with pitched concrete tiled roof, wood effect uPVC fascia and windows harled. Harling appears to be in a good state of repair.	Facias appear well sealed to harled walls throughout, tiles are tightly fitted, but there are potential gaps beneath the tiles at the valleys and just above the	Low / Moderate	ND0806764233

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		Windows and doors are tightly fitted. Dry verge and ridge system	gutters. Dry ridge and verge system reduces suitably of the roof.		
199	Building	Series of interconnecting barns, the southern and northern barns with stone walls from the remains of the original agricultural barns, others with concrete block walls. Pitched roofs of corrugated cement fibre and corrugated metal.	Deep crevices in the stone walls and gaps at the wallheads, areas of overlapping roofing sheets at the ridge and gables	Moderate	ND0701664712
200	Building	Large modern concrete block and corrugated metal barn with a pitched corrugated cement fibre roof.	Some limited bat roost potential in areas of overlapping corrugated roofing sheets at the gables and ridge, and between timber purlins and the roof.	Negligible / Low	ND0700264742
201	Building	Two large modern concrete block and corrugated metal barns with a pitched corrugated metal roof.	Some limited potential where the corrugated walls overlap the concrete block walls.	Negligible / Low	ND0698864685
202	Building	Harled residential dwelling, bungalow, with a multi pitched concrete tiled roof and uPVC windows. Roof generally appears to be in a good state of repair. Windows and doors are tightly fitted.	Slightly lifted tiles and gaps beneath tiles at base of chimneys and towards gable, possible gaps beneath tiles at the valleys. Gaps beneath the lower concrete ridge tiles at the hipped ends where the mortar has degraded.	Low / Moderate	ND0706264821
203	Building	Small concrete block structure with a single pitched corrugated metal roof. Unrestricted flight access into the building via holes in the walls and damaged windows in the west aspect.	Cracks and areas of degraded mortar in the walls, gaps at the wallheads beneath the corrugated metal roof.	Low / Moderate	ND0704664719
204	Building	Harled two storey semi-detached property, with a pitched concrete tiled roof and uPVC windows. Roof	A couple of small gaps beneath the concrete ridge where areas of mortar has degraded, gaps beneath tiles	Low / Moderate	ND0709564828

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		appears to be in a good state of repair. Windows and doors are tightly fitted.	around the chimney, slightly lifted tiles towards the gables.		
205	Building	Modern workshop/ garage with harled walls to c. 1.5 m and corrugated metal above. No gaps between corrugated metal and harled walls noted and roof unsuitable.	No notable bat roost feature identified.	Negligible	ND0710764844
206	Building	Harled residential dwelling, single storey with living space built into the roof. A pitched slate roof and uPVC windows and doors – tightly fitted.	Lifted slates, gaps at exposed slate edge, gaps beneath the clay ridge tiles where the mortar has degraded, gaps at the eaves and holes in the exposed stonework of the south-east gable where a small extension has been demolished.	Moderate	ND0629065612
207	Building	Large, relatively new harled residential dwelling with a steep multi pitched concrete tiled roof, timber fascia and window and door frames. Harling and roof in a good state of repair. Windows and doors are tightly fitted. Dry verge and ridge system.	Gaps beneath tiles just above the gutters, gaps beneath the ridge and roof tiles at the valleys, lifted ridge tiles at the dormers, a hole in the timber soffits at the front of the property.	Low / Moderate	ND0623565656
208	Building	Large modern agricultural barn with concrete block walls with ventilated corrugated metal above and a pitched corrugated cement fibre roof.	Vertical gaps between the concrete block walls and the steel H-beams and areas of overlapping roofing sheets at the ridge and gables	Low	ND0630065549
209	Building	Modern barn for hay storage. Open sided to the north-east and south-east, timber slats on the other two aspects. Corrugated cement fibre roof.	Potential roost features limited to crevices between the edge flashing and the timber slats, and areas of overlapping roofing sheets at the ridge and gables.	Negligible / Low	ND0628265533

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
210	Building	Two storey farmhouse with harled walls and a multi pitched slate and asbestos tile roof. UPVC windows and doors appear tightly fitted throughout. Living space built into the roof.	Gaps at the eaves beneath the slates, areas of lifted slate, in particular around the chimneys and dormers etc.	Moderate / High	ND0635665585
211	Building	Harled outbuilding with a pitched flagstone roof and clay ridge tiles. uPVC and metal framed windows and doors present. Timber fascia along both aspects. Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge.	Deep crevices in gable wall where harling has degraded, gaps at wallheads, crevices between some window frames and the surrounding stonework. Crevices between the timber fascia and harled walls.	Moderate / High	ND0637365587
212	Building	Stone built structure with single pitched corrugated metal roof. Open shelter area with stone pillars at the centre.	Deep crevices within the stone walls and pillars, gaps between the metal edge flashing and the walls.	Moderate	ND0631265567
213	Building	Harled single storey building. Eastern portion residential dwelling with pitched flagstone roof. Western half with corrugated cement roof.	Gaps at the eaves beneath the tiles / roofing sheets, lifted / missing flagstones, gaps beneath the clay ridge tiles. Separate roof void within.	Moderate / High	ND0632365587
214	Building	Large agricultural barn with corrugated cement fibre roof and gables. Concrete walls with timber slats above along the eastern aspect.	Areas of overlapping roofing sheets at the ridge and gables, crevices where the edge flashing overlaps the corrugated gables and the timber slats.	Low	ND0634465604
215	Building	Two large agricultural barns with harled concrete block walls and corrugated cement fibre roofs.	Crevices present where areas of mortar have degraded between the exposed concrete blocks, gaps at the wallheads beneath the corrugated roofing sheets and crevices between overlapping roofing sheets.	Low / Moderate	ND0632665606
216	Building	Agricultural barn with harled stone walls and a pitched flagstone roof. Timber framed doors and	Deep crevices within stone walls and in the lintels, exposed timber rafters and sarking, gaps at the	Moderate / High	ND0631365607

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		metal framed skylights. Unrestricted flight access into the building via open doors and damaged skylights. Timber sarking and exposed rafters within.	wallheads, crevices between the flagstones and the internal sarking, gaps between ridge tiles.		
217	Building	Dilapidated harled stone farm building with a roof that has collapsed in the centre and is comprised only of rafters and sarking- no flagstones remaining.	Crevices within the stone walls where the harling is not present, gaps at the wallheads beneath a layer of flagstone, the rubble filled cavity of the exposed gable wallheads, gaps between the remaining timber window frames and the walls, gaps in lintels.	Moderate	ND0637365616
218	Building	Dilapidated stone farm building with a partially collapsed corrugated metal roof. Unrestricted flight access via unglazed windows, open doors, and an open north gable.	Deep crevices within stone walls and in the lintels both externally and internally.	Moderate	ND0637665624
219	Building	Harled stone farm buildings with pitched corrugated asbestos, flagstone, and corrugated metal roofs (from east to west)	Gaps in walls where stonework exposed, gaps at wallheads, gaps beneath ridge tiles, areas of overlapping roofing sheets at the eaves, crevices between the flagstones and the sarking beneath.	Moderate	ND0634665627
220	Building	Large, corrugated metal barn/ workshop with pitched corrugated cement fibre roof.	Limited roosting opportunities in areas of overlapping corrugated roofing sheets at the ridge and gables.	Negligible / Low	ND0577365175
221	Building	Harled residential dwelling with pitched concrete tiled roof, timber fascia and double-glazed windows. Harling appears to be in a good state of repair. Windows and doors are tightly fitted. Dry verge system. Soffits well sealed to walls.	Very limited opportunities. One gap noted beneath a ridge tile where mortar has degraded and gaps beneath the roof tiles above the skylights.	Low / Moderate	ND0575965220

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222	Building	Harled residential dwelling with pitched concrete tiled roof, timber fascia and double-glazed windows. Harling appears to be in a good state of repair. Windows and doors are tightly fitted. Dry ridge system with no gaps beneath. Soffits well sealed.	Gaps at the gables between the fascia and the concrete tiles which may provide access to the crevice beneath the tiles, possible gaps beneath the tiles around the valleys and above gutters (likely more suitable for nesting birds).	Low / Moderate	ND0557265940
223	Building	Harled residential dwelling with pitched slate roof, uPVC fascia and double-glazed windows. Harling appears to be in a good state of repair. Living space partially built into the roof, but there is likely to be a separate roof void above.	Lifted, damaged, and slipped slates, gaps beneath slates at the exposed slate edge, degraded mortar beneath ridge tiles, gaps between the uPVC fascia and the harled walls, areas of lifted lead ridging at the dormers, gaps at the wallheads.	High	ND0538366245
224	Building	Harled residential dwelling with pitched concrete tiled roof, uPVC double glazed windows and deep timber soffits. Harling appears to be in a good state of repair. Separate roof void.	Gaps at the gables between the wall heads and the concrete tiles, slightly lifted tiles, in particular near the gables and around the base of the chimneys, and gaps beneath the tiles just above the gutters (likely more suitable for nesting birds).	Low / Moderate	ND0459666170
225	Bridge	Bridge crossing Forss Water. Steel H-beam construction.	No notable bat roost feature identified	Negligible	ND0465666174
226	Building	Corrugated metal shed with a corrugated asbestos roof. Unrestricted flight access via damaged windows, open doors, and a large hole in the roof and at the ridge.	Gaps between the cement fibre ridge and roofing sheets, gaps between the timber fascia and the corrugated metal walls.	Low	ND0454366040
227	Building	Four adjoining barns with concrete walls and corrugated cement fibre roofs and gables.	Crack in the harled gable wall of the southernmost shed, areas of overlapping corrugated asbestos at the ridge and gables, gaps beneath the roofing sheets at	Low / Moderate	ND0456766051

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			the wallheads, edge flashing overlapping the corrugated sheets at the gables.		
228	Building	Agricultural barn with concrete block walls, with corrugated cement fibre above and corrugated cement roof. Unrestricted flight access via large area of damage to south-east concrete block gable wall and open barn doorway.		Low	ND0458266031
229	Building	Hay barn. Modern steel framed structure with corrugated metal roof and sides.	No notable bat roost feature identified	Negligible	ND0455466068
230	Building	Harled residential dwelling with pitched slate roof, concrete ridge tiles and uPVC soffits and windows. Harling appears to be in a good state of repair. Windows and doors are tightly fitted, and the soffits are sealed to the harling with mastic.	Slipped and lifted slates, occasional gaps beneath ridge tiles where mortar has degraded, in particular at the bottom of the hipped ends, lifted lead flashing at the base of the chimneys.	Moderate	ND0449166014
231	Building	Small concrete block shed with a single pitched corrugated metal roof. Glazed window and an open doorway. Unrestricted flight access into the building via open doorway and damaged windows.	Gaps at the wallheads beneath the timber beams and roofing sheets, gaps between the door and window frames and the surrounding walls, crevices between the concrete blocks due to areas of degraded mortar.	Low	ND0450266017
232	Building	Large stone building residential dwelling with a multi pitched slate roof, clay ridge tiles and timber sash windows. Walls appear to be well pointed, with no notable cracks or areas of degraded mortar.	Gaps beneath lifted slates, areas of degraded mortar beneath some ridge tiles, gaps at the eaves, lifted lead flashing at the base of the chimneys.	High	ND0389465645

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233	Building	Detached garage with harled walls, timber fascia and a pitched slate roof with concrete ridge tiles.	Gaps beneath lifted slates, areas of degraded mortar beneath some ridge tiles, gaps at the eaves, crevices between the fascia and the walls.	Moderate	ND0387865646
234	Building	Small timber shed / sun house with a corrugated metal roof and glazed windows.	No roosting opportunities noted.	Negligible	ND0391565599
235	Building	Large agricultural barn with a steel frame, concrete walls to c. 2 m and corrugated metal walls above. The roof is of shallow pitched corrugated metal with a hipped end.	Unrestricted flight access via an open barn door to the south-east and large gaps between the concrete walls and corrugated metal walls on all aspects. Some limited bat roost potential between the timber purlins and the roofing sheets	Negligible / Low	ND0158568986
236	Building	Traditional stone-built barn with a corrugated asbestos roof.	Deep crevices in the stonework, gaps at the wallheads, crevices between the asbestos ridge and corrugated asbestos roof	Moderate	ND0158468963
237	Building	Stone and concrete block barns with pitched corrugated asbestos roofs. Unrestricted flight access into the building via missing asbestos ridges and an open barn door to the north-east.	Deep crevices in the stonework, in particular within the east most barn, gaps at the wallheads beneath roofing sheets, crevices between the asbestos ridge and corrugated asbestos roof, where the ridge is still present.	Moderate	ND0159568957
238	Building	Large agricultural barn with a steel frame, concrete gable walls with a small section of corrugated cement at the south-east gable, and a corrugated cement fibre roof.	Some limited bat roost potential between the timber purlins and the roofing sheets, in areas of overlapping roofing sheets, in particular at the ridge and gables.	Low	ND0158568941
239	Building	Large agricultural barn with concrete supports, concrete walls to c 1.5 m with corrugated cement	Some limited bat roost potential between the concrete rafters / timber purlins and the roofing sheets, areas of	Negligible / Low	ND0157568914

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		fibre above, and a corrugated cement fibre roof. Unrestricted flight access via open barn door of building to the north-east.	overlapping roofing sheets, in particular at the ridge and gables.		
240	Building	Large agricultural barn with a steel frame, corrugated metal walls and a corrugated cement fibre roof. The remains of a stone barn are present along the north-west aspect with a stone wall to c. 2 m.	Deep crevices in the stonework of the wall to the north-west, crevices between the asbestos ridge and corrugated asbestos roof, some limited potential between the timber purlins and the roofing sheets above.	Low / Moderate	ND0156468920
241	Building	Large agricultural barn with a steel frame, concrete and corrugated cement fibre walls and a corrugated cement fibre roof.	Some limited bat roost potential between the timber purlins and the roofing sheets, and in areas of overlapping roofing sheets; in particular at the ridge and gables. Possible roosting opportunities along the walls where the corrugated sheets overlap the concrete walls.	Low	ND0156368954
242	Building	Single storey stone-built cottage with a multi pitched slate roof with concrete ridge tiles, double glazed windows and timber fascia.	Gaps beneath lifted slates, areas of degraded mortar beneath ridge, large areas of damaged stonework around the windows, gaps between the timber fascia and the walls, gaps at the eaves.	High	ND0167468845
243	Building	Small stone built shed with a single pitched concrete roof.	Deep crevices in the stone walls, gaps between the timber window frames and the surrounding stonework, gaps between the walls and the concrete roof.	Low	ND0166068849
244	Building	Dilapidated concrete block agricultural building with a pitched corrugated asbestos roof. Unrestricted flight access via unglazed windows, open doorways and large holes in the roof where roofing sheets are missing.	Exposed cavity between the concrete block, accessible around the windows, some limited opportunities at the wallheads, just beneath the corrugated roofing sheets	Low	ND0204968636

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245	Building	Harled residential dwelling with pitched slate roof and concrete ridge tiles. Harling is in a good state of repair. Windows and doors are tightly fitted.	Some small gaps beneath lifted slates; in particular around the skylight, chimneys and gables, gaps at the exposed slate edge, areas of degraded mortar beneath ridge. Otherwise, tightly fitted.	Moderate	ND0241568574
246	Building	Harled residential dwelling with pitched concrete tiled roof, timber fascia and windows. Harling in a good state of repair. Windows and doors are tightly fitted. Dry verge and ridge system.	Gap between the ridge and tiles at the top and along the valley to the front and rear of the property. Roof is otherwise tightly fitted. Possible gaps beneath ridge and holes in the dry verge system at the bottom.	Moderate	ND0243068612
247	Building	Electricity substation building with harled walls, a pitched concrete tiled roof and wood effect uPVC soffits.	Areas of degraded mortar at the exposed tile edge and a couple of slightly lifted tiles. Soffits appear tightly sealed to the harled walls.	Low / Moderate	ND0262169136
248	Building	Harled residential dwelling with pitched slate roof with zinc ridging, uPVC fascia and windows. Harling appears to be in a good state of repair. Windows and doors are tightly fitted.	Gaps at the eaves, shallow gaps between the fascia and the harled walls, areas of lifted zinc ridging, gaps beneath the slates and ridging at the valleys, lifted, slipped and missing slates, particularly around the chimney.	Moderate / High	ND0264469094
249	Building	Corrugated metal quintet hut with a timber frame.	Negligible	Negligible	ND0266369103
250	Building	Dilapidated series of interconnecting farm buildings with concrete walls and pitched corrugated asbestos roofs. Unrestricted flight access via large areas of missing roofing sheets and open barn doors.	Crevices within the concrete block walls around the doorways, gaps at the wallheads beneath roofing sheets, gaps between the edge flashing and the harled walls, overlapping roofing sheets at the ridge.	Low / Moderate	ND0265969125
251	Building	Dilapidated farm building with a walled area to the south. Walls of building and boundary wall c. 2 m in height, extending to c. 4 m at the remaining eastern	Deep crevices within the stone walls, gaps between the remaining timber window frames and the surrounding stonework.	Low / Moderate	ND0278668794

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		gable. Only a very small area of corrugated metal remaining at the eastern gable. No roof otherwise.			
252	Building	Dilapidated farm building with the remains of a corrugated metal roof. Unrestricted flight access via holes in the roof, damaged or unglazed windows, open doors etc.	Deep crevices within the stone walls both internally and externally, gaps between the remaining timber window frames and the surrounding stonework, chimneys.	Low / Moderate	ND0269268819
253	Building	Series of interconnecting traditional stone built agricultural buildings with pitched flagstone roofs and clay ridge tiles. While some of the walls have been repointed, many of the walls have deep crevices extending into the stonework.	Deep crevices within stone walls and in the lintels of the windows and doors. Exposed timber rafters and sarking, gaps at the wallheads, crevices between the flagstones and the internal sarking, gaps beneath and between the ridge tiles	High	ND0300668494
254	Building	Large modern agricultural barn. Concrete walls with corrugated metal above, shallow pitched corrugated metal roof.	Some limited potential in small areas of overlap between corrugated metal and concrete block walls,	Negligible / Low	ND0296168496
255	Building	Modern agricultural barn. Concrete walls with corrugated metal above, shallow pitched corrugated metal roof.	Some bat roost potential between overlapping roofing sheets and the concrete block walls.	Low	ND0293768503
256	Building	Large agricultural barn. Concrete walls with corrugated cement fibre above at the gables, shallow pitched corrugated cement fibre roof.	Some limited bat roost potential between overlapping roofing sheets, in particular at the ridge and gables.	Negligible / Low	ND0294268516
257	Building	Modern agricultural shelter. Steel and timber framed with a corrugated metal roof and corrugated metal gables. Side walls open to the east and abuts the neighbouring barn to the west.	Some very limited transients between timber purlins and roof.	Negligible	ND0294668529

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
258	Building	Farmhouse with harled walls, a pitched slate roof, clay ridge tiles and tightly fitted uPVC windows and doors. A flat roofed extension is present to the west.	Lifted slates, in particular around the base of the chimneys, hanging slates on the dormers, gaps at the eaves, shallow gaps between the uPVC fascia boards and the harled walls on the flat roofed extension.	High	ND0301768521
259	Building	Lean to shelter with a corrugated cement fibre roof and timber slat walls.	Limited suitability within the roof structure for PRF's and is open and exposed to the external environment, reducing the suitability for roosting bats.	Negligible	ND0292968495
260	Building	Small stone-built cottage with timber framed windows and doors, metal framed skylights, a stone chimney and a pitched flagstone roof. There appears to be a ceiling above the first floor, forming a separate roof void.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking.	High	ND0363668642
261	Building	L- shaped, single storey residential dwelling with stone walls, a multi pitched slate roof and clay ridge tiles, tightly fitted double glazed windows and doors.	Gaps beneath lifted slates, areas of degraded mortar beneath ridge, gaps at the eaves, lifted and damaged slates, particularly around the skylights and at the base of the chimneys.	High	ND0366468609
262	Building	Stone built barn with adjoining outbuilding. Timber framed windows and doors, a stone chimney and a pitched flagstone roof above the north-east portion and a corrugated asbestos roof with holes to the south-west. No sarking beneath the corrugated roofing sheets.	Lifted / missing flagstones, degraded mortar beneath ridge and at exposed tile edge. Deep crevices in stone walls due to degraded mortar, gaps at wallheads, crevices between timber door / window frames and the surrounding stonework. Crevice above sarking.	Moderate / High	ND0363168673
263	Building	Dilapidated farm building. Walls of building c. 2 m in height, extending to c. 4 m at the gables.	Deep crevices within the stone walls, gaps in the lintels.	Low / Moderate	ND0355868213

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		Unrestricted flight access into building from above (no roof present) and via open doors and windows.			
264	Building	Converted mill? Large stone, three storey building with a pitched, hipped ended, flagstone roof, metal framed skylights and clay ridge tiles. Two storey building attached to the E with dormer windows, flagstone roof and stone chimneys.	Ridge tiles missing at south-east hipped end, providing potential ingress opportunities beneath the slates along this edge, gaps at the wallheads, areas of degraded mortar beneath the ridge tiles, gaps beneath flagstones.	High	ND0368968698
265	Bridge	A dual arched spandrel stone bridge.	A few deep crevices in the stone abutments where mortar has degraded. Detailed inspection of the barrels not possible, but they appeared to be well pointed when viewed from the riverbanks. Shallow crevices within the mortar of the bridge facades.	Low / Moderate	ND0372268660
266	Building	Renovated barn. Now a residential dwelling with repointed walls, tightly fitted slate roof with clay ridge tiles, well fitted timber framed, windows.	Ridge tiles well mortared, no notable gaps at the exposed slate edge and well pointed at the eaves. Some lifted slates present.	Low / Moderate	ND0371668698
267	Building	Small stone cottage with rendered walls and a pitched slate roof with zinc ridging.	Gaps present beneath lifted zinc ridging, lifted slates, gaps at the eaves. Small roof void present above vaulted ceiling.	Moderate / High	ND0379468690
268	Building	Small stone building almost completely covered in ivy.	Crevices within stone walls. View of roof obscured by ivy	Low / Moderate	ND0367768630
269	Building	A large, rendered stone building with a multi pitched slate roof with clay ridge tiles, timber sash windows. Currently in use as a hotel	Lifted slates; in particular around the base of the chimneys, gaps beneath ridge tiles, gaps at the eaves, gaps beneath the slates and the ridges at the valleys, lifted zinc ridging at the base of the chimneys,	High	ND0359068771

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270	Building	Single storey property with a pitched concrete tiled roof with a dry ridge and verge system. Tightly fitted timber framed windows and doors and well-sealed timber soffits.	Tiles tightly fitted. Possible gaps beneath the tiles and ridge where the smaller porch area adjoined the main building to the south-west and along the valley of the pitched roofed porch area to the south-east.	Low / Moderate	ND0356268815
271	Building	Single storey property with a pitched slate roof and concrete ridge tiles. Tightly fitted timber framed windows and doors.	Roof slates tightly fitted, and joins covered in moss, preventing bat access. Possible gaps beneath ridge tiles and at the eaves, and areas of degraded mortar beneath stone copes at the gables.	Low / Moderate	ND0356868789
272	Building	Single storey property with harled walls, a pitched concrete tiled roof and clay ridge tiles. Tightly fitted double glazed windows and doors.	Roof tiles appear tightly fitted and well mortared at gables. Slightly lifted tiles at base of chimney and gaps under ridge tiles where mortar has degraded.	Moderate	ND0397168854
273	Building	Stone built farm buildings with pitched slate roofs and clay tiles. Single and two storey sections. Dormer windows with hanging slates in the two-storey portion. Unrestricted flight access via damaged windows, open barn doors etc.	Deep crevices in the stone walls, gaps at the eaves, gaps beneath the ridge tiles, lifted slates, crevices between timber door and window frames and the surrounding stonework.	High	ND0384469048
274	Building	More modern concrete and corrugated metal barn / lean to. Eastern wall abutting stone wall of barn to east.	Some limited bat roost potential in the crevice between the corrugated metal walls and the concrete walls beneath.	Negligible / Low	ND0382469061
275	Building	Stone built farm building with pitched slate roof and clay tiles, and metal framed skylights. Unrestricted flight access via damaged windows, open barn doors etc.	Deep crevices in the stone walls, gaps at the eaves, gaps beneath the ridge tiles, lifted slates, crevices between timber door and window frames and the surrounding stonework.	High	ND0383269068

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
276	Building	More modern concrete and corrugated metal barn with a shallow pitched cement fibre roof. Southern wall abutting stone wall of barn to E. Timber slats from c 3.5 m above ground on both gables. Concrete block walls beneath.	Limited suitability in areas of overlapping roofing sheets at the ridge and eaves, and in crevices between the timber purlins and the roofing sheets.	Negligible / Low	ND0385869087
277	Building	More modern concrete and corrugated metal barn with a shallow pitched cement fibre roof.	Limited suitability in areas of overlapping roofing sheets at the ridge and eaves, and in crevices between the timber purlins and the roofing sheets.	Negligible	ND0380369051
278	Building	Small stone storage shed with a single pitched flagstone roof. Timber sarking within.	Deep crevices in the stone walls, gaps at the eaves leading into crevices at the wallheads, lifted flagstones, crevices between timber door and window frames and the surrounding stonework.	Moderate	ND0387469085
279	Building	Two adjoining traditional stone-built barns. Eastern portion with a pitched slate roof and western portion with a corrugated asbestos roof. Unrestricted flight access via damaged windows and open doors. Sarking present within building to east.	Deep crevices in the stone walls, gaps at the eaves leading into crevices at the wallheads, lifted/ missing slates, lifted lead flashing at ridge, gaps beneath remaining clay ridge tiles, gaps beneath stone copes, gaps under asbestos ridge.	Moderate / High	ND0385469079
280	Building	Part concrete block, part stone wall barn with a corrugated asbestos roof. Unrestricted flight access via holes in the roof and open doors. No internal sarking.	Gaps at eaves, crevices in remaining stone walls, exposed timber rafters, gaps between areas of overlapping corrugated asbestos, particularly at the ridge.	Low / Moderate	ND0385069071
281	Building	Moderate agricultural barns with concrete walls to c 1.75 m along the walls and c. 3 m at the gables. Corrugated cement fibre above walls and timber	Some limited bat roost potential between overlapping roofing sheets at the ridge and gables, crevices between the edge flashing and the timber slats, areas where the corrugated sheets overlap the concrete walls.	Low	ND0384869055

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		slats above concrete walls at gables. Shallow pitched corrugated cement fibre roof.			
282	Building	Harled bungalow with hipped ended slate roof with concrete ridge tiles. Tightly fitted uPVC fascia and windows. Harling appears to be in a good state of repair.	Possible gaps at the eaves, numerous gaps beneath ridge tiles where mortar has degraded, gaps beneath tiles and ridges at valleys.	High	ND0391669079
283	Building	Bungalow with concrete panel walls and a hipped ended concrete tiled roof with concrete ridge tiles. Asbestos soffits and timber fascia appear tightly fitted and no gaps noted around the timber framed windows.	Areas of degraded mortar beneath the ridge tiles, lifted roof tiles and missing roof tiles.	Moderate / High	ND0384868960
284	Building	One of a series of dilapidated chalet buildings. This one as timber clad walls and moss covered concrete tiled roof with a dry verge.	Areas of lifted timber cladding, gaps in the timber soffits, gaps beneath the tiles at the eaves.	Moderate	ND0376768948
285	Building	Demolished. Only the lower three courses of concrete block remaining.	No suitable features remain from the demolished building. The remaining concrete blocks do not provide any suitability for bat roosting behaviour.	Negligible	ND0377968939
286	Building	One of a series of dilapidated chalet buildings. This one has lost much of its timber cladding, exposing the cavity. Large hole in the east gable. Corrugated asbestos roof.	Gaps between the ridge and the corrugated asbestos roofing sheets, damaged external cladding providing potential access to the cavity between this, and the cement fibre walls within.	Low	ND0377068929
287	Building	One of a series of dilapidated chalet buildings. This one has a more modern extension to the west. Harled walls with a pitched corrugated cement fibre	Open windows, gaps at eaves, areas of overlapping roofing sheets, particularly at the ridge, hole in soffits	Low / Moderate	ND0375968917

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		roof to the east and a concrete tiled roof with dry verge to the west.			
288	Building	One of a series of chalet buildings. Relatively new timber-built chalet with a pitched concrete tiled roof and a dry verge.	No gaps noted between soffits and walls. Roof tiles generally tightly fitted. One or two slightly lifted at the gables.	Negligible / Low	ND0375068903
289	Building	Dilapidated stone building abutting a c. 3 m stone wall.	No roof present. Crevices in stone walls and in remaining lintel's, crevices within stonework of adjoining wall.	Low / Moderate	ND0381468879
290	Building	No access into walled area to look at building	No access to the building, as such, no roost potential description could be provided.	No visual access	ND0386768858
291	Building	No access into walled area to look at building	No access to the building, as such, no roost potential description could be provided.	No visual access	ND0381868867
292	Building	Harled residential dwelling with pitched concrete tiled roof and uPVC windows. Harling appears to be in a good state of repair. Windows and doors are tightly fitted. Dry verge and ridge system	Tiles generally tightly fitted. May be gaps present beneath the gutters at the eaves. Possible gaps beneath the ridge	Low / Moderate	ND0384368998
293	Building	Traditional stone building with a pitched flagstone roof and a metal framed skylight. Unrestricted flight access via damaged skylights and ventilation holes in the wall.	Deep crevices within stone walls. Exposed timber rafters and sarking, gaps at the wallheads, crevices between the flagstones and the internal sarking.	Moderate / High	ND0384168990
294	Building	Traditional stone building. Eastern portion being renovated. Pitched slate roof and new Velux skylights to the east with tightly fitted clay tiles to rear. Currently no eastern gable wall. Western	Gaps between slates and sarking, gaps at the eaves, gaps beneath ridge tiles, gaps beneath hanging slates.	Moderate	ND0383068990

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		portion lived in. Dormer windows with hanging slates.	Suitability predominantly in western half due to works taking place in the eastern portion of the building.		
295	Building	Traditional stone building with a pitched flagstone roof and timber framed windows and doors. Unrestricted flight access via damaged windows to front. Dormer window to rear. Harled stone chimneys.	Deep crevices within stone walls. Exposed timber rafters and sarking, gaps at the wallheads, crevices between the flagstones and the internal sarking, gaps between timber door and window frames and the surrounding stonework.	Moderate / High	ND0382369007
296	Building	Traditional stone building with a pitched flagstone roof and timber framed windows and doors. Unrestricted flight access via open barn doors.	Deep crevices within stone walls. Exposed timber rafters and sarking, gaps at the wallheads, crevices between the flagstones and the internal sarking, gaps in the timber lintels and between the lintels and the surrounding stonework.	Moderate / High	ND0383469017
297	Building	Harled bungalow with pitched concrete tiled roof, and tightly fitted windows and doors. Harling appears to be in a good state of repair. Dry verge and ridge system.	Limited suitability for roosting bats due to dry ridge and verge system and tightly fitted concrete tiles.	Low / Moderate	ND0379269150
298	Building	Stone farm steading with courtyard area at the centre. Buildings of stone construction with a mix of pitched flagstone, slate, or corrugated cement fibre roofs. Timber framed windows and doors with crevices present between the frames and the walls.	Deep crevices within stone walls and in the lintels. Exposed timber rafters and sarking, gaps at the wallheads, crevices between the roofing sheets, slates or flagstones and the internal sarking, degraded mortar beneath ridge tiles.	Moderate / High	ND0384365736
299	Building	Steel framed, open sided agricultural shelter with corrugated cement fibre roof and walls from c. 2 m above ground.	Limited potential between overlapping roofing sheets, particularly at the eaves and ridge.	Negligible / Low	ND0385965718

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
300	Building	Harled residential dwelling with pitched, hipped ended slate roof with ridge tiles, uPVC windows and doors. Harling appears to be in a good state of repair. Windows and doors are tightly fitted.	Likely gaps at the eaves, lifted and missing slates and gaps beneath ridge tiles.	High	ND0385465803
301	Building	Harled residential dwelling with pitched slate roof with ridge tiles, uPVC windows and doors. Harling appears to be in a good state of repair. Windows and doors are tightly fitted.	Likely gaps at the eaves, lifted slates, in particular beneath the chimney. Slates generally tightly fitted. Some potential gaps beneath the slates at the exposed slate edge and gaps beneath ridge tiles; especially at the top of the valley.	Moderate / High	ND0387565745
302	Building	Single pitched harled building with a corrugated metal roof.	Some potential gaps between the metal edge flashing and the harled walls.	Low	ND0385265748
303	Building	Harled residential dwelling with pitched concrete tiled roof with dry ridge and verge system, tightly fitted windows and doors. Harling appears to be in a good state of repair. Timber soffits well sealed to harled walls.	Possible gaps at the eaves, gaps between tiles and ridge along the valley between two roof sections and at the base of the chimneys.	Moderate	ND0495767249
304	Building	Harled detached garage with pitched concrete tiled roof with dry ridge and verge system, tightly fitted windows and doors. Harling appears to be in a good state of repair. Tightly fitted timber soffits.	Appears tightly fitted. Possible gaps at the eaves.	Low	ND0496567262
305	Building	Harled residential dwelling with pitched concrete tiled roof with dry ridge and verge system, tightly fitted windows and doors. Damaged harling to the south-west, but no lifted sections which could support roosting bats.	Timber soffits well sealed to harled walls. Wood effect uPVC windows, doors and soffits / fascia. Possible gaps at the eaves, gaps between tiles and ridge along the valleys between roof sections.	Moderate	ND0467068039

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
306	Building	Modern agricultural barn with harled concrete walls to c 1.75 m and corrugated metal walls above. A pitched corrugated cement fibre roof.	Limited bat roost potential between areas of overlapping roofing sheets, in particular above the gable and along the ridge. Some potential in the crevice formed where the corrugated metal overlaps the harled walls.	Low	ND0465068017
307	Building	Modern agricultural barn with concrete block walls and corrugated metal walls above. A pitched corrugated cement fibre roof.	Large gap between concrete and metal walls, unsuitable for roosting bats. Some limited potential in the roof between areas of overlapping roofing sheets, in particular at the gables and along the ridge.	Negligible / Low	ND0467967997
308	Building	Harled residential dwelling with pitched slate roof and concrete ridge tiles, tightly fitted uPVC windows and doors. Damaged harling on small flat roofed garage extension to the south-east, but no lifted sections which could support roosting bats.	Gaps beneath ridge tiles, lifted and damaged slates; in particular at the base of the chimney sand around the valleys, gaps at the exposed slate edge, hanging slates on dormers, possible gaps at the eaves.	Moderate / High	ND0440168492
309	Building	Five adjoining agricultural barns. The four south most barns have harled or exposed concrete block walls, while the north most barn is largely of corrugated metal and cement fibre with concrete walls to a maximum of c. 1.75 m. Roofs corrugated metal or cement.	Crevices between the walls and the edge flashing, in particular at the eaves of the concrete walled barns, areas of overlapping roofing sheets, in particular at the ridge and gables, occasional cracks in the concrete block walls, particularly in south-west gable.	Low / Moderate	ND0441368459
310	Building	Modern agricultural barn with concrete block walls to c. 1 m and corrugated metal walls above. Corrugated cement fibre roof. Flat roofed concrete block section to the south-east with a corrugated metal roof. Degraded mortar in walls and gaps around purlins.	Limited bat roost potential between areas of overlapping roofing sheets, in particular above the gable and along the ridge. Crevice where corrugated metal overlaps the concrete walls, and between the edge flashing and concrete block walls of the extension.	Negligible / Low	ND0443168489

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
311	Building	Corrugated metal shelter, open sided to the SW, large open barn door and concrete panels to the north-east, corrugated metal walls to the south-east and abuts the neighbouring barns to the north-west.	Some very limited bat roost potential in crevices between the concrete slabs and between the timber purlins and the roofing sheets.	Negligible / Low	ND0441768439
312	Building	Corrugated metal barn with a corrugated cement fibre roof- new this year.	Some very limited bat roost potential in crevices between the overlapping roofing sheets at the ridge.	Negligible / Low	ND0389468676
313	Building	New build residential property with a pitched, synthetic slate tiled roof, wood effect uPVC soffits and double-glazed windows and doors and rendered walls.	Potential gaps beneath the synthetic slates along the valleys where the roofs meet. Otherwise, tightly fitted with soffits sealed to the harled walls with mastic, tightly fitted synthetic slates, dry ridge and verge system.	Low	ND0411168580
314	Building	Moderate agricultural barn with concrete walls to c. 1 m and corrugated metal walls above. Corrugated cement fibre roof.	Some very limited bat roost potential in crevices between the overlapping roofing sheets at the ridge and gables and in crevices between the corrugated metal and the concrete walls.	Negligible / Low	ND0413268604
315	Building	Concrete bungalow with harled walls, a pitched concrete tiled roof, concrete ridge tiles, timber fascia and timber framed windows.	Areas of lifted concrete tiles noted, degraded mortar beneath ridge tiles, possible gaps at the eaves and a gap between one of the timber window frames and the surrounding walls.	Moderate	ND0438368520
316	Building	Concrete bungalow with harled walls, a pitched concrete tiled roof, dry verge and ridge system, uPVC windows and doors and soffits. Soffits well sealed to the walls with mastic, tightly fitted windows and doors.	Potential gaps beneath the concrete tiles along the valleys where the roofs meet. Otherwise, tightly fitted with soffits sealed to the harled walls with mastic, tightly fitted tiles, dry ridge and verge system.	Moderate	ND0430068323

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
317	Building	Harled kennels building with a shallow, single pitched corrugated metal roof.	Gaps between the metal edge flashing and the harled walls. Otherwise, tightly fitted and in good condition.	Low	ND0430368302
318	Building	Two storey harled stone property with a pitched slate roof, ridge tiles, harled chimneys and uPVC windows and doors. A single timber framed window present to the south.	Lifted and missing slates, gaps beneath the slates at the exposed slate edge, areas of degraded mortar beneath the ridge tiles, possible gaps at the eaves.	High	ND0436968313
319	Building	Small single storey garage with an adjoining 'granny annex'. Shallow single pitched roof, harled walls, tightly fitted double glazed windows and doors.	Gaps between the metal edge flashing and the harled walls. Otherwise, tightly fitted and in good condition. Building appears new.	Low	ND0435268321
320	Building	Harled, two storey terrace housing with pitched, hipped ended concrete tiled roof, tightly fitted wood effect uPVC windows and doors. No cracks or areas of lifted harling noted.	Roof tiles well fitted in general, although slightly lifted at the wallheads. One or two small areas of degraded mortar noted beneath the ridge tiles and possible gaps in the mortar beneath ridge tiles at the base of the hipped ends.	Moderate	ND0461968972
321	Building	Stone built, two storey residential property with a multi pitched slate roof with zinc ridging, dormer windows to the front and a metal framed skylight to the rear. Timber soffits tightly sealed to walls, well fitted windows and doors.	Lifted and missing slates; in particular at the base of the chimneys and around the skylight, gaps beneath zinc along the ridge and hipped ends.	High	ND0465068977
322	Building	Harled, two storey terrace housing with pitched, concrete tiled roof, tightly fitted wood effect uPVC windows and doors. No cracks or areas of lifted harling noted. Exposed tile edge well mortared.	Roof tiles well fitted in general, although slightly lifted at the wallheads. One or two small areas of degraded mortar noted beneath the ridge tiles and possible gaps at the eaves above the gutters.	Low / Moderate	ND0464269000

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
323	Building	Concrete and timber detached garages. Other small built structures (Corrugated metal garage and timber shed with corrugated metal roof) in vicinity.	Gaps between the edge flashing and the concrete or timber clad walls.	Low	ND0461969006
324	Building	Harled, single storey house with pitched, concrete tiled roof, tightly fitted uPVC soffits, windows, and doors. No cracks or areas of lifted harling noted. Roof tiles well fitted in general, although slightly lifted at the wallheads.	Several areas of degraded mortar noted beneath the ridge tiles and gaps beneath the roof tiles along the valley.	Moderate	ND0463568937
325	Building	Harled, single storey building with pitched, concrete tiled roof, tightly fitted uPVC fascia, windows and doors. No cracks or areas of lifted harling noted. Roof tiles generally tightly fitted and mortar intact at gable ends.	Roof tiles well fitted in general, although slightly lifted at the wallheads and gaps present either side of the valley where the two roof sections meet. One or two potential gaps beneath the ridge tiles.	Moderate	ND0467368946
326	Building	Concrete block workshop building with a shallow pitched cement fibre roof. Small area of stone wall incorporated into the concrete block walls.	Limited bat roost potential between overlapping roofing sheets at the ridge and gables, and crevices between the edge flashing and the concrete walls.	Low	ND0469368934
327	Building	Harled, two storey houses with pitched, slate roof, tightly fitted uPVC windows and doors. No cracks or areas of lifted harling noted. Roof slates well fitted in general, although slightly lifted around the chimneys and at the stone copes.	Lifted slates, areas of degraded mortar beneath the ridge tiles, gaps at the eaves beneath the gutters and hanging slates on the dormers within the north aspect of the roof.	Moderate / High	ND0447468883
328	Building	Dilapidated stone barn. No roof above the eastern portion of the building. Corrugated cement fibre roofing sheets above W portion. Roof in a poor state	Gaps between door frames and surrounding stonework, and in lintels, crevices within stone walls, crevices between the timber purlins and the corrugated roofing	Low / Moderate	ND0448568867

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		of repair with several holes. Timber framed doors present within west half.	sheets above. Concrete block extension to north with gaps beneath edge flashing and timber fascia.		
329	Building	Small harled building with a pitched slate roof and concrete ridge tiles. Harling in good condition and timber soffits tightly sealed to walls. Tightly fitted metal framed windows.	Slipped, lifted and missing slates, gaps beneath ridge tiles where mortar has degraded, gaps beneath the slates at the gables.	Moderate	ND0422368821
330	Building	Harled, two storey houses with pitched, slate roof, tightly fitted uPVC windows and doors. No cracks or areas of lifted harling noted. Roof slates lifted around the chimneys and at the stone copes. Damaged and missing slates also noted.	Lifted slates, areas of degraded mortar beneath the ridge tiles, gaps at the eaves beneath the gutters, missing gutter at front of property providing easy access to gap at wallheads, hanging slates on the dormers within the south-west aspect of the roof.	High	ND0431468623
331	Building	Harled and rendered concrete block and stone barns with corrugated cement fibre roofs.	Gaps in the stonework of the north-east wall of the north most barn, gaps at the wallheads beneath the roofing sheets, gaps between overlapping roofing sheets, in particular at the ridge and gables, gaps between edge flashing and the walls.	Moderate	ND0429368645
332	Building	Harled concrete block and stone barns with corrugated cement fibre roofs. Unrestricted flight access via open barn doorways. No internal sarking.	Gaps at the wallheads beneath the roofing sheets, gaps between overlapping roofing sheets, in particular at the ridge and gables, gaps between edge flashing and the gable walls. Crevices in remaining stone walls.	Low / Moderate	ND0383769030
333	Building	Relatively new residential property with harled walls, wood effect uPVC soffits, windows and doors, ridge and verge system. Soffits tightly sealed to surrounding walls	Gaps beneath the ridge tiles above the porch, gaps beneath the tiles along the valleys, gaps beneath concrete tiles at the wallheads.	Low / Moderate	ND0312969808

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
334	Building	Harled stone building with a hipped ended slate roof and uPVC framed windows and doors. Roof generally tightly fitted with no areas of degraded mortar beneath the ridge tiles noted.	Slates similarly well fitted with the exception of a small number at the base of the chimneys. Possible gaps at the eaves.	Moderate	ND0321669902
335	Building	Harled concrete block barn with a dual pitched corrugated cement fibre roof and concrete copes at the gables.	Limited suitability for roosting bats in areas of overlapping roofing sheets, in particular at the ridge. Gaps at the wallheads beneath the roofing sheets.	Moderate	ND0317769952
336	Building	Small harled concrete shed with a corrugated metal roof. Unrestricted flight access via an unglazed window and an open doorway.	Gaps at the eaves and gable wallheads beneath the metal roofing sheets.	Low	ND0292969629
337	Bridge	Simple timber bridge on steel H-beam supports and concrete pillars.	Negligible.	Negligible	ND0293669844
338	Building	Large dilapidated, two storey, stone building with the remains of a flagstone roof. Windows blocked with concrete block walls.	Deep crevices in the stone walls, gaps beneath remaining flagstones and clay ridge tiles, gaps around the stone lintels, gaps between the concrete block walls and the stone window surrounds. Gaps between the flagstones and the gable wallheads.	Moderate / High	ND0289569903
339	Building	Stone dwelling on the coast. Pitched flagstone roof with clay ridge tiles, uPVC windows and doors. Stone copes at gables. Small flat roofed extension with uPVC fascia boards.	Lifted and missing flagstones, gaps at the wallheads, crevice between uPVC fascia and stone walls, gaps beneath ridge tiles.	Moderate / High	ND0298269998
340	Building	Stone outbuilding with pitched flagstone roof and clay ridge tiles. Harled to north, east and south, with one small area of exposed stonework to the west.	Lifted and missing flagstones, gaps at the wallheads, deep crevices in the stone walls, gaps beneath ridge tiles.	Moderate	ND0298769979

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
341	Building	Stone dwelling on the coast. Pitched flagstone roof with clay ridge tiles, tightly fitted windows and doors. Stone copes at gables. Small adjoining outbuilding to east with corrugated metal roof.	Lifted and damaged flagstones, possible gaps at the wallheads, deep crevices in the stone walls; in particular within the outbuilding, gaps beneath ridge tiles.	Moderate / High	ND0311369869
342	Building	The remains of a stone bothy. Walls a maximum of 2 m in height, most reduced to rubble. Approximately 4 m wide x 10 m long.	Deep crevices within remaining stone walls.	Low / Moderate	ND0275269978
343	Building	Large timber shed behind stone building with corrugated cement fibre roof. Timber framed windows to the north	Areas of lifted timber cladding and overlapping corrugated roofing sheets at the ridge.	Low	ND0298270003
344	Building	Site offices – a single storey structure with plastic-coated metal walls, metal framed windows and a hipped-ended corrugated asbestos roof.	Gaps between the metal ridging and the roof sheets and beneath the corrugations of the roof, just above the plastic guttering. The gaps at the eaves are unlikely to be suitable for bats due to lack of access, and they appear to be blocked with foam further in. The soffits are well sealed around the porch area to the south-east.	Low	ND1402659758
345	Building	Brick-built structure with a pitched corrugated asbestos roof.	Areas of overlap noted between the asbestos edge flashing and the corrugated asbestos gable wall to the west, and the brick wall to the east, and possible gaps beneath the asbestos ridging. Timber door frame in the south-western gable with no notable gaps between the frame and the surrounding brickwork. Occasional missing brick and areas of degraded mortar, the majority of which are relatively shallow and don't appear to extend into the cavity. Gap between the timber	Moderate	ND1403459737

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			fascia boarding and the brickwork. Well-sealed uPVC windows.		
346	Building	Small storage, water supply and electrical units along the eastern compound boundary.	These structures were all tightly sealed, providing no ingress or roosting opportunities for bats.	Negligible	ND1405159726
347	Building	A building with harled brick walls to c. 1 m above ground, with corrugated metal above and a pitched corrugated metal roof. Tightly fitted uPVC framed, double-glazed windows are present.	A gap was noted between the edge flashing and the gable. Closer inspection revealed that this was filled with foam and well-sealed. A potential access point is present in the south-eastern gable where the timber frame of a vent has degraded. Potential ingress opportunities were also noted along the eastern and western wallheads and small gaps are present between the ridge and the corrugated roof. Gaps were also noted between the corrugated metal and harled concrete portions of the walls; however, these were generally considered to be too narrow for use by bats.	Low	ND1399759742
348	Building	Stone-built farm building with a flagstone roof adjoined to a hay barn at the south-western gable. White splashing on the beams. The hay barn has metal supports fashioned from recycled lamp posts and timber rafters overlaid with corrugated metal sheets.	The stone-built farmhouse has a number of potential bat roost features including crevices in the stonework, gaps at the wallhead, crevices between overlapping flagstones, gaps beneath the ridge tiles, crevices in the stone lintels and large gaps around the unsecured doors. Gaps were also noted between the timber window frames and the surrounding stonework. Unrestricted flight access possible via a hole in the roof and open doorways. The building is currently used for the storage of hay bales.	Moderate / High	ND1454258801

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
349	Building	Residential dwelling with a double garage, a pitched concrete-tiled roof, uPVC double glazed windows and deep timber soffits (some of which are covered in uPVC). Timber-clad second storey with deep soffits and tightly fitted windows. Harling in a good state of repair.	Dry verge tightly fitted tiles and soffits offer limited suitability for bats. However, gaps may be present beneath the ridge, providing bats with potential access into the roof void and/or the crevice between the external tiles and the internal sarking.	Low / Moderate	ND0254868451
350	Building	A small stone barn with a sliding barn door in the eastern aspect. Timber framed windows and doors with gaps between the frames and the surrounding stonework. Deep crevices in the stone walls where there are areas of degraded mortar, and gaps at the wallheads.	A pitched flagstone roof with gaps between the flagstones; in particular around the metal-framed skylights, and areas of degraded mortar beneath the ridges. A boarded window is present within the eastern gable. The boarding overlaps the stone walls, providing potential roosting opportunities for crevice dwelling bats.	High	ND0246868486
351	Building	Two adjoining stone-built structures with pitched flagstone roofs, clay ridge tiles and timber-framed windows and doors.	Potential roosting and ingress opportunities include gaps between the flagstones, damaged glazed windows, gaps at the wallheads, deep crevices within the stone walls and areas of degraded mortar beneath the ridge.	High	ND0249368495
352	Building	A complex of stone-built adjoining farm buildings with pitched flagstone roof and metal skylights.	Unrestricted flight access for bats possible via damaged skylights and open doorways. Roosting opportunities include gaps between the flagstones, gaps at the wallheads, deep crevices within the stone walls and areas of degraded mortar beneath the ridge.	Moderate / High	ND0248168526
353	Building	Dilapidated buildings to the east of TN 352. No roofs present.	Deep crevices present within the thick stone walls leading into the rubble-filled cavities. Access to the cavity also present at the exposed wall heads due to the lack of a roof or coping stones. Gaps within the window	Moderate	ND0251768503

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			and door lintels, and gaps between the remaining timbers and the adjacent stone walls.		

Appendix 3: Bat Survey Results: Woodland, Trees, and Rock Face Target Notes

Table A3.1: Bat Survey Results: Woodland, Trees, and Rock Face Target Notes (TN).

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
1	Woodland	Sitka spruce plantation woodland strip. Narrow strip of planted Sitka spruce with occasional young sycamore and larch, in particular to west half of strip. Trees max c. 0.3 m diameter at breast height (dbh), majority smaller and a significant percentage (c. 20 %) windblown or dead.	Within the dead and windblown trees there are limited areas of lifted bark and some splits in the deadwood that could support one or two roosting bats on a transient basis. No significant features identified.	Negligible to Low	ND1550555736
2	Woodland	Young mixed woodland strip. Species including crack willow, alder, rowan, spruce and larch. Trees young. Maximum c. 4 m in height. Recently planted. Surrounded by deer fencing.	Trees young to semi mature with no bat roost features identified.	Negligible	ND1546655768
3	Woodland	Young planted mixed woodland around outside of Sitka dominated woodland. Tree species including ash (showing signs of dieback), sycamore, rowan, Scots pine, hazel, Sitka, broom, Japanese rose, dog rose, hawthorn around outer edge of woodland.	Young trees with no notable bat roost feature observed during site walk over.	Negligible to Low	ND1474655405
4	Other	Hedgerow comprised of hawthorn, Japanese rose, beech.	No bat roost potential, but suitable commuting feature.	Negligible	ND1510055205
5	Woodland	Mixed woodland area. Predominantly young Sitka spruce, with LF sycamore, and O elder, hawthorn and rowan around the edges, in particular around the farm buildings. Woodland	No bat roost potential noted. Trees young and densely planted.	Negligible to Low	ND1514255096

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
		dominated by dense Sitka to S and in east section.			
6	Other	Defunct hedgerow, hawthorn, Japanese rose, alder.	No bat roost potential, but suitable commuting feature providing connectivity between pockets of woodland.	Negligible	ND1509254935
7	Woodland	Mixed woodland area. Young trees comprised of Sitka spruce, sycamore, elder, hawthorn, rowan, ash (with evidence of dieback), hazel, Broom in understorey and flowering currant.	No bat roost potential noted. Trees all young. Suitable commuting and foraging habitat. Large rides within woodland area providing commuting routes as well as shelter from the elements to optimise foraging success.	Negligible to Low	ND1532254862
8	Tree(s)	Line of young Scots pine with occasional alder and Sitka.	No bat roost features but could provide some limited foraging and commuting opportunities.	Negligible	ND1557356247
9	Woodland	Dense Sitka spruce plantation with relatively young trees. Max dbh c. 0.4 m.	Trees young with no bat roost features identified.	Negligible	ND1518357230
10	Tree(s)	Line of young trees, predominately Sitka spruce with occasional rowan.	No bat roost features but could provide some limited foraging and commuting opportunities.	Negligible	ND1528257073
11	Woodland	Young broadleaved woodland with trees a maximum of approximately 7 m in height. Species including LA sycamore, frequent rowan, birch and ash.	Negligible / Low. No bat roost features noted as trees all young but could provide some foraging opportunities.	Negligible	ND1475857136
12	Tree(s)	Trees within grounds of farmhouse. Young to semi mature sycamore, malus sp. and rowan.	No bat roost feature identified but would provide some foraging opportunities for bats in the area.	Low	ND1009060468

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
13	Tree(s)	Small section of defunct hedgerow (Japanese rose, rowan, honeysuckle and snow berry) followed by line of Leyland cypress trees.	No bat roost feature identified but would provide some foraging and commuting opportunities for bats in the area.	Negligible	ND1004560532
14	Woodland	Dense Sitka spruce woodland with some small deciduous trees (rowan, sycamore, birch) around the periphery.	No notable features identified. Negligible / Low.	Negligible to Low	ND1007461949
15	Woodland	Dense Sitka spruce woodland with some small deciduous trees around the periphery.	No notable features identified. Negligible / Low Woodland edge may provide some shelter from the elements to optimise foraging success.	Negligible to Low	ND1031061004
16	Woodland	Narrow strip of young planted broadleaved woodland with species including goat willow, sycamore, and Scots pine.	No notable features identified. Negligible/ Low Woodland edge may provide some foraging. Opportunities as well as shelter from the elements to optimise foraging success.	Negligible to Low	ND0981562966
17	Woodland	Small pocket of mixed woodland with trees including sycamore, alder, rowan, larch and birch.	Due to age and size of trees, no notable bat roosting opportunities noted. Birch with fissures in trunk and snapped limbs may provide some limited roosting opportunities.	Negligible to Low	ND0951063496
18	Woodland	Woodland shelter belt planted in 1993. Sheltered area suitable for foraging and commuting bats. Spp. including ash, sycamore, beech, hawthorn, Scots pine, Sitka.	Young trees with no bat roost feature noted. May be some small features suitable for one or two bats on a transient basis.	Low	ND1037164207
19	Tree(s)	Line of planted trees, rowan and sycamore.	Young (max 4 m high) with no bat roost potential.	Negligible	ND0990264309
20	Tree(s)	Young, planted trees, elder, rowan and sycamore.	Young trees with no bat roost potential.	Negligible	ND0991064272

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
21	Woodland	Semi-mature to mature broadleaved woodland dominated by sycamore with rare English elm.	The majority of the trees are young to semi mature with no bat roost feature. However, some more mature trees close to the house have bat roost potential. All trees need detailed inspection if works are likely to occur in the immediate vicinity.	Moderate to High	ND1095163252
22	Woodland	Woodland area. Predominantly dense Sitka spruce plantation with trees including elder, Swedish whitebeam, elder and sycamore.	Trees generally relatively narrow due to dense planting. No notable features identified during a quick walk through. Negligible / Low More detailed ground-based assessment required if works are likely to impact woodland area.	Negligible to Low	ND1387460740
23	Woodland	Dense coniferous wood plantation. Trees young.	Trees young with no bat roost features identified.	Negligible	ND1367660554
24	Tree(s)	Mature ash and sycamore trees. Trees with Moderate to High bat roost potential observed. Close inspection not possible due presence of cattle and calves.	Dead trees with splits and rot holes, over mature ash with areas of rot in the trunk and a semi mature ash with splits in the deadwood where the top of the tree has failed.	Moderate to High	ND1315262060
25	Tree(s)	Six mature ash trees. Close inspection not possible due presence of cattle and calves.	Split limbs and rot holes identified.	Moderate to High	ND1307162036
26	Woodland	Group of mature rowan and sycamore trees.	Areas of deadwood and rot observed within a couple of the trees. May be other features present.	Negligible to Moderate	ND1312162094
27	Woodland	Semi-mature to mature sycamore trees. During the brief walkover, the majority of the trees appeared to be in good condition.	Some small dead limbs and overlapping limbs were noted. There were also a small number of trees with knot holes, the depths of which could not be determined from the ground.	Negligible to Low	ND1278861734

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
28	Woodland	Area of broadleaved woodland with semi mature ash, sycamore, and willow sp.	Ash with dead limbs noted. Some may form small features suitable for roosting bats, but the limbs are generally narrow and unlikely to support a roost of high conservation importance.	Negligible to Low	ND1267961676
29	Woodland	Area of broadleaved woodland with semi mature elder, rowan, sycamore and gorse.	Trees relatively young. Likely Low bat roost potential. Detailed ground-based assessment needed.	Low	ND1168363225
30	Tree(s)	Scattered trees within field. Semi mature ash and sycamore	Trees of a size and age where features could be present, Knotholes identified in the sycamore trees and rot holes and areas of deadwood seen in the ash trees.	Low to Moderate	ND1187763258
31	Tree(s)	Line of planted trees along access track. Sycamore, hawthorn, elder and beech	Young trees with no bat roost potential. They may provide some limited foraging and commuting opportunities.	Negligible	ND0831463709
32	Tree(s)	Six mature trees, one beech, one ash and four wych elm.	Trees semi-mature to mature. Ash with rot hole extending into trunk at c. 1 m north, deadwood and areas of rot noted within elm trees and failed / split limbs within beech. More detailed inspection required if likely to be affected by the onshore Project.	Low to Moderate	ND0695464757
33	Tree(s)	Line of young sycamore.	Negligible but may provide some limited foraging and commuting opportunities.	Negligible	ND0761164930
34	Tree(s)	Line of young Sitka spruce.	Negligible but may provide some limited foraging and commuting opportunities.	Negligible	ND0681964735
35	Tree(s)	Semi mature sycamore trees and one small rowan.	Shallow areas of rot noted within knot holes in three of the trees, including the rowan.	Low to Moderate	ND0636165565

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
36	Woodland	Young mixed woodland with Sitka spruce and Scots pine around the outside and young pedunculate oak and birch in the centre (northern most area only, coniferous only elsewhere).	Trees young and in good condition. No bat roost features identified, but area would provide any bats present in the vicinity with foraging opportunities.	Negligible	ND0577665264
37	Woodland	Sitka spruce.	Trees young to semi mature with no bat roost features identified.	Negligible	ND0583665138
38	Tree(s)	Semi-mature Sitka, ash, birch, sycamore.	Trees young to semi mature with no bat roost features identified.	Negligible	ND0461666234
39	Woodland	Mixed woodland with trees including willow, sycamore, oak, laburnum, rowan, horse chestnut, Sitka and ash.	Trees young to semi mature with no bat roost features identified.	Negligible to Low	ND0390865602
40	Woodland	Mixed woodland strip with trees including willow, Sitka and Scots pine.	Trees young to semi mature with no notable bat roost features noted.	Negligible	ND0387965661
41	Woodland	Semi mature broadleaved woodland dominated by sycamore with some wych elm.	Knot holes identified within the sycamore, but these did not appear to extend into areas of rot within the tree. Wych elm with dead limbs, but no areas of rot identified that could support roosting bats. Closer inspection needed if likely to be affected by the onshore Project.	Negligible to Low	ND0529266413
42	Woodland	Densely planted, young Sitka spruce with young / sapling sycamore trees scattered around the edge.	Negligible.	Negligible	ND0309768838

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
43	Woodland	Densely planted, young Sitka spruce with young / sapling sycamore trees scattered around the edge.	No detailed inspection but there are unlikely to be significant bat roost feature due to species and age of trees.	Negligible to Low	ND0316369113
44	Woodland	Densely planted, semi mature Sitka spruce with a small number of young to semi mature broadleaved trees to the north.	No detailed inspection but there are unlikely to be significant bat roost feature due to species and age of trees. Possibly some split limbs which may support individual bats on a transient basis.	Negligible to Low	ND0344469129
45	Woodland	Mature broadleaved woodland. Most mature woodland seen within the onshore study area. Tree species including crack willow and alder along the watercourse with sycamore, beech, ash and wych elm dominating the remaining woodland. Scattered Sitka spruce.	Mature tree with features including split limbs, rot holes, dead limbs with areas of rot noted. Woodland as a whole considered to be of Low to Moderate bat roost potential, but there may be High roost potential trees within. Elder in understorey.	Moderate to High	ND0379868795
46	Woodland	Area of coniferous plantation woodland with larch and Sitka. Windblown trees present.	A couple of trees with closely adpressed leading limbs and splits noted.	Negligible to Low	ND0352668663
47	Woodland	Area of coniferous plantation woodland, predominantly Sitka with occasional scattered young sycamore, larch and wych elm around the outer edges and in small clearings. Windblown trees present.	Trees largely unsuitable for roosting bats.	Negligible to Low	ND0359368929
48	Woodland	Mature broadleaved woodland. Most mature woodland seen within the onshore study area. Tree species including ash, sycamore and wych elm.	Trees of a size and age where features are likely to be present.	Low to Moderate	ND0417468997

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
49	Woodland	Mature broadleaved woodland. Most mature woodland seen within the onshore study area. Tree species including ash, sycamore and wych elm.	Trees of a size and age where features are likely to be present. A dead tree and trees with dead limbs noted.	Low to Moderate	ND0422868816
50	Woodland	Dense Sitka spruce plantation with some larch. Trees small.	No close inspection. However, trees are densely planted and are young to semi-mature and therefore less likely to have features suitable for roosting bats. Split limbs, with the potential to support individual bats on a transient basis, may be present.	Negligible to Low	ND0419867293
51	Woodland	Area of broadleaved woodland dominated by sycamore young to semi-mature.	No close inspection. However, due to size and age of trees, they are unlikely to have features suitable for use by more than one or two bats on a transient basis. The majority are likely to have no bat roost potential.	Negligible to Low	ND0426067150
52	Woodland	Sitka spruce shelter belt with occasional sycamore.	Trees young to semi-mature with no bat roost potential noted.	Negligible	ND0445668868
53	Rock face	Rock faces around the shore.	Deep crevices potentially suitable for use by roosting and hibernating bats. However, due to relatively low height of the cliffs and exposure to sea-spray, wind etc., it is considered that these features are sub-optimal for use by hibernating or roosting bats.	Negligible to Low	ND0275870031
54	Rock face	Rock faces along the shore.	Deep crevices potentially suitable for use by roosting and hibernating bats. However, due to relatively low height of the cliffs and exposure to sea-spray, wind etc., it is considered that these features are sub-optimal for use by hibernating or roosting bats.	Negligible to Low	ND0051569107

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
55	Rock face	Disused small quarry with gorse scrub and young sycamore.	Crevices within the exposed rock faces. May be deep enough to support hibernating bats. Closer inspection needed if likely to be impacted by the onshore Project.	Moderate	ND0577665264
56	Tree	A dead tree (species unknown) with pollard limbs at c. 4 m and significant rot through the centre.	Hollow trunk with internal crevices providing potential roosting opportunities for bats.	High	ND0331969175
57	Tree	Elm tree	A rot hole was noted at c. 2 m above ground on the western aspect of the trunk. Whilst no detailed inspections were undertaken, this appeared to extend into a sheltered rot hole within the trunk.	Moderate	ND1240056912
58	Tree	Mature English elm	Large rot holes extending into hollow trunk of tree. One at c. 3 m on south-west aspect second at c. 6m west.	High	ND1321558431
59	Tree	Mature sycamore	Areas of rot within snapped limb to east between c. 4 and 5 m above ground. Rot extends into sheltered pockets that could be used by roosting bats. Knot hole at c. 8 m above ground in trunk of tree. May extend into significant crevice.	High	ND1095963334
60	Tree	Mature sycamore with rot within snapped limb to north-west between c. 5 and 6 m above ground. Rot extends into sheltered pockets that could be used by roosting bats. Other features may be present in upper canopy.	Areas of rot within snapped limb to north-west between c. 5 and 6 m above ground. Rot extends into sheltered pockets that could be used by roosting bats. Other features may be present in upper canopy.	Moderate	ND1095163340
61	Tree	Dead Sitka spruce with areas of lifted and delaminated bark which could support roosting bats.	Crevices beneath lifted bark. Likely only sufficient for one or two bats on a transient basis.	Low	ND1095363344

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
62	Tree	Downy birch.	Rot hole in trunk at c. 1 m on eastern aspect. Deep enough to support a small number (<5) of roosting bats.	Moderate	ND1491458069
63	Tree	Mature ash dbh c. 1.25 m.	Rot hole at c 1.5 m on northern aspect and dead limb with areas of rot which may form crevices suitable for roosting bats at c. 3 m on western aspect. May be other features in upper canopy.	Moderate	ND1489358049
64	Tree	Dead and windblown Sitka with small areas of lifted bark which could support individual bats on a transient basis.	Lifted bark providing limited bat roost potential, likely on a transient basis.	Low	ND1488558058
65	Tree	Mature elm.	Mature tree with knot holes, the depths of which could not be determined from the ground.	Moderate	ND1492958098
66	Tree	Mature wych elm.	Mature tree with ivy cover and canker. May be features present not visible from the ground.	Moderate	ND1278161743
67	Tree(s)	A line of six mature sycamore trees along a field boundary.	Dead limbs and knot holes.	Low to Moderate	ND1183063217
68	Tree	Mature sycamore tree with knot holes in the trunk and main limbs.	Knot holes. The majority of which appear shallow, but extent cannot be determined from the ground.	Moderate	ND0368868615
69	Tree	Mature sycamore tree with knot holes in the trunk and main limbs.	Knot holes. The majority of which appear shallow, but extent cannot be determined from the ground.	Moderate	ND0368368619
70	Tree	Young Sitka spruce	Rot hole at c. 0.7 m above ground on the south-western aspect. This extends c. 30 cm into the trunk and is sheltered and large enough to support bats. Area of in-	Moderate	ND1404459792

TN ID	Feature Type	Feature Description	Roost Potential Description	Bat Roost Category	Grid Reference
			curled bark in the limbs between c. 3 to 4 m above ground. Suitable for one or two bats in summer.		

Appendix 4: Great Crested Newt HSI Results

Table A4.1: HSI calculations in detail.

Pond No.	Grid Reference	Scores for Each of the Suitability Index (SI) Factor										HSI Score [2]	HSI Category[3]	Percentage of Ponds Occupied by GCN based on HSI Category[2]	Average pH value[4]
		Geographic Location	*Pond Area*[1]	*Permanence*	*Water Quality*	*Shade*	*Waterfowl*	*Fish*	*Pond Count*	*Terrestrial Habitat*	*Macrophytes*				
1	ND0370670075	0.01	0.8	0.9	0.33	1	1	1	0.66	0.67	0.95	0.50	Below average	20% pond occupancy	6.24
2	ND037569551	0.01	-	0.9	0.67	1	0.67	0.67	0.74	1	0.5	0.47	Below average	20% pond occupancy	6.55
3	ND033569019	0.01	0.825	1	0.67	1	1	0.67	0.66	1	0.9	0.54	Below average	20% pond occupancy	7.07
4	ND01939685369	0.01	0.8	0.9	1	1	1	1	0.66	0.67	0.6	0.53	Below average	20% pond occupancy	8.42
5	ND01972968580	0.01	0.25	0.9	0.33	1	1	1	0.66	0.67	0.5	0.42	Poor	3% pond occupancy	7.91
6	ND0201468253	0.01	-	0.9	0.67	1	0.67	0.67	0.81	0.67	0.5	0.45	Poor	3% pond occupancy	8.92
7	ND0153967494	0.01	-	0.1	0.33	1	1	1	0.74	0.33	0.33	0.31	Poor	3% pond occupancy	9.66
8	ND0178967458	0.01	0.8	0.9	0.33	1	1	1	0.74	0.67	0.9	0.50	Below average	20% pond occupancy	7.21

Pond No.	Grid Reference	Scores for Each of the Suitability Index (SI) Factor										HSI Score [2]	HSI Category[3]	Percentage of Ponds Occupied by GCN based on HSI Category[2]	Average pH value[4]
		Geographic Location	*Pond Area*[1]	*Permanence*	*Water Quality*	*Shade*	*Waterfowl*	*Fish*	*Pond Count*	*Terrestrial Habitat*	*Macrophytes*				
9	ND0665566132	0.01	0.6	0.9	0.67	1	0.67	1	0.57	0.67	0.9	0.49	Poor	3% pond occupancy	7.61
10	ND0628264498	0.01	0.8	0.9	1	0.9	0.67	0.67	0.78	0.67	0.5	0.49	Poor	3% pond occupancy	8.10
11	ND0687564279	0.01	-	0.9	0.33	1	0.01	0.67	0.81	0.01	0.4	0.16	Poor	3% pond occupancy	9.01
12	ND0890864342	0.01	0.98	0.9	0.67	1	1	1	0.97	0.67	0.5	0.53	Below average	20% pond occupancy	4.58
13	ND0899363259	0.01	-	0.9	0.67	1	0.67	0.33	1	0.67	0.4	0.42	Poor	3% pond occupancy	8.71
14	ND0870463375	0.01	1	1	0.67	1	1	0.33	1	0.67	0.9	0.52	Below average	20% pond occupancy	8.05
15	ND0874863378	0.01	1	1	1	1	1	0.33	1	0.67	0.8	0.53	Below average	20% pond occupancy	8.21
16	ND0852263486	0.01	-	0.9	0.67	1	1	0.33	1	0.67	0.5	0.45	Poor	3% pond occupancy	7.41

Pond No.	Grid Reference	Scores for Each of the Suitability Index (SI) Factor										HSI Score [2]	HSI Category [3]	Percentage of Ponds Occupied by GCN based on HSI Category [2]	Average pH value [4]
		Geographic Location	*Pond Area* [1]	*Permanence*	*Water Quality*	*Shade*	*Waterfowl*	*Fish*	*Pond Count*	*Terrestrial Habitat*	*Macrophytes*				
17	ND08364563536	0.01	-	0.9	0.67	1	1	0.33	1	0.67	0.4	0.44	Poor	3% pond occupancy	9.16
18	ND08699633584	0.01	0.8	0.9	1	1	1	1	1	0.67	0.8	0.57	Below average	20% pond occupancy	8.51
19	ND08166623663	0.01	-	0.9	0.33	1	0.01	1	1	0.01	0.3	0.17	Poor	3% pond occupancy	8.59
20	ND08658623393	0.01	0.92	0.9	1	1	1	0.67	0.95	1	0.5	0.55	Below average	20% pond occupancy	7.37
21	ND08000613162	0.01	0.9	0.9	1	0.7	1	1	0.57	0.67	0.6	0.51	Below average	20% pond occupancy	8.31
22	ND08595613078	0.01	0.97	0.9	1	1	0.67	0.67	0.57	1	0.65	0.52	Below average	20% pond occupancy	8.05
23	ND09794623713	0.01	0.7	0.5	0.67	1	0.67	1	0.81	0.67	0.85	0.49	Poor	3% pond occupancy	6.74
24	ND10457633244	0.01	0.87	0.9	0.67	1	0.67	1	0.74	0.67	0.6	0.50	Below average	20% pond occupancy	6.88

Pond No.	Grid Reference	Scores for Each of the Suitability Index (SI) Factor										HSI Score [2]	HSI Category[3]	Percentage of Ponds Occupied by GCN based on HSI Category[2]	Average pH value[4]
		Geographic Location	*Pond Area*[1]	*Permanence*	*Water Quality*	*Shade*	*Waterfowl*	*Fish*	*Pond Count*	*Terrestrial Habitat*	*Macrophytes*				
25	ND1090363252	0.01	0.91	0.9	0.33	1	1	1	0.66	0.67	1	0.51	Below average	20% pond occupancy	7.07
26	ND1005960911	0.01	0.8	0.5	0.67	1	0.67	1	0.66	0.67	1	0.49	Poor	3% pond occupancy	7.52
27	ND1005260629	0.01	0.6	0.9	1	1	1	1	0.66	0.67	0.8	0.53	Below average	20% pond occupancy	7.79
28	ND1009560534	0.01	0.98	0.9	0.33	1	0.67	1	0.66	0.67	0.85	0.49	Poor	3% pond occupancy	7.19
29	ND1122561596	0.01	-	0.1	0.33	1	0.67	1	0.81	0.67	0.8	0.36	Poor	3% pond occupancy	n/a
30	ND1129061513	0.01	0.6	0.9	1	0.8	1	0.67	0.85	1	0.9	0.54	Below average	20% pond occupancy	7.00
31	ND1159461686	0.01	0.98	0.1	1	1	1	1	0.85	1	1	0.49	Poor	3% pond occupancy	6.01
32	ND1167961264	0.01	1	0.5	1	1	1	1	0.81	1	0.9	0.57	Below average	20% pond occupancy	6.59

Pond No.	Grid Reference	Scores for Each of the Suitability Index (SI) Factor										HSI Score [2]	HSI Category[3]	Percentage of Ponds Occupied by GCN based on HSI Category[2]	Average pH value[4]
		Geographic Location	*Pond Area*[1]	*Permanence*	*Water Quality*	*Shade*	*Waterfowl*	*Fish*	*Pond Count*	*Terrestrial Habitat*	*Macrophytes*				
33	ND1233261430	0.01	1	0.9	0.33	1	0.67	1	0.74	0.33	0.7	0.45	Poor	3% pond occupancy	8.00
34	ND1312057523	0.01	-	1	1	1	0.67	0.67	0.95	0.67	0.45	0.48	Poor	3% pond occupancy	5.26
35	ND1297057635	0.01	-	1	1	1	0.67	0.67	0.91	0.67	0.5	0.48	Poor	3% pond occupancy	7.03
36	ND1382657782	0.01	0.86	0.1	0.67	1	1	1	0.78	0.67	1	0.44	Poor	3% pond occupancy	7.02
37	ND 12653 58434	0.01	0.98	0.9	0.67	1	0.67	0.67	0.85	0.67	1	0.52	Below average	20% pond occupancy	7.53

Notes

1. Ponds larger than 2000 m², the factor is omitted from the HSI calculation.
2. Habitat Suitability Index (HSI) after Oldham *et al.* (2000), ARG UK (2010) and O'Brien *et al.* (2017).
3. For After ARG UK (2010).
4. Average pH derived from four pH values. Where no value is provided, the pond was dry.

Appendix 5: Abbreviations and Acronyms

Acronym	Definition
ARC	Amphibian and Reptile Conservation Trust
ARG UK	Amphibian and Reptile Groups of the UK
BAP	Biodiversity Action Plan
BBCT	Bumblebee Conservation Trust
BCT	Bat Conservation Trust
BRC	Biological Recording Centre
BSBI	Botanical Society of Britain and Ireland
BTO	British Trust for Ornithology
CC-BY	Creative Commons Attribution License
CC-BY-NC	Creative Commons Attribution Non-Commercial license
CCO	Creative Commons Attribution License
FCS	Forestry Commission Scotland
FLS	Forestry and Land Scotland
GWDTE	Ground Water Dependent Terrestrial Ecosystems
ha	Hectares
HBAP	Highland Biodiversity Action Plan
HBRG	Highland Biological Recording Group
HRSG	Highland Raptor Study Group
HSI	Habitat Suitability Index

Acronym	Definition
INNS	Invasive Non-native Species
IUCN	International Union for Conservation of Nature
MCIEEM	Member of the Chartered Institute of Ecology and Environmental Management
NBN	National Biodiversity Network
NVC	National Vegetation Classification
OGL	Open Government Licence
OS	Ordnance Survey
PBA	Protection of Badgers Act
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage (now known as NatureScot)
SI	Suitability Index
SOC	Scottish Ornithologists Club
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest
UK	United Kingdom
UKTAG	United Kingdom Technical Advisory Group
WCA	Wildlife and Countryside Act

Acronym	Definition
WWT	Wildfowl and Wetlands Trust
ZOI	Zone of Influence