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# Morlais Project Environmental Statement

## Chapter 19: Onshore Ecology

### Volume III

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Chapter 19: Onshore Ecology

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# Morlais Project Environmental Statement

## Appendix 19.1: Morlais Project Ecology Appraisal (BSG Ecology, 2019)

### Volume III

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Chapter 19: Onshore Ecology

Appendix 19.1: Morlais Project Ecology Appraisal (BSG Ecology, 2019)

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# 1 Introduction

- 1.1 The Morlais Project is a proposed tidal stream energy development to be located off the west coast of Anglesey. The project will be connected to the shore by cabling which will make landfall on the west coast of Holy Island, Anglesey. Onshore infrastructure will include a landfall substation, a grid substation and a cable between the proposed landfall location and the National Grid connection location. The precise locations of the landfall options and onshore cabling have yet to be finalised. As a result, a broad scoping area, encompassing a number of different landfall options and cabling routes is being considered; this area has been refined over the course of 2018.

- 1.2 Preferred route options have been identified; these are shown on Figure 1 and the plan in Appendix 1.

## Project description

- 1.3 This study relates to the terrestrial elements of the proposed development. The cabling will be installed in trenches. Where feasible the landfall points may involve horizontal directional drilling (HDD) from a location below sea level to avoid cliff vegetation.

- 1.4 The proposed cabling routes generally follow existing roads where these are available. It is understood that the cabling will either go into the road where this is practical to do so, taking into account road widths, access constraints and existing services. Where this is not possible it will be installed in adjacent land, requiring a linear working area for machinery access for the cabling. Small sections of the cable route, where no roads are present, are likely to go through fields or cross undeveloped/open land (for example, at the landfall substation connection points and to the south-west of Holyhead Leisure Centre).

## Definition of terms

- 1.5 The “Study Area” takes in all areas within the various onshore infrastructure options, which at this stage includes:
- The possible substation connection points (in the South Stack/Range area, the Parc Cybi area and the area to the north-east of Valley), plus a 30m-wide buffer;
  - a 100m-wide area around roads (and other routes) in areas where the cable route has potential to go either in roads or in land adjacent to roads, plus a 30m-wide buffer;
- 1.6 In areas where the route is likely to go within roads only (in the section of Lon Isallt between Porth Dafarch and Trearddur Bay, and Lon Towyn Capel to the north) a 30m-wide buffer around roads has been applied.
- 1.7 Where the “Proposed Working Area” is referred to, this means the part of the Study Area without the buffer zones applied.
- 1.8 The Proposed Substation Areas are general areas within the Proposed Working Area – the precise location of substations has not yet been identified. Three such areas have been identified, one in the west part of the Study Area (near South Stack), one in the Parc Cybi area and one in the east part of the Study Area (to the north-east of Valley).
- 1.9 Where it follows roads, the cable installation route is described as the “Survey Route” on Figures and Plans.
- 1.10 An additional 250m buffer has also been applied to the Study Area to allow possible impacts on great crested newt (GCN) *Triturus cristatus* to be considered; this area (the “GCN Study Area”) is shown on Figure 4a. Taking into account the 100m width allowed for the Proposed Working Area, the 30m buffer, and the additional 250m buffer, the total width of the GCN study area typically extends up to 380m from the roads which form the Survey Route.

- 1.11 The “Desk Study Area” incorporates all the areas described above and an additional 1km buffer.
- 1.12 The Study Area has been revised during the course of 2018; some areas that were previously scoped in are no longer relevant to the project (including the northern parts of South Stack Road and Porth Dafarch Road, and all of Plas Road).

**Aims of study**

- 1.13 The aims of the study are to:
- Identify designated wildlife sites within and adjacent to the Study Area;
  - Identify and characterise the habitats within the Study Area;
  - To assess the potential for protected species to occur within the Study Area; and
  - Identify ecological constraints and to use this information to inform the route selection process.
- 1.14 The survey methods, results, an impact assessment and recommendations are detailed in this report.

## 2 Methods

### Desk study

- 2.1 A detailed desk study has been carried out. This has involved:
- A review of aerial photographs (Google Earth and Bing Maps, accessed during April and November 2018), and Google Street View imagery was used to help identify and accurately map habitats and to identify ponds within the Study Area.
  - A detailed review of 1:25000 Ordnance Survey Maps, to identify ponds and public rights of way within the Study Area.
  - The UK Government's MAGIC website ([www.magic.gov.uk](http://www.magic.gov.uk)) has been used to identify statutory designated sites within 2km of the Study Area.
  - Cofnod (the local biological record centre for North Wales) was contacted to supply data on any protected/notable species records or non-statutory sites of conservation value (Local Wildlife Sites) and ancient woodland. Data were supplied on 19 April 2018. Cofnod supplied further data on 19 July 2018 which extended coverage into the Trearddur Bay area as the route options were refined.
- 2.2 The Desk Study Area incorporates the Study Area (and GCN Study Area) and a 1km buffer. It incorporates the majority of the northern part of Holy Island, and the area immediately surrounding Valley.

### Consultation

- 2.3 David Cowley, Isle of Anglesey County Council's (IoACC) Ecological Advisor, provided initial comments on the scope of the ecological survey.
- 2.4 Natural Resources Wales (NRW) (Protected Species Officer Matt Ellis and Development Planning Advisor Sian Williams) was contacted to discuss the strategy for survey and assessing impacts on GCN on 11 June 2018. A copy of the Spatial Action Plan for Great Crested Newts in Anglesey was provided to BSG Ecology by NRW.
- 2.5 Information of chough nesting sites was obtained from the RSPB and Adrienne Stratford of the (Cross & Stratford Welsh Chough Project). Information on nest sites was provided on 8 and 27 January 2019, respectively.

### Field survey

- 2.6 The field survey work has been carried out over multiple visits between April and November 2018. Initial Phase 1 habitat survey work carried out in April and May, was followed up with more detailed survey of ponds for GCN, and extended Phase 1 habitat survey as the route was refined and access to the various areas requiring survey was agreed. The survey visits and objectives are described in Table 1 below.

#### *Initial Phase 1 Habitat Survey*

- 2.7 Principal Ecologist Guy Miller CEcol CIEEM and Ecologist Emily Moore GradCIEEM undertook the initial field survey over four days in late April/early May 2018 (26-27 April, 30 April-1 May 2018).
- 2.8 The review of aerial photographs and mapping was used to inform the field survey and identify habitats which required ground truthing.
- 2.9 During the survey the proposed cabling routes within the Study Area were driven in a slow-moving car with regular stops to record vegetation in habitats in the adjacent land. Public rights of way (PRoW) were used to obtain vantage points and view adjacent habitats. The habitats were

described using the Joint Nature Conservation Committee (JNCC) Phase 1 habitat survey methodology (JNCC, 2010).

- 2.10 Habitats within the Study Area were subject to an initial assessment for their suitability for protected species, including reptiles and amphibians (including GCN), badger *Meles meles*, water vole *Arvicola amphibius*, otter *Lutra lutra* and bats. Potential nesting habitats for breeding birds were identified. Detailed searches for evidence of protected species were not carried out during the initial assessment due to access constraints.
- 2.11 The Survey Area was also searched for the presence of invasive non-native plants including Japanese knotweed *Fallopia japonica*.

#### **Habitat Suitability Index (HSI) assessment for great crested newt**

- 2.12 Where possible, any ponds that were accessible or visible from PRoW (using binoculars) were visited or viewed during the initial Phase 1 habitat survey, described and subject to a Habitat Suitability Index (HSI) assessment for GCN. This involves recording a variety of environmental and ecological characteristics (such as water quality, shade, presence of aquatic plants, fish and wildfowl) and using a model to calculate a score between 0 and 1; scores closer to 1 represent ponds of high suitability for GCN; scores below 0.5 and closer to 0 represent ponds of lower suitability for GCN. The method follows the approach described in Oldham et al. 2000.
- 2.13 In total, 57 ponds/waterbodies were identified during the initial desk study (from 1:25,000 OS maps and aerial photographs, Bing Maps and Google Earth) and initial Phase 1 habitat survey. During the scoping process, and as the route options were refined, many of these ponds/waterbodies were subsequently scoped out of the assessment.
- 2.14 Ponds over 250m from the Proposed Working Area were excluded; ponds that are shown on OS 1:25,000 map but not found to be present were excluded; ponds that are brackish were excluded. Some ponds were found to be dry during the survey. Where there was a lack of evidence of aquatic or wetland vegetation presence (which indicates that they hold water at certain times of year), they were also scoped out of the assessment. Following this process, 21 ponds were subject to HSI assessment.

#### **eDNA survey for great crested newt**

- 2.15 The results of the HSI assessment were used to determine which of the ponds within the Study area were assessed to be suitable for GCN. After ponds/waterbodies with a low HSI score (<0.5: poor suitability) were scoped out of the assessment, 15 ponds were identified that required eDNA survey.
- 2.16 These ponds were visited in June 2018 (see Table 1) to collect water samples to allow analysis for GCN eDNA. Ponds which were found to be dry were not sampled. The survey work was led by Ecologist Emily Moore GradCIEEM who holds a survey licence for GCN (Licence no. 2015-17866-CLS-CLS), with assistance from Ecologist Sophie Olejnik and Principal Ecologist Guy Miller, who also holds a survey licence for GCN (Licence no. 2015-18702-CLS-CLS). The industry protocol for collecting GCN eDNA was followed (Williams, 2013; Biggs *et al.*, 2014). Water samples were sent to NatureMetrics for analysis; the results of the lab analysis were returned on 20 July 2018.

#### **Extended Phase 1 Habitat Survey**

- 2.17 A more detailed extended Phase 1 habitat survey was carried out between September and November 2018, when full survey access had been arranged. Survey dates are shown in Table 1, below. The survey was carried out by Emily Moore, Guy Miller and Ecologist Sophie Olejnik, with reference to standard industry guidelines (JNCC, 2010). The purpose of the survey was to carry out more detailed survey of vegetation, to confirm the assessment made during the initial phase 1 Habitat survey, and to carry out survey for evidence of use by protected species.

**Table 1: Field survey methods, dates and personnel**

Date	Survey	Notes	Surveyors	Weather
26-27 Apr 2018	Phase 1 habitat survey	Survey from roads and PRow, mainly in the west part of the Study Area	Guy Miller, Emily Moore	Rain, am 26 Apr / Fine and dry and warm weather
30 Apr – 1 May 2018	Phase 1 habitat survey	Survey from roads and PRow, mainly in the west part of the Study Area	Guy Miller, Emily Moore	Fine and dry and warm weather
12-14 Jun 2018	eDNA survey	Ponds: 15a, 15b, 16a, 16b, 16c, 17, 18a, 19, 21, 25, 26, 27, 33, 42	Emily Moore, Sophie Olejnik	Fine and dry and warm weather
28 Jun 2018	eDNA survey	Ponds 19a and 19b	Guy Miller, Emily Moore	Fine and dry and warm weather
4-6 Sep 2018	Extended Phase 1 habitat survey	Parc Cybi, Land near Mill Road/Bryniau-geirwon, South Stack/Range substation area	Emily Moore, Sophie Olejnik	Generally fine and dry and warm weather; rain on 5 Sep
18-19 Sep 2018	Extended Phase 1 habitat Survey	Land to the south of the A55, farmland near Valley (east and Cleifiog-uchaf), farmland near South Stack (Tŷ-Mawr) and the Range (Tŷ-Mawr)	Guy Miller, Emily Moore	Overcast, windy, occasional sun and rain showers
13-14 Nov 2018	Extended Phase 1 habitat survey	Former Aluminium Works and farmland near Valley (west)	Emily Moore, Sophie Olejnik	Dry and fine. Rain on 14 Nov.

**Badger survey**

- 2.18 During the extended Phase 1 habitat survey searches for evidence of badger activity were carried out within the Proposed Working Area and buffer areas. Setts and other evidence of badger activity (such as latrines, tracks and evidence of feeding activity) were recorded. Any setts located were assessed for signs of activity and where possible were classified as a main sett, an annex sett or an outlier sett (following guidance set out in Neal & Cheeseman, 1998).
- 2.19 Where dense scrub vegetation is present (in various parts of the Study Area, as shown on Figures 3.1 to 3.8) this has affected the ability to comprehensively search for badger setts. The significance of this constraint is considered to be minor and is discussed in more detail below in the section relating to badgers.
- 2.20 Two narrow scrub covered railway embankments in Valley were not accessible and as a result were not searched for evidence of use by badger. Similarly, an embankment between the railway and the A55 dual carriageway, to the south of the former aluminium works, was not accessible and has not been surveyed; although, it has been viewed at certain points from the aluminium works where possible to do so (where breaks in scrub allow views through the fence). The significance of this constraint is considered to be minor; however, the possible presence of a badger sett in these two areas cannot be ruled out. The need for further precautionary survey in these areas will be influenced by the choice of route and approach for crossing the railway.

**Limitations**

- 2.21 The only survey limitation relates to areas of dense scrub where comprehensive searching for badger sets could not be completed, as referred to in the section above.

### 3 Results and Interpretation

#### Designated Sites

##### Statutory designated sites

- 3.1 There are several statutory designated sites within the Desk Study Area. These are summarised within Table 2 below and shown on Figure 1 (NB: the Holy Island Coast SPA/SAC/SSSI boundaries overlap, as shown on Figure 1).

**Table 2: Statutory Designated Sites**

Site name	Designation	Distance from Working areas	Description <sup>1</sup>
Glannau Ynys Gybi / Holy Island Coast	Special Protection Area (SPA)	<p>Immediately adjacent (South Stack) to or partially within the Proposed Working Area (the Range, at SH214806); the SPA is located close to the landfall zones.</p> <p>The SPA is also close (c.100m) to the Proposed Working Area in Porth Dafarch area (SH232799).</p> <p>Supporting habitat (semi-improved pasture) occurs within the Proposed Working Area.</p>	<p>Sea cliffs with cliff top grassland, offshore stacks and islets and maritime heath.</p> <p>The SPA supports a resident population of chough <i>Pyrrhocorax pyrrhocorax</i>, which depends on the diverse mix of habitats and their low intensity agricultural management.</p> <p><u>Qualifying species:</u></p> <p>Chough <i>Pyrrhocorax pyrrhocorax</i>, 18 pairs representing at least 5.3% of the breeding population and at least 2.6% of the wintering population in Great Britain.</p>
Glannau Ynys Gybi / Holy Island Coast	Special Area of Conservation (SAC)	<p>Immediately adjacent (South Stack) to or partially within the Proposed Working Area (the Range, at SH214806); the SAC is located close to the landfall zones.</p>	<p><u>Annex I habitats that are a primary reason for selection of this site:</u></p> <p>Vegetated sea cliffs of the Atlantic (and Baltic) Coasts: maritime heath with spotted rock rose <i>Tuberaria guttata</i> and extensive cliff-crevice and grassland communities.</p> <p>European dry heaths: the most important site in North Wales for maritime dry heaths. The main NVC types are H7 <i>Calluna vulgaris</i> – <i>Scilla verna</i> heath and H8 <i>Calluna vulgaris</i> – <i>Ulex gallii</i> heath</p> <p>Small areas of wet heath; grassland, heath, bracken and bramble scrub zonation. The heath is an important locus for spotted rock-rose <i>Tuberaria guttata</i>.</p> <p><u>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</u></p> <p>Northern Atlantic wet heaths with <i>Erica tetralix</i>.</p>

<sup>1</sup> Information source: [jncc.defra.gov.uk](http://jncc.defra.gov.uk) and <https://naturalresources.wales> (SPA and SAC citations)



Site name	Designation	Distance from Working areas	Description <sup>1</sup>
Glannau Ynys Gybi / Holy Island Coast	Site of Special Scientific Interest (SSSI) (and component of Holy Island Coast SPA/SAC)	Immediately adjacent (South Stack) to or partially within the Proposed Working Area (the Range, at SH214806); the SSSI is located close to the landfall zones.	Heathland, maritime grassland, coastal cliffs and ledges, a variety of vascular plants (heathland and maritime species), birds (seabirds, peregrine, chough and heathland species), invertebrates and geology.
Anglesey Tre Wilmot	SSSI (and component of Holy Island Coast SPA/SAC)	Immediately adjacent to or partially within the western part of the Study Area, between two possible route options, and to the north of the preferred route. Approximately 350m to the north of the Proposed Working Area.	Lowland heath and rocky ridges with intervening depressions with a range of heathland vegetation communities, including wet heath and peatland communities, and small open water areas.
Beddmanarch-Cymyran	SSSI	This SSSI is crossed by the parallel A5 and A55 bridges; it is therefore immediately adjacent to the part of the route that between Holy Island and Valley.  The SSSI is also directly adjacent to the minor road (Lon Towyn Capel), within the working area, which leads north-east from Trearddur Bay at SH261794 and within 70m just to the north at SH265798	Supports a variety of coastal habitats including sandbank, mudflat, saltmarsh, dune heath. Important for overwintering and breeding birds and saltmarsh plant species and eel grass.
Porth Diana	SSSI	This small SSSI is approximately 1km to the south of the Proposed Working Area.	Supports coastal heath and a distinct assemblage of plants on the thin soils around the bare rock areas including annual rockrose <i>Tuberaria guttata</i> ssp. <i>Breweri</i> .

### Non-statutory designated sites

- 3.2 There are nine non-statutory Local Wildlife Sites (LWS) and ten Ancient Woodland Sites (AWS) within the Desk Study Area. The location, designation and summary description for each site are described in Table 3. The location of these Sites is shown in Figure 2.

**Table 3: Local Wildlife Sites and Ancient Woodland Sites within the Desk Study Area**

Local Wildlife Site / Ancient Woodland Site	Grid reference	Distance from Proposed Working Area	Description
Cors Tre Wilmot (B01)	SH22228155	The Study Area extends into part of the western and southern extent of this LWS. The Proposed Working Area has potential to extend into this LWS, depending on route selection.	Valley wetland with herb rich, rush dominated fen meadows. With reedbed, purple moor-grass and bog vegetation.
Arfordir Bwth Corwgl – Bae Trearddur (A11)	SH24237940	Immediately to the south of the Proposed Working Area.	Rocky coast with grassland and heath.

Local Wildlife Site / Ancient Woodland Site	Grid reference	Distance from Proposed Working Area	Description
Rhostir Mynydd Celyn (B03)	SH23668139	Within Study Area; c. 250-300m from the Proposed Working Area.	Enclosed pastures and low rock outcrops, grassland and dry and wet heath.
Chwarel Morglawdd, Caergybi (B02)	SH2498326	150m 350m to north (in west part of Study Area).	Disused quarry, heathland.
Gwely Cyrs Caergeiliog (E01)	SH30187865	800m to south (near Valley).	Reedbed and marshy grassland.
Cae Barcdy (A10)	SH29667829	850m to the south (near Valley).	Reed bed and scrub.
Cors Pont Hwfa (B04)	SH23828220	1 km to north.	Reedbed, fen vegetation and marshy grassland.
Porth Diana (A1)	SH254780	c. 1km to the South.	Coastal and inland heath and pools.
Rhostir a Phwll Caergeiliog (E13)	SH30677832	1.25km to east (near Valley).	Wet heath and basin mire, with some scrub.
AWS: 26037	SH273805	Adjacent to Proposed Working Area.	Ancient Semi Natural Woodland.
AWS: 26041	SH270809	Adjacent to Proposed Working Area.	Ancient Semi Natural Woodland.
AWS: 26042	SH272811	Adjacent to Proposed Working Area.	Ancient Semi Natural Woodland.
AWS: 26043	SH268813	Adjacent to Proposed Working Area.	Ancient Semi Natural Woodland.
AWS: 26044	SH267815	50m to north of Proposed Working Area.	Ancient Semi Natural Woodland.
AWS: 26066	SH270804	Adjacent to Proposed Working Area.	Restored Ancient Woodland Site.
AWS: 26067	SH274806	100m to east of Proposed Working Area.	Restored Ancient Woodland Site.
AWS: 43665	SH272805	Adjacent to Proposed Working Area.	Plantation on Ancient Woodland Site.
AWS: 43667	SH268812	Adjacent to Proposed Working Area.	Plantation on Ancient Woodland Site.
AWS: 43668	SH274810	Adjacent to Proposed Working Area.	Plantation on Ancient Woodland Site.

## Field survey results

### Habitats

- 3.4 The Study Area incorporates a wide range of habitats. These are shown on Figures 3.1 to 3.8 and described below.

### Grassland

- 3.5 A variety of grassland types are present within the Study Area.
- 3.6 Unimproved grassland is uncommon and generally limited to small patches of maritime grassland on steeper slopes and along the top of cliffs in the west part of the Study Area (Abraham's Bosom bay, between South Stack and the Range (see Photograph 1) and at the top of the small cliffs to the south of the road between South Stack and Trearddur Bay. This unimproved grassland has the character of maritime grassland, supporting cock's-foot *Dactylis glomerata*, Yorkshire fog *Holcus lanatus* and red fescue *Festuca rubra*, with occasional sorrel *Rumex acetosa*, bladder campion *Silene vulgaris*, spring squill *Scilla verna*, primrose *Primula vulgaris*, common scurvy grass *Cochlearia officinalis*, and wild carrot *Daucus carota*.
- 3.7 The majority of grassland within the Study Area is either grazed species-poor semi-improved pasture or improved pasture (see Photographs 4, 19 and 35). Many of the fields are improved, supporting a high proportion of perennial rye grass *Lolium perenne* and few other species.
- 3.8 The low-input short-sward semi-improved pasture fields provide suitable foraging habitat for chough. Some of these fields in the western part of the Study Area are managed by the Royal Society for the Protection of Birds (RSPB) to provide habitat for chough, which nests in the Holy Island SPA, immediately adjacent to the Study Area.
- 3.9 Marshy grassland is a common feature within the Study Area, with damper ground supporting abundant growth of soft rush *Juncus effusus*, with occasional cuckooflower *Cardamine pratensis*, tufted hair-grass *Deschampsia caespitosa* and purple moor-grass *Molinia caerulea* (see Photographs 6, 8 and 19). Semi-improved pasture with extensive areas of soft rush occurs in several of the fields to the north-east of Valley.
- 3.10 Small patches of dry open grassland occur in the land surrounding the former aluminium works, forming part of a mosaic of scrub, carr woodland and grassland in this area.
- 3.11 Amenity grassland is also occasionally present within the Study Area, mainly in the form of campsites, lawns and managed recreational areas (e.g. sports pitches).

### Heathland

- 3.12 Extensive areas of heathland are present in the western part of Holy Island, these occur primarily within the Holy Island Coast SSSI/SAC and Tre Wilmot SSSI. This habitat occurs in the western part of the Study Area, adjacent to the areas proposed as potential landfall substation locations, and part of the Proposed Working Area includes a small area of heathland at SH214806 (see Photographs 3 and 4). Small areas of coastal heath occur on the various small headlands between South Stack and Trearddur Bay, in amongst areas of maritime grassland.
- 3.13 These areas of heathland are dominated by heather *Calluna vulgaris* and western gorse *Ulex gallii* with occasional cross-leaved heath *Erica tetralix*, bilberry *Vaccinium myrtillus*, purple moor-grass, spring squill, and deer grass *Trichophorum cespitosum*.

### Scrub

- 3.14 Patches of scrub vegetation are common features within the landscape. In the western part of the Study Area, the scrub is interspersed with areas of pasture, often where low rocky outcrops occur (see Photographs 22 and 23). These patches of scrub are typically dominated by gorse, with

patches of bracken *Pteridium aquilinum* and bramble *Rubus fruticosus* agg.. Heather occurs but is less frequent than on the SSSI heathland. Ground flora more typically characteristic of woodland, including bluebell *Hyacinthoides non-scripta*, wood sorrel *Oxalis acetosella*, primrose, honeysuckle *Lonicera periclymenum* and red campion *Silene dioica*, occurs occasionally in the more sheltered areas, typically between rocky outcrops, under a low canopy formed by gorse.

- 3.15 Patches of dense scrub, typically including willow, bramble, hawthorn and blackthorn, and interspersed with patches of tall herbaceous vegetation, are also frequent. In the eastern part of the Study Area these are often associated with woodland habitats. Dense scrub is also present on the railway embankments to the west of Valley.

#### Cliff vegetation

- 3.16 The sea cliffs around South Stack and the Range in the western part of the Study Area support a diverse vegetation community including thrift *Armeria maritima*, primrose, sea beat, sea squill, common scurvy grass, bladder campion, kidney vetch *Anthyllis vulneraria*, buck's-horn plantain *Plantago coronopus*, western gorse, and blackthorn *Prunus spinosa* scrub (see Photographs 1 and 2).
- 3.17 A number of nationally rare plant species are known to occur on these cliffs (NRW, 2018), as described in the Holy Island Coast SSSI citation, including South Stack fleawort *Tephrosia integrifolia* ssp. *maritima*, spotted rock rose *Tuberaria guttata* and rock sea lavender *Limonium britannicum* ssp. *celticum* and also various bryophytes and ferns. Exposed rock is frequent on the cliffs.
- 3.18 Further smaller broken cliffs and a succession of sandy bays are present between Porth Dafarth and Trearddur along the south coast of Holy Island. A rocky shore line is present below the cliffs.

#### Wetland vegetation

- 3.19 Wetland vegetation is present in several parts of the Survey Area. In the western part of the Survey Area is Cors Tre Wilmot, a Local Wildlife Site (LWS), which is an extensive valley wetland with herb-rich, rush dominated fen meadows, with areas of reedbed, purple moor-grass and bog vegetation. The Proposed Working Area extends into two small sections of this LWS, as shown on Figure 2.
- 3.20 An area of reedbed and fen vegetation is present to the north and west of Holyhead Leisure Centre. This is close to the Proposed Working Area, and the route has potential to affect the edge of some of this wetland vegetation depending on its precise location. It supports damp grassland tussocks, soft rush, sedge *Carex* sp., common reed *Phragmites australis*, cuckooflower, horsetail *Equisetum* sp., great willowherb *Epilobium hirsutum* and patches of willow *Salix* sp. and bramble scrub. This area is shown on Figure 3.3. (see Photograph 25).
- 3.21 A small reedbed is present at the corner of Lon Isallt and Parc Isallt in Trearddur Bay at SH251791, as shown on Figure 3.6.
- 3.22 Wetland vegetation is present on either side of the A5 in the Penrhos area. There is an area of common reed, alder trees *Alnus glutinosa*, and willow scrub just to the south of the A5 in the grounds of the former aluminium works at SH262814. A further area of wetland vegetation is present on the north side of the A5, between this road and the west end of Penrhos Beach. This area supports a mosaic vegetation with wetter areas supporting soft rush, yellow flag *Iris pseudacorus*, wood small-reed *Calamagrostis epigejos*, horsetail *Equisetum* sp., lady's smock, with drier areas supporting coarse neutral grassland (with common knapweed *Centaurea nigra* and cock's-foot) and patchy willow scrub. This area is shown on Figure 3.4 and Photograph 16.
- 3.23 A small area of wetland vegetation is present on the west side of Lon Towyn Capel at SH26136 79516. This supports bulrush *Typha latifolia*, yellow flag, meadowsweet *Filipendula ulmaria* and great willowherb.

- 3.24 A small flush is present near the cliff top at SH 21529 80594 by the edge of the Range, in the western part of the survey area. Species present include soft rush, fool's watercress *Apium nodiflorum*, floating sweet-grass *Glyceria fluitans*, and lesser spearwort *Ranunculus flammula*.

#### Ponds/waterbodies

- 3.25 There are numerous ponds/waterbodies within the Study Area. These range from small reservoirs in the western part of Holy Island, to field ponds in pasture, heathland pools, a balancing pond by the new Roadking Truckstop at Parc Cybi, and the woodland ponds in Penrhos Coastal Park (see Photographs 19, 26, 28 and 32).
- 3.26 Many of the ponds support vegetation. This varies considerably between ponds, frequently occurring species include yellow flag, common reed, floating sweet-grass *Glyceria fluitans*, soft rush, marsh marigold *Caltha palustris*, fool's water cress, and great willowherb. The ponds are identified in Figures 4a and 4b and described in more detail in Appendix 2.

#### Woodland

- 3.27 Woodland habitats occur infrequently on Holy Island. The most extensive area of woodland occurs on either side of the A5 between the former aluminium works and Penrhos Coastal Park (see Photographs 17, 18 and 27). This area supports blocks of ancient woodland and plantation on ancient woodland, and also patches of secondary woodland. Sycamore *Acer pseudoplatanus* is the dominant tree species in the ancient woodland, with hazel *Corylus avellana* common in the understorey. Beech *Fagus sylvatica* and various conifers are also present. Ground flora includes a variety of typical woodland species including bluebell, ramsons *Allium ursinum*, dog's mercury *Mercurialis perennis*, primrose, pendulous sedge *Carex pendula*, and various ferns including male fern *Dryopteris filix-mas*, common polypody *Polypodium vulgare* and hart's tongue *Asplenium scolopendrium*, with patches of ivy *Hedera helix* and bramble.
- 3.28 Further blocks of mainly mixed woodland and scrub are present to the south of the A55, on the far side of the dual carriageway from the former aluminium works. These woodland areas are mainly of relatively recent origin and include a mixture of broadleaved (sycamore, sweet chestnut *Castanea sativa*, silver birch, oak *Quercus* sp., willow *Salix* sp., cherry *Prunus* sp.) and coniferous species (*Pinus* sp. and *Picea* sp.), and extensive patches of hawthorn scrub, gorse and bramble scrub. Small pockets of semi-natural broadleaved woodland are present on the eastern side of the track between to corner of Lon Towyn Capel and the A55 (at SH 264 796, SH 266 800 and), including a small area of ancient woodland at SH270803.
- 3.29 Small patches of woodland are present on either side of the A5 at the western end of Penrhos Beach. A small strip of woodland (with ground flora that includes bluebell and dog's mercury) is present at SH258814, on the south side of the road. The small patch of woodland immediately to the north, on the north side of the A5, supports sycamore and dense bramble and hawthorn *Crataegus monogyna* scrub. Broadleaved plantation woodland (sycamore and Scot's pine *Pinus sylvestris*), and small patches of willow and alder carr woodland are present in the land to the west of the former aluminium works.
- 3.30 Recently planted woodland strips are present on the embankments of the A55 and railway line, where it enters Holyhead (see Photograph 11). These areas support a variety of tree species including sycamore, oak *Quercus* sp., goat willow *Salix caprea*, birch, rowan *Sorbus aucuparia*, hawthorn, alder, cherry *Prunus* sp., blackthorn, and elder *Sambucus nigra*.
- 3.31 A further small area of sycamore and oak woodland is present on the slopes just to the north of the A5 where it leaves Valley, before crossing the straight towards Holy Island (at SH 28523 79878).
- 3.32 Away from these areas, woodland cover is generally very limited with occasional small copses of trees and shrubs close to properties, or occurring within other habitat types.

### Coastal/estuarine habitats

- 3.33 Estuarine habitats are present in the strait between Holy Island and the Anglesey “mainland” at Valley. These include sand and mudflats and narrow shingle beaches on either side of the bridge (see Photograph 29) and a shingle/sand beach at Penrhos Beach (see Photograph 15). A small area of saltmarsh vegetation is present the east end of an enclosed area of water between the A5 and A55 bridges. This area supports saltmarsh grass *Puccinellia* sp., sea plantain *Plantago maritima*, sea-purslane *Atriplex portulacoides*, thrift, and common scurvy grass; exposed mud and pools are present (see Photographs 29 and 30). These habitats form part of the Beddmanarch-Cymyran SSSI.
- 3.34 Further marshy grassland and saltmarsh vegetation (also part of the Beddmanarch-Cymyran SSSI) is present on the east side of Lon Towyn Capel (SH 261794) and to the east of private track that runs between to corner of Lon Towyn Capel and the A55 (at SH264797).
- 3.35 A small strip of shoreline vegetation is present above the shingle on the north sides of the bridges, which support cock's-foot, common scurvy grass, sea plantain, sea beet *Beta vulgaris* spp. *maritima*, Alexanders *Smyrnium olusatrum* and bramble scrub.
- 3.36 The area of the south-side of A55 at the west end of the bridge supports mudflats, saltmarsh, grassland, scattered and dense scrub and occasional rocky outcrops. Sea cliff vegetation is described above.
- 3.37 Vegetated sand dunes, which support marram grass *Ammophila arenaria* and colonising blackthorn scrub, are present at the north edge of Trearddur Bay at SH 255 791. These are close to but just to the south of the proposed cable route.

### Field boundaries

- 3.38 The field boundaries within the Study Area vary. Many are formed by mortared stone walls (particularly adjacent to wider roads) and dry stone walls; however, traditional vegetated stone walls/earth banks (cloddiau), occur more frequently beside minor roads and internal field boundaries, mainly in the west part of the Study Area (see Photograph 5). Post and wire/rail fences, natural banks and rocky outcrops, and occasionally hedgerows (mainly in the Valley area), also form some of the field boundaries.
- 3.39 The vegetated stone walls (cloddiau) can support a wide variety of plant species (such as primrose, red campion, wild carrot, Alexanders, yarrow *Achillea millefolium*, foxglove *Digitalis purpurea*, scurvy grass, creeping thistle *Cirsium arvense*, wood sage *Teucrium scorodonia*, bluebell, gorse, bracken and bramble).
- 3.40 The hedgerows, which form boundaries in fields to the north of the A5 in the valley area are typically species-poor, hawthorn dominated hedgerows (see Photograph 35). The majority of these are either intact (i.e. stock-proof), or are adjacent to a fence.
- 3.41 Ditches/drains are present in some of the field boundaries around Valley (around the triangular north-eastern-most field in this area, and the north boundary of field adjacent to Ffordd Caergiby, at the east edge of Valley). These support a variety of emergent and riparian vegetation including common reed, bulrush, meadowsweet, soft rush, marsh marigold, water starwort *Callitriche* sp., and great willowherb.
- 3.42 Well maintained stone walls are present on either side of the railway line in the fields on the east side of Valley.

### Urban/built-up areas

- 3.43 The Study Area includes urban and sub-urban areas on the west side of Holyhead and in Trearddur and Valley. The area around Trearddur and Valley mainly includes residential areas. The route also passes through commercial areas including a modern retail park, and a services area at the eastern edge of Holyhead.



- 3.44 There are several discrete areas of vegetation, or undeveloped fields, adjacent to the roads within the western part of Holyhead, including a small area of secondary woodland at SH 24996 81112, an area of unmanaged neutral grassland and bramble scrub at SH 25371 81362 and an area of derelict land and a former paddock with patches of woodland ground flora at SH 25201 81244 (see Photograph 10).
- 3.45 Landscaping, including drains with grass margins and banks planted with trees and scrub, occur around the business park currently being developed on either side of Parc Cybi, at the eastern edge of Holyhead (see Photograph 12).
- 3.46 The former aluminium works at Penrhos supports large industrial buildings and hard-standing (approximately 40ha in area), set in grounds which include approximately 40ha of habitats including grassland, scrub, woodland and wetland vegetation.
- 3.47 This site also supports a small area of open mosaic habitat (OMH). Approximately 1.0 ha of this habitat type is present to the south of the aluminium works buildings, which is within the Proposed Working Area. This area supports patches of marshy grassland with areas of bare ground, inundated areas and ditches. Species present include soft rush, silverweed *Potentilla anserina*, creeping cinquefoil *Potentilla reptans*, knapweed, a hawkbit sp. *Leontodon*, common centuary *Centaureum erythraea*, knapweed and common mouse-ear *Cerastium fontanum*.
- 3.48 There are no extensive areas of this habitat type in other parts of the Study Area. Very small plots (<0.25ha) supporting waste ground or vacant plots have been excluded from the assessment.

#### **Habitats of Principal Importance**

- 3.49 The Study Area supports small areas of various habitat types which are Habitats of Principal Importance; these habitats are listed in response to Section 7 of the Environment (Wales) Act 2016 (see Appendix 5). The criteria set out in Maddock (2011) have been used to identify these habitat types, which are summarised in Table 4 below:

**Table 4: Habitats of Principal Importance**

Habitat of Principal Importance	Status and location within Study Area
Coastal saltmarsh	Coastal saltmarsh is present just to the south of the west end of the A55 bridge (forming part of the Beddmanarch-Cymyran SSSI); a small area of saltmarsh has also formed at the east (Valley) end of the lagoon between the A5 and A55 bridges (again also within the boundary of the SSSI).  Further saltmarsh vegetation (also part of the SSSI) is present on the east side of Lon Towyn Capel (SH 261794) and to the east of private track that runs between to corner of Lon Towyn Capel and the A55 (at SH264797).
Coastal vegetated shingle	This habitat is present on the shores of the Beddmanarch-Cymyran SSSI at either end of the A5 and A55 bridges (within the boundary of the SSSI).
Eutrophic standing waters	There are three reservoirs in the west part of the Study Area (referred to as 'ponds' 1, 2 and 3, elsewhere within the report). These have not been subject to detailed survey but may meet the criteria for inclusion within this habitat type.
Hedgerows	Few hedgerows are present in the west part of the Study Area.  Hedgerows form boundaries in fields to the north of the A5 in the valley area. They are typically species-poor, hawthorn dominated hedgerows.  NB: Although not included in the definition in Maddock (2011) cloddiau (vegetated walls) are included in the hedgerow section of the Anglesey Biodiversity Action Plan (these are

Habitat of Principal Importance	Status and location within Study Area
	considered below).
Inland rock outcrops and scree habitats	Small inland rock outcrops occur in several areas across the island, occurring frequently on either side of Porthdafarch Road and on either side of Lon Isallt.  These rocky areas typically occur in association with scrub and heathland.
Intertidal mudflats	Extensive intertidal mudflats occur within Beddmanarch-Cymyran SSSI on either side of the A5 and A55 bridges.
Lowland dry acid grassland	Small patches of this habitat type occur in association with more extensive areas of heathland; the majority of this habitat type in Holy Island is likely to be beyond the Study Area.
Lowland fen	The west and southern tip of Cors Tre Wilmot Local Wildlife Site, which includes fen vegetation, extends into the Study Area at SH 22085 81824 and SH 21873 81133, respectively.  There is also include some fen vegetation is present to the north and west of Holyhead Sports Centre.
Lowland heathland	Heathland occurs extensively in the Holy Island Coast SSSI and Tre Wilmot SSSI (both parts of the Holy Island Coast SAC).  Away from the SSSI smaller patches of heathland/scrub vegetation are common features within the landscape interspersed with areas of pasture, frequently where low rocky outcrops occur.
Lowland meadows	This habitat type includes a wide range of lowland grasslands, including most forms of unimproved neutral grassland.  The grassland habitats identified during the survey are not assessed to meet the habitat criteria set out in Maddock (2011), being either improved or semi-improved.  (See also Maritime Cliff and Slopes for maritime grassland).
Lowland mixed-deciduous woodland	This habitat type occurs on either side of the A5 between the former aluminium works and Penrhos Coastal Park, where a combination of ancient woodland, plantation on ancient woodland, and also patches of secondary woodland occur.  Several small pockets of semi-natural deciduous woodland are also present on either side (although primarily on the east side) of the private track that runs northwards between Lon Towyn Capel and the bridge over the A55.  No other significant blocks of ancient woodland occur, although the small block of woodland above the shore near Valley (at SH 28519 79876) and at the edge of the business/retail park near Penrhos Beach (at SH 25899 81469) appear to be semi-natural woodland.  Other blocks of woodland are present but appear to be more recently planted/secondary woodland and are therefore considered less likely to meet the Priority Habitat criteria in Maddock (2011).
Maritime cliff and slopes	This habitat type is extensive on the sea cliffs around South Stack and the Range in the west part of the Study Area.  Areas of cliff top maritime grassland occur in several areas to the south of Lon Isallt between the Range and Trearddur.
Open mosaic habitat on previously developed land	This habitat type is occurs in the land surrounding the former aluminium works.  Approximately 1.0 ha of this habitat type is present to the south of the aluminium works buildings, which is within the Proposed Working Area. Other patches of OMH are present



Habitat of Principal Importance	Status and location within Study Area
(OMH)	nearby but these are outside the Proposed Working Area.
Ponds	<p>The pond priority habitat classification relates to ponds which support species and assemblages of conservation importance.</p> <p>Not all the ponds within the Study Area are considered likely to meet these criteria set out in Maddock (2011). For guidance, if great crested newt was present the pond would meet the criteria. The results of the surveys for this species in 2018 were negative.</p>
Purple moor-grass and rush pastures*	The southern tip of Cors Tre Wilmot Local Wildlife Site, which includes purple moor grass vegetation, extends into the Study Area at SH 21873 81133.
Reedbed (marked as swamp on the Phase 1 habitat survey plan)	<p>The southern tip of Cors Tre Wilmot Local Wildlife Site, includes reedbed (swamp) vegetation, extends into the Study Area at SH 21873 81133.</p> <p>An area of wetland vegetation, which primarily includes swamp (reedbed), is present to the north and west of Holyhead Sports Centre (at SH 24507 80779).</p> <p>Areas of swamp and marshy grassland occur in the habitats to the north of the former aluminium works at (SH 26267 81343) and just to between the A5 and Penrhos Beach Road (at SH 26040 81537). Small patches of reedbed and swamp also occur adjacent to Lon Towyn Capel and at the corner of Lon Isallt and Parc Isallt in Trearddur Bay</p>
Wet woodland	Small areas of wet woodland are present in Penrhos Coastal Park in association with ponds and wet areas within the wider areas of woodland.

## Species

### Great crested newt

- 3.50 There are previous records of GCN from Holy Island and the area around Valley. A cluster of records was provided by Cofnod for an area immediately to the west of Holyhead that includes several ponds (Ponds 7-11, as shown on Figure 4a)<sup>2</sup>. A single record was provided from the vicinity of the golf course (from a location near to Pond 19). A cluster of records was also provided from the area to the east of Valley (from or close to Ponds 24-27, and also two recent records from a garden pond on Stanley Avenue in Valley<sup>3</sup>). The records date from the period between 1991 and 2017; the majority being provided since 2002.
- 3.51 Pond 19b was surveyed for GCN in 2007; however, none were recorded (Cofnod, pers. comm., 4 May 2018). No data relating to any other previous pond survey are held by Cofnod. It is therefore assumed that the remaining ponds within the Study Area have not previously been surveyed for GCN.

### HSI Assessment

- 3.52 As a result of the scoping process, ponds over 250m from the Proposed Working Area have been excluded, ponds that are shown on OS 1:25,000 map but not found to be present have been excluded, and ponds that are brackish have been excluded. Following this process, 21 ponds have been subject to HSI assessment; all others have been scoped out. A summary of the HSI assessment is provided in Table 5 below, further details are set out in Appendix 2.

<sup>2</sup> NB: This area has been scoped out of the assessment: the preferred route, which was subsequently identified, does not include this part of Holy Island.

<sup>3</sup> <https://youtu.be/EiqBsnmNo3U> The record provided by Cofnod states that "a maximum of 3 males and 2 females were recorded in 2014" from this garden pond on Stanley Avenue.

**Table 5: Great crested newt HSI results summary (ponds within 250m)**

HSI Category	Score	Pond	eDNA survey
Excellent	>0.8	n/a	Yes
Good	0.7-0.79	17, 18a, 19, 21, 25, 26	Yes
Average	0.6-0.69	15b, 19a, 42	Yes
Below average	0.5-0.59	15a, 16a, 16b, 16c, 19b, 27	Yes
Poor	<0.5	1, 2, 3, 20, 24, 30	No
Ponds within 250m but scoped out of assessment	Scoped out	Dry/Not present: 12a, 14, 15, 15c, 18b, 32, 36, 37, 40, 41  Not a pond, part of a stream/watercourse: 16, 31  Brackish: 38, 39	No
Ponds beyond 250m	Scoped out	All other ponds scoped out of the assessment.	N/a

- 3.53 For guidance, in general, ponds with high HSI scores are more likely to support GCN than those with low scores. However, the system is not sufficiently precise to conclude that any particular pond with a high score will support GCN, or that any pond with a low score will not do so. There is a positive correlation between HSI scores and the numbers of GCN observed. In general, high HSI scores are likely to be associated with greater numbers of GCN. The relationship is not sufficiently strong, however, to allow estimations of the numbers of GCN in any particular pond.

#### eDNA survey

- 3.54 All ponds with HSI scores of 0.5 and above were subject to eDNA survey. The results of the eDNA survey are summarised in Table 6 below:

**Table 6: Results of eDNA survey**

Pond	Sample successfully tested (Y/N)	eDNA Survey result
15a	Y	Negative
15b	Y	Negative
16a	Y	Negative
16b	Y	Negative
16c	Y	Negative
17	Y	Negative
18a	Y	Negative
19	Y	Negative
19a	Y	Negative

19b	Y	Negative
21	Y	Negative
25	Y	Negative
26	Y	Negative
27	Y	Negative
42	Y	Negative

- 3.55 The ponds that were sampled in the west part of the survey area are not near any previously identified GCN populations. Although previous records of GCN were provided for the Valley area, the eDNA survey did not detect GCN from any of the ponds sampled.

#### Otter

- 3.56 Twenty seven records of otter were provided by Cofnod within the Desk Study Area (as shown on Figure 5). The majority of these are from stream crossing points close to the A55 to the east of Valley, and from around the coast of Beddmanarch Bay (between Holy Island and Anglesey mainland). Two records were provided from locations (by roads) close to the route.
- 3.57 The majority of the Study Area is not assessed to provide suitable habitat for otter. There are few watercourses and those that are present are limited to small ditches (in the Valley area), which are not considered to be suitable for otter passage or foraging. The coastal areas provide extensive areas of suitable foraging habitat and resting sites.

#### Bats

- 3.58 Numerous (133) bat records were provided by Cofnod for the Desk Study Area. These include common pipistrelle *Pipistrellus pipistrellus* (the majority of records), soprano pipistrelle *Pipistrellus pygmaeus*, Daubenton's bat *Myotis daubentonii*, whiskered/Brandt's bat *Myotis mystacinus/brandtii*, Natterer's bat *Myotis nattereri*, Leisler's *Nyctalus leisleri*, noctule *Nyctalus noctula*, Nathusius' pipistrelle *Pipistrellus nathusii*, and brown long-eared bat *Plecotus auritus*.
- 3.59 The majority of bat records are associated with houses within Holyhead and in residential properties around South Stack. Records were also provided from the woodland area around Penrhos Park; few records were provided from other areas.
- 3.60 There is little woodland on Holy Island; however, since the island is exposed much of the Study Area does not offer extensive areas of optimal habitat for bats. There are, however, localised patches of good foraging habitat (dense scrub, ponds, ditches and wet grassland around waterbodies). The woodland habitat that is present is likely to offer suitable foraging habitat for bats.
- 3.61 Given the lack of woodland in the Study Area, buildings are considered likely to offer the main opportunities for roosting bats. It is possible that suitable tree roosts occur in the small areas of woodland that do exist, such as the woodland areas around Penrhos Country Park, which are within the Study Area, and potentially within the Proposed Working Area.

#### Red squirrel

- 3.62 Four records of red squirrel *Sciurus vulgaris* were provided by Cofnod (as shown on Figure 5) from dates between 2010 and 2017. Three are from the Penrhos Coastal Park area, which supports a mixture of ancient and plantation woodland. One record (from 2016) is from a garden to the north of Trearddur.

- 3.63 The woodland within and close to Penrhos Coastal Park, and some of the nearby woodland on the south side of the A55, offer suitable habitat for this species. The lack of woodland cover elsewhere means that the majority of the Study Area is unlikely to be suitable for red squirrel.

#### Water vole

- 3.64 113 records of water vole were provided for the Desk Study Area. The majority of these are from ditches to the south and east of Valley. Few records were provided from other parts of the Study Area – a small cluster of records was provided from a ditch to the west of Holyhead at H2263382311 (a ditch running to watercourse running parallel to South Stack Road, Holyhead), and from a ditch within the former aluminium works (at SH259807), as shown on Figure 5.
- 3.65 Few suitable ditches are present in the Study Area that could provide suitable habitat for this species with the exception of the ditches in the fields to the north of the north-east of valley; these provide potentially suitable habitat.
- 3.66 A small number of water vole droppings were found in a ditch at SH 29980 79783 during the extended Phase 1 habitat survey on 19 September 2018. The ditch was dry at the time of survey, meaning a thorough search of vegetation was carried out along the length of the ditch. Other ditches in this area (in the fields just to the west) were surveyed on 14 November 2018. No evidence of water vole was found, but since the survey was carried out shortly after a period of rain, this is considered likely to have reduced the effectiveness of the survey – after rain, and flowing water in the ditch, evidence of use (droppings, footprints and feeding remains) is likely to have been less evident. Given the findings of the earlier survey and the results of the desk study, it is considered likely that water vole is present on the suitable drains in this area, although probably only in low numbers, given the relatively few field signs noted.

#### Badger

- 3.67 Badger desk study and survey results are provided in a separate confidential Appendix (Appendix 3).

#### Birds

- 3.68 Habitats suitable for nesting birds occur throughout the Study Area including the sea cliffs, heathland, scrub, wetland areas, and woodland. The estuarine habitats between Holy Island and the Anglesey mainland are also important for passage and wintering birds.

#### Chough

- 3.69 The coastal cliff habitats in the western part of the Survey Area form part of the Glannau Ynys Gybi / Holy Island Coast SPA for chough. Chough nests in caves in the cliffs and forages on low-input short sward grassland at the top of the cliffs and inland. Details of four known chough nest sites (A12, A13, A23 and A25) were provided by the Cross & Stratford Welsh Chough Project; these are either within or close to the Study Area<sup>4</sup>. Of these, one is located (A25) within the Abraham's Bosom bay area; this bay includes the potential landfall location.
- 3.70 The Study Area includes numerous fields suitable for use by foraging chough. During the breeding season choughs feed mainly within 300 m of the nest and the extent of good foraging habitat close to nesting sites has been shown to influence breeding success (Johnstone *et al.*, 2011). Therefore, where such fields occur close to nest sites, during the breeding season they are potentially important foraging areas for adults and fledged juveniles; birds range more widely in the winter and use a wider range of foraging habitats. Chough (sighting) records provided by Cofnod are shown

<sup>4</sup> Details of the criteria for defining 'close' in terms of distance from the Study Area boundary were not provided by the Cross & Stratford Welsh Chough Project; it is assumed therefore that the data provided include all chough nests sites which are considered to be within potential disturbance distance of the Study Area.

on Figure 7<sup>5</sup>. Further data<sup>6</sup> on foraging areas provided by Cross & Stratford Welsh Chough Project and the RSPB, shows a concentration of foraging activity on the fields between South Stack, Ty Mawr Farm and the Range, much of this land is managed by the RSPB.

#### Other species

- 3.71 In addition to chough, the cliffs support a variety of cliff nesting sea birds, such as herring gull *Larus argentatus*, fulmar *Fulmarus glacialis*, kittiwake *Rissa tridactyla*, razorbill *Alca torda*, guillemot *Uria aalge*, puffin *Fratercula artica*, kestrel *Falco tinnunculus* and peregrine falcon *Falco peregrinus*.
- 3.72 The heathland and scrub areas support linnet *Linaria cannabina*, whitethroat *Sylvia communis*, skylark *Alauda arvensis*, and stonechat *Saxicola rubicola*. The small patches of wetland vegetation are used by other species such as sedge warbler *Acrocephalus schoenobaenus* and reed bunting *Emberiza schoeniclus*, and, where scrub occurs, grasshopper warbler *Locustella naevia*. Marshy grassland provides suitable nesting habitat for lapwing *Vanellus vanellus* and curlew *Numenius arquata*.
- 3.73 Other areas of trees, scrub and shrubs provide nesting habitat for a variety of common and widespread species of nesting birds such as blue tit *Cyanistes caeruleus*, great tit *Parus major*, long-tailed tit *Aegithalos caudatus*, wren *Troglodytes troglodytes*, robin *Erithacus rubecula*, dunnoek *Prunella modularis*, blackbird *Turdus merula*, song thrush *Turdus philomelos*, and chaffinch *Fringilla coelebs*. The buildings may also offer opportunities for nesting birds such as starling *Sturnus vulgaris* and house sparrow *Passer domesticus*.

#### **Reptiles**

- 3.74 Records of three species of reptile (adder *Vipera berus*, common lizard *Lacerta vivipara* and slow worm *Anguis fragilis*) were provided by Cofnod. Numerous adder records were provided from the heathland habitats around South Stack, The Range and Tre Wilmot, in the western part of the Survey Area. Common lizard and slow worm records were also provided for these areas, but also with a few records of both species occurring more widely across the Study Area. Reptile records are shown on Figure 8.
- 3.75 The heathland, scrub and grassland mosaic which occurs patchily across Holy Island provides a good habitat for reptiles and it is likely that these species occur more widely across the Study Area.

#### **Plants**

- 3.76 A large number of plant records were provided by Cofnod. Records summarised below relate to species listed on Schedule 8 of the Wildlife & Countryside Act, 1981 (as amended) and those listed in response to Section 7 of the Environment (Wales) Act 2016 (Species of Principal Importance). No records of European Protected Species were identified through the desk study.
- 3.77 Spatulate (South Stack) fleawort *Tephrosia integrifolia* ssp. *maritima* is endemic to Holy Island and occurs along the cliff top vegetation between South Stack and the Range. This plant is listed on Schedule 8 of the Wildlife and Countryside Act, 1981 (as amended). Records of this species are shown on Figure 9. Some of these records are from the section of coastline around Abraham's Boson, which is included within the Study Area and is in the general vicinity of the proposed landfall points.
- 3.78 Records of golden hair lichen *Teloschistes flavicans* were provided for Porth Dafarch at SH231798, SH23227992 and SH23227992; these locations are close to but outside of the Proposed Working Area. This lichen is also listed on Schedule 8 of the Wildlife and Countryside Act, 1981 (as amended). Records of this species are shown on Figure 9.

<sup>5</sup> Figure 7 is based on chough data provided by Cofnod, and does not include confidential records provided by the Cross & Stratford Welsh Chough Project and the RSPB. Some of the records provided by Cofnod are for four-figure grid references, and explains why some of the records are in the sea or in urban areas of Holyhead.

<sup>6</sup> This more detailed information on chough is not included in this report for reasons of confidentiality.

3.79 Records of the following plant species, which are listed in response to Section 7 of the Environment (Wales) Act 2016 (Species of Principal Importance), were provided by Cofnod:

- Several records of pillwort *Pilularia globulifera* and three-lobed crowfoot *Ranunculus tripartitus* were provided from Tre Wilmot SSSI. There are no records of this species from the Proposed Working Area.
- Pale dog violet *Viola lactea* occurs in several locations on The Range, part of the Holy Island Coast SSSI. There are no records of this species from the Proposed Working Area.
- Several records of tubular water-dropwort *Oenathe fistula* were provided from the area to the east of Valley. There are no records of this species from the Proposed Working Area.
- A historical record (1988) of small-flowered catchfly *Silene gallica* was provided from Bodwarren Farm (SH217811), in the west part of the Study Area. This record is however stated as a casual record, likely to have been introduced with grass seed.

3.80 There are other notable plant species/Welsh Red Data book plants (BSBI, 2018) which occur within the Study Area, including:

- Spotted rock-rose *Tuberia guttata*, which has a restricted UK distribution and a strong hold locally, occurs in several locations from the heathland around South Stack and The Range, and three records from the patchy heathland and scrub to the south of Lon Isallt.
- A leek *Allium ampeloprasum* occurs in a road verge/field boundary near Ty Mawr (South Stack) at OS grid reference SH 21814 81698 and SH 21840 81725. This is within the South Stack Proposed Substation Area.

Records of these species are shown on Figure 9.

#### Invertebrates

3.81 Records of invertebrate species listed in response to Section 7 of the Environment (Wales) Act 2016 (Species of Principal Importance) provided by Cofnod included various butterflies (small pearl-bordered fritillary *Boloria selene*, silver studded blue *Plebejus argus*, wall *Lasiommata megera*, grayling *Hipparchia semele* and small heath *Coenonympha pamphilus*) and a very wide range of moth species. These records are predominantly from the heathland areas around South Stack, the Range, Tre Wilmott (mainly from areas within the SSSIs) and also from the large area of grassland, scrub and woodland habitat immediately to the south of the former aluminium works on the south side of the A55, which, given the number of records provided, appears to have been regularly surveyed for moths.

#### Invasive species

3.82 The invasive plant Japanese knotweed was recorded from five locations within the Study Area, as shown in Table 7 below, and shown on Figure 10. No records of other non-native invasive species were identified from desk study or field survey.

**Table 7: Japanese knotweed locations**

Reference	Location	OS Grid reference	Description
1	Adjacent to reservoir access track. Just inside the Holy Island Coast SSSI heathland.  Immediately adjacent to Proposed Working Area.	SH 22021 82089	A large stand of Japanese knotweed near the base of a steep area of heathland, just inside the Holy Island Coast SSSI
2	Within a small enclosed field at Ty Mawr, South Stack	SH 21702 81798	A few plants around the perimeter of the

	Road.  Within Proposed Working Area.		field.
3	In western part of survey area, near Penrhosfeilw.  Within Proposed Working Area.	SH 21945 80590	Small clump in the road verge; likely to be very close to working area.
4	In woodland approximately 50m to the west of access track.  Not within proposed working area.	SH 26464 79931	A large clump at the base of a spoil mound.
5	At the east edge of Valley, close to the west side of the A5025 road.  Within Proposed Working Area.	SH 29501 79336	Scattered plants in a field adjacent to the road.



## 4 Potential Impacts and Recommendations

- 4.1 This section of the report is intended to provide an initial review of potential impacts and recommendations based on the current information on proposed route options and substation areas which can be used to inform the project design. It is anticipated that a more detailed impact assessment will be set out in the Ecology Chapter of the Environmental Statement which will be prepared to accompany the future planning application.
- 4.2 Impacts from the development could arise from the following activities: vegetation removal, excavation of trenches, storage of arisings, storage of other materials, creation of site compounds, horizontal directional drilling compounds and other above ground infrastructure, temporary removal of field boundaries, and the creation of ditch crossing points. At worst case, impacts are anticipated to be greatest during construction and decommissioning activities, with less disturbance anticipated during the operational phase of the project.
- 4.3 This work has the potential to give rise to impacts on habitats through direct permanent or temporary loss or fragmentation of habitat features, temporary disturbance of habitats (through, for example, light, dust, noise or pollution events), spread of non-native invasive species and localised changes in hydrology. The work also has potential to give rise to the mortality or disturbance to individuals of certain species.
- 4.4 Options for reducing or avoiding the significance of these impacts include amending the Proposed Working Area (including localised micro-siting of the route) to avoid habitat features; localised reduction of the width of the Proposed Working Area where required to avoid features; habitat protection and reinstatement following the construction phase; and, avoidance of harm to nesting birds and protected species through adopting specific working practices, including the timing of the work to avoid sensitive periods. An overarching Ecological Action Plan (EAP), incorporating all necessary mitigation measures and management plans for habitats and species, will sit underneath the project Environmental Management Plan (EMP).
- 4.5 Impact risk is considered below with respect to designated sites, habitats and protected species, with recommendations for mitigation or further pre-construction precautionary survey where appropriate and proportionate to do so.



## Designated Sites

### Statutory designated sites

- 4.6 The Study Area (and extent of the Proposed Working Area) extends into a designated site Holy Island Coast SSSI/SPA/SAC in a localised area, as shown on Figure 1, and summarised in Table 8 below. Further consideration, including consultation with NRW is identified where necessary.

**Table 8: Potential impacts on statutory designated sites**

Site name	Location	Potential for impacts	Recommendations
Glannau Ynys Gybi / Holy Island Coast SSSI/SPA/SAC	The landfall point in the bay at Abraham's Bosom passes through part of this SSSI/SPA/SAC.	Impacts will depend on working methods. If it is possible to install the cabling under the cliff using HDD and a sub-tidal connection point, an impact can potentially be avoided.  Other working methods (for installing cabling without HDD) have potential to have an adverse effect on two important features: cliff vegetation and birds using the cliffs, including chough, which nests in this area.  The significance of impact on chough and other cliff nesting bird species, including seabirds, is likely to be influenced by timing of the work. Work within the nesting period (February to mid-August) has more potential to cause disturbance.	Consultation is recommended NRW and the RSPB to discuss and agree suitable working methods.
	The working area also includes an area of heathland which forms part "The Range".	The potential for impacts to occur will depend on the precise location of the substation infrastructure.	It is recommended that the <u>working area is modified to avoid</u> this part of the Holy Island Coast SSSI/SPA/SAC.
	The South Stack part of the SSSI/SPA/SAC adjoins the northern boundary of the Proposed Working Area.	The working area is immediately adjacent to the SSSI/SPA/SAC. There will be no direct impact but there may be potential for impacts through, for example, disturbance.	It is recommended that a buffer of 100m is included between the edge of the proposed development and the SSSI.
	Supporting habitat for chough – low input coastal grassland in land adjacent to the SPA.	A further possible impact on chough, the qualifying feature of the SPA, could occur through work which affects foraging habitat adjacent to the SPA (some of which is owned and managed by the RSPB).  Low-input coastal grassland close to chough nesting sites provides an important foraging resource for chough during the nesting and fledging period (February to mid-August) and disturbance to this habitat during sensitive periods has potential to give rise to a negative impact on chough.  Birds are likely to range more widely at other times of year, and likely to be less affected by work in these habitats.	Consultation is recommended with NRW and the RSPB to devise an appropriate mitigation strategy.  Work affecting key areas of supporting habitat may need to be scheduled to avoid the breeding and fledging periods (February to mid-August).

Site name	Location	Potential for impacts	Recommendations
Anglesey Tre Wilmot SSSI (and part of Holy Island Coast SPA/SAC)	This SSSI is approximately 350m from the Proposed Working Area, at its closest point.	No impact on this SSSI is anticipated.	N/A
Beddmanarch-Cymyran SSSI	This SSSI is crossed by the parallel A5 and A55 bridges. It is therefore immediately adjacent to the part of the route that between Holy Island and Valley.	If the cabling route is installed within the existing bridge infrastructure an impact on SSSI habitat features (including the intertidal habitat and landfall areas of either side of the bridge) is likely to be avoided.	Consultation is recommended with NRW to confirm this assessment.
Beddmanarch-Cymyran SSSI	A small part of the SSSI is immediately adjacent to the minor road Lon Towyn Capel and a short section of the private track to the north.	There is potential for an impact to occur if the cable route in this area is installed into adjacent land, rather than within the road or track to the north.	It is recommended that the cable in this area is installed within the existing road and tracks, and that disturbance to the SSSI to the east is avoided.  Consultation is recommended with NRW to confirm this assessment.

- 4.7 There is a presumption against development that is likely to damage a SSSI (Planning Policy Wales, 5.5.8). Further detail is set out in Appendix 5.

#### ***Habitats Regulations Assessment (HRA)***

- 4.8 Given the proximity of the Holy Island Coast SPA/SAC, and since the work has potential to affect supporting habitat used by chough (the qualifying feature of the SPA) it is likely that a Habitats Regulations Assessment (HRA) will be required. Further design information, and consultation will be required with NRW and IoACC to determine the level of detail required to inform the HRA.

#### ***Non-statutory designated sites***

- 4.9 The Study Area (and extent of the Potential Working Area) extends slightly into two Local Wildlife Sites (BO1: Cors Tre Wilmot and A11: Arfordir Bwth Corwgl – Bae Trearddur), as shown on Figure 2 and in Table 9 below.
- 4.10 Given the distance and geographical separation from the Proposed Working Area, direct or indirect impacts on other non-statutory designated sites are not anticipated from the development.

**Table 9: Potential impacts on non-statutory designated sites**

Site name	Location	Potential for impacts	Recommendations
BO1: Cors Tre Wilmot LWS	The western-most part of the LWS is within 10-15m of South Stack Road. It is potentially in close proximity to the proposed cabling route in this area.  The southern part of the LWS is approximately 80m from the road in the Abraham's Bosom area.	The possibility of an impact will depend on working methods and the precise location of the substation and proposed cabling route.	It is recommended that the working area is designed/modified to avoid this LWS.
A11: Arfordir Bwth Corwgl	Rocky coast with grassland and heath immediately to the south of Proposed Working Area on the west side of Trearddur Bay.	The possibility of an impact will depend on working methods and the precise location of the proposed cabling route.	It is recommended that the working area is designed/modified to avoid this LWS.  This would mean that, in areas adjacent to the LWS, as proposed, the cabling would need to be installed within the road and not in habitats to the south.

## Habitats

- 4.12 A large part of the Study Area supports improved and species-poor semi-improved grassland, which is assessed to be of low botanical value, or is situated within roads. The Study Area does include some areas which include or are adjacent to habitats of greater ecological value, including habitats of principal importance, these are discussed below.

### **Habitats of Principal Importance**

- 4.13 The Study Area supports small areas of various habitat types which are habitats of principal importance. These are identified in Table 10 below, together with an initial impact risk evaluation:
- 4.14 Habitats of principal importance are listed in response to Section 7 of the Environment (Wales) Act 2016 (see Appendix 5). The Environment (Wales) Act 2016 requires "Welsh ministers to take all reasonable steps to maintain and enhance habitats" (of principal importance) which are listed in response to Section 7 of the Act.
- 4.15 Technical Advice Note (TAN) 5 (Section 2.4) requires that "when deciding planning applications that may affect nature conservation, local authorities should protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats..."
- 4.16 Policy AMG 5: Local Biodiversity Conservation in the Anglesey and Gwynedd Joint Local Development Plan states that "proposals must protect and, where appropriate, enhance biodiversity that has been identified as being important to the local area by avoiding significant harmful effects through the sensitive location of development", making a specific reference to habitats of importance identified in Anglesey Local Biodiversity Action Plan, which are also referenced in Table 10 below (with an \*).

**Table 10: Habitats of principal importance – impact evaluation**

Habitat of Principal Importance	Status and location within Study Area	Potential impacts	Recommendations
Coastal saltmarsh	Coastal saltmarsh is present just to the south of the west end of the A55 bridge (forming part of the Beddmanarch-Cymyran SSSI); a small area of saltmarsh has also formed at the east (Valley) end of the lagoon between the A5 and A55 bridges (again also within the boundary of the SSSI).  Further saltmarsh vegetation (also part of the SSSI) is present on the east side of Lon Towyn Capel (SH 261794) and to the east of private track that runs between to corner of Lon Towyn Capel and the A55 (at SH264797).	The potential for an impact to occur will depend on route.	It is recommended that in this area the cable route is installed in roads in this area to avoid affecting any habitats within the SSSI.
Coastal vegetated shingle	This habitat is present on the shores of the Beddmanarch-Cymyran SSSI at either end of the A5 and A55 bridges (within the boundary of the SSSI).	The potential for an impact to occur will depend on route.	It is recommended that in this area the cable route is installed in roads in this area to avoid affecting any habitats within the SSSI.
Eutrophic standing waters*	There are three reservoirs in the west part of the Study Area (referred to as 'ponds' 1, 2 and 3, elsewhere within the report). These have not been subject to detailed survey but may meet the criteria for inclusion within this habitat type.	The potential for an impact to occur will depend on the substation location and the proposed cable route. Two reservoirs ("Ponds 2 and 3") are likely to be outside of the Proposed Working Area.	It is recommended that the cable route and substation locations are designed to avoid these reservoirs.
Hedgerows*	Few hedgerows are present in the west part of the Study Area.  Hedgerows form boundaries in fields to the north of the A5 in the valley area. They are typically species-poor, hawthorn dominated hedgerows.  NB: Although not included in the definition in Maddock (2011) cloddiau (vegetated walls) are included in the hedgerow section of the Anglesey Biodiversity Action Plan (these are considered below).	The potential for an impact to occur will depend on route.  Given that these hedgerows are species-poor, temporary removal and reinstatement of hedgerow sections may be acceptable, as it is unlikely to give rise to a significant ecological impact.	It is recommended that where possible the cable route is designed to avoid an impact on hedgerows.

Habitat of Principal Importance	Status and location within Study Area	Potential impacts	Recommendations
Inland rock outcrops and scree habitats	Small inland rock outcrops occur in several areas across the island, occurring frequently on either side of Porthdafarch Road and on either side of Lon Isallt.  These rocky areas typically occur in association with scrub and heathland.	The potential for an impact to occur will depend on route.	It is recommended that where possible the cable route is designed to avoid an impact on this habitat type.
Intertidal mudflats	Extensive intertidal mudflats occur within Beddmanarch-Cymyran SSSI on either side of the A5 and A55 bridges.	The potential for an impact to occur will depend on route.	It is recommended that in this area the cable route is installed in roads in this area to avoid affecting any habitats within the SSSI.
Lowland dry acid grassland	Small patches of this habitat type occur in association with more extensive areas of heathland; the majority of this habitat type in Holy Island is likely to be beyond the Study Area.	The potential for an impact to occur on this habitat is considered to be limited.	
Lowland fen*	The west and southern tip of Cors Tre Wilmot Local Wildlife Site, which includes fen vegetation, extends into the Study Area at SH 22085 81824 and SH 21873 81133, respectively.  There is also include some fen vegetation is present to the north and west of Holyhead Sports Centre.	The potential for an impact to occur will depend on route.	It is recommended that the cable route is designed to avoid an impact on this habitat type.
Lowland heathland	Heathland occurs extensively in the Holy Island Coast SSSI and Tre Wilmot SSSI (both parts of the Holy Island Coast SAC).  Away from the SSSI smaller patches of heathland/scrub vegetation are common features within the landscape interspersed with areas of pasture, frequently where low rocky outcrops occur.	The working area is shown to include a small area of heathland within the Holy Island SSSI/SAC.  Outside these areas, the potential for an impact to occur will depend on the route selection.	It is recommended that the Proposed Working area is amended to avoid any heathland within SSSI areas.  Where possible it is recommended that areas of heathland/scrub are avoided.
Lowland meadows	This habitat type includes a wide range of lowland grasslands, including most forms of unimproved neutral grassland.  The grassland habitats identified during the survey are not assessed to meet the habitat criteria set out in Maddock (2011), being either improved or semi-improved.  (See also Maritime Cliff and Slopes for maritime grassland).	The potential for an impact to occur on this habitat is considered to be low.	

Habitat of Principal Importance	Status and location within Study Area	Potential impacts	Recommendations
Lowland mixed-deciduous woodland*	<p>This habitat type occurs on either side of the A5 between the former aluminium works and Penrhos Coastal Park, where a combination of ancient woodland, plantation on ancient woodland, and also patches of secondary woodland occur.</p> <p>Several small pockets of semi-natural deciduous woodland are also present on either side (although primarily on the east side) of the private track that runs northwards between Lon Towyn Capel and the bridge over the A55.</p> <p>No other significant blocks of ancient woodland occur, although the small block of woodland above the shore near Valley (at SH 28519 79876) and at the edge of the business/retail park near Penrhos Beach (at SH 25899 81469) appear to be semi-natural woodland.</p> <p>Other blocks of woodland are present but appear to be more recently planted/secondary woodland and are therefore considered less likely to meet the Priority Habitat criteria in Maddock (2011).</p>	<p>Impacts on woodland are likely to be avoided if the proposed cable route is installed within existing roads and tracks.</p> <p>For guidance, Planning Policy Wales (5.5.15) states that "In the case of a site recorded on the inventory of ancient woodland produced by the former CCW, authorities should consult with Natural Resources Wales before authorising potentially damaging operations."</p>	It is recommended that the cable route is designed to avoid any areas of woodland, in particular, the areas of ancient woodland (See Figure 2), and the pockets of semi-natural woodland on either side of the track to the south of the A55.
Maritime cliff and slopes*	<p>This habitat type is extensive on the sea cliffs around South Stack and the Range in the west part of the Study Area.</p> <p>Areas of cliff top maritime grassland occur in several areas to the south of Lon Isallt between the Range and Trearddur.</p>	If the cable route involves HDD from a location below sea level to avoid cliff vegetation, an impact on this habitat type is likely to be avoided in the South-Stack/Range Proposed Substation Area.	It is recommended that the cable route is designed to avoid any areas of this habitat type.
Open mosaic habitat on previously developed land (OMH)	<p>This habitat type is occurs in the land surrounding the former aluminium works.</p> <p>Approximately 1.0 ha of this habitat type is present to the south of the aluminium works buildings, which is within the Proposed Working Area. Other patches of OMH are present nearby but these are outside the Proposed Working Area.</p>	<p>If the cable route utilises the corridor between the south side of aluminium works and the railway line then there is potential for an impact on this habitat.</p> <p>Since this area is subject to scrub encroachment it is possible that some localised disturbance will be beneficial (to reduce scrub, and maintain patches of open habitat).</p>	<p>The significance of an impact in this area would be minimised if an approach is devised which reinstates OMH following the cable installation.</p> <p>This would involve the reinstatement of excavated material in a way that would provide low nutrient substrate suitable for ephemeral vegetation.</p>
Habitat of Principal	Status and location within Study	Potential impacts	Recommendations

Importance	Area		
Ponds*	<p>The pond priority habitat classification relates to ponds which support species and assemblages of conservation importance.</p> <p>Not all the ponds within the Study Area are considered likely to meet these criteria set out in Maddock (2011). For guidance, if great crested newt was present the pond would meet the criteria. The results of the surveys for this species in 2018 were negative.</p>	The potential for an impact to occur will depend on route.	It is recommended that the cable route is designed to avoid any ponds.
Purple moor-grass and rush pastures*	The southern tip of Cors Tre Wilmot Local Wildlife Site, which includes purple moor grass vegetation, extends into the Study Area at SH 21873 81133.	The potential for an impact to occur will depend on route.	It is recommended that the cable route is designed to avoid an impact on this habitat type.
Reedbed* (marked as swamp on the Phase 1 habitat survey plan)	<p>The southern tip of Cors Tre Wilmot Local Wildlife Site, includes reedbed (swamp) vegetation, extends into the Study Area at SH 21873 81133.</p> <p>An area of wetland vegetation, which primarily includes swamp (reedbed), is present to the north and west of Holyhead Sports Centre (at SH 24507 80779).</p> <p>Areas of swamp and marshy grassland occur in the habitats to the north of the former aluminium works at (SH 26267 81343) and just to between the A5 and Penrhos Beach Road (at SH 26040 81537). Small patches of reedbed and swamp also occur adjacent to Lon Towyn Capel and at the corner of Lon Isallt and Parc Isallt in Trearddur Bay</p>	The potential for an impact to occur will depend on route.	It is recommended that the cable route is designed to avoid any areas of reedbed.
Wet woodland	Small areas of wet woodland are present in Penrhos Coastal Park in association with ponds and wet areas within the wider areas of woodland.	The potential for an impact to occur will depend on route.	It is recommended that the cable route is designed to avoid any areas of woodland, in particular the areas of ancient woodland (See Figure 2).

4.17 \* Habitats with a similar or corresponding category in the Anglesey Biodiversity Action Plan

4.18 Other areas of the Study Area, including the improved and semi-improved grassland, urban areas, and formal landscaped areas are not considered to be Habitats of Principal Importance (taking into account criteria set out in Maddock (2011)).

### **Cloddiau**

4.19 In addition to the habitats of principal importance described above, Cloddiau (vegetated stone walls) and Scrub (primarily gorse scrub in this area of Anglesey) are habitats referred to in the Anglesey Biodiversity Action Plan (Cloddiau is referred to in the section relating to ancient hedgerows).

- 4.20 Where the route runs in fields adjacent to existing roads and need to cross field boundaries, it is possible that cloddiau will be affected. The likelihood on an impact on cloddiau will depend on the route selected.
- 4.21 It is recommended that where possible cloddiau are avoided. If avoidance is not possible mitigation measures are recommended (such as installing the cable beneath the existing feature or dismantling and rebuilding in a traditional style, reusing materials, following the installation of the cable).



**Protected Species**

- 4.22 A summary of the legislation and policy relevant to protected species is provided in Appendix 5.

***Great crested newt***

- 4.23 The eDNA survey results provided negative results for all the ponds surveyed in 2018. There are previous records of this species within the Desk Study Area – the previous records in the Valley area are most relevant to the assessment.
- 4.24 From the results of the assessment it is concluded that GCN is likely to be absent from the majority of the Proposed Working Area. Although there are previous records near Holyhead, the proposed route is not close to these areas. There is no evidence to indicate that GCN is present in any of the ponds within the proposed South Stack landfall substation area or close to the various proposed cabling routes on Holy Island.
- 4.25 No positive eDNA samples were returned from the ponds sampled near Valley. The most recent record (dating from 2014) from Stanley Avenue, Valley (SH29130 79860) refers to “a maximum of three males and two females in a garden pond” (NB. eDNA from this pond was not sampled in 2018). This number would equate to a “small population” (English Nature, 2001). Where suitable habitat is present the majority of GCN are understood to stay within 50m of a pond outside the breeding period (Creswell & Whitworth, 2004). This pond is approximately 220m from the edge of the Study Area; only a very small part of the Study Area is within 250m of the pond, the rest of the Study Area is therefore distant habitat. Similar habitat (open fields) is present immediately to the north of the garden. Taking the above factors into account, the likelihood of GCN from this pond using the Proposed Working Area is considered to be very low, and risk to GCN (from this pond) is considered to be very low.
- 4.26 The two other nearby previous records are from locations to the south of the A5, one from SH 288 792, dating from 2005, from a location over 200m from the edge of the Proposed Working Area (there is no pond present at this location), and one from SH286792 dating from 1998, which is approximately 300m from the edge of the survey area. Both records are distant and old, the latter pre-dates the construction of the A55 dual carriageway, which is immediately to the south. Taking these factors into account, and the negative eDNA survey results obtained in 2018, the risk of an impact on GCN in this part of the Study Area is considered to be very low.
- 4.27 No further survey work for GCN is considered necessary. No specific mitigation is proposed. Although the risk of encountering this species is considered to be very low it is recommended that a method statement is drawn up which sets out basic precautionary measures, including the correct course of action in the unlikely event that GCN is encountered during any project-related construction activities.

***Bats***

- 4.28 The proposed work is considered unlikely to give rise to a significant impact on bats, providing that no existing buildings are to be affected (noting that if any buildings did have potential to be affected further survey work for evidence of use by bats may be required), and that the work does not require the removal of trees or woodland. If tree or woodland removal is required, or if illumination of habitat features (particularly woodland, scrub or hedgerows) is required, it is recommended that further assessment is carried out to confirm that potential roost features are not present.

***Red squirrel***

- 4.29 Providing that the woodland habitats can be avoided, as recommended, an impact on red squirrel is unlikely to occur as a result of the proposed work. Based on this assumption, no further survey work is recommended for this species.

**Otter**

- 4.30 Given that the proposed route will not affect any significant watercourses, the proposed work is considered unlikely to give rise to a significant impact on otter. This assessment assumes that the route will not involve significant disturbance of habitat to intertidal and coastal habitats on either side of the A55/A5 road bridges or the scrub and woodland adjacent to the estuary. If there is potential for these habitats to be affected, further survey is recommended to search for evidence of use by otter to ensure that this species will not be adversely affected by the proposed work.

**Water vole**

- 4.31 Evidence of water vole has been found in one of the field drains in the proposed Valley grid connection substation area and it is considered possible that this species occurs in all the drains in this area. An impact on water vole is possible if work is required which affects the drains (including a 5m-wide buffer zone at the top of the drains), such as the creation of drain crossing points or drain realignment. If such work is required, further targeted survey is recommended. The purpose of this would be to carry out a further targeted survey for burrows and if necessary to provide detailed advice in micro-siting crossing points or identify other mitigation requirements to ensure that an impact is avoided. If the drains and buffer areas will not be affected, no further survey or mitigation is likely to be required.

**Badger**

- 4.32 An impact on badgers is possible where ground work and excavation (particularly using machinery) is required within close proximity to a sett. For guidance, any setts within 20-30m of the proposed cable route or other infrastructure may have potential to be damaged or affected by construction activities. A precautionary stand-off of 20-30m is made as a general recommendation for any development-related construction activity. This recommended standoff can vary depending on local topography and the type of activity.
- 4.33 Setts have been identified within the western part of the Study Area; the area proposed for the landfall substation in the South Stack/The Range area. Further setts are located in the east part of Holy Island. Further detail is provided in (confidential) Appendix 3.
- 4.34 For guidance, if a sett cannot be avoided, a licence would need to be obtained from NRW to temporarily or permanently exclude it. This may sometimes require the provision of a nearby replacement sett. A licence would restrict activities affecting the sett to the licensable period between July and November in a given year.
- 4.35 Recommended mitigation during site preparation works: There are numerous areas of dense thick scrub within the Study Area which could not be comprehensively searched for setts (as described in the limitations above). It is therefore recommended that if any dense scrub requires clearance that precautionary checks for badger sett are carried out while vegetation is removed before any more intrusive ground work is carried out.
- 4.36 Recommended mitigation during the construction phase: This will involve either covering excavations overnight or ensuring that these are fitted with a ramp to prevent animals from being trapped.
- 4.37 Further detail is provided in Appendix 3, a confidential Appendix which provides detailed information on the location of setts.

**Birds****Chough**

- 4.38 The short grazed low-input coastal grassland which occurs particularly in the west part of the Study Area is of importance as a foraging habitat for the local chough population, the qualifying feature of Holy Island Coast SPA.

- 4.39 The selection of substation and location of cabling routes in this area has potential to affect chough habitat outside of the SPA, some of which is managed for chough by the RSPB.
- 4.40 The proposed installation of a cabling, if required in fields, is likely to involve temporary excavation and reinstatement of vegetation. The significance of any impact on chough is likely to be influenced by timing of the work. Work within the nesting period (February to mid-August) has more potential to cause disturbance.
- 4.41 As described above (in relation to the SPA), it is recommended that further consultation is carried out with the RSPB and NRW to identify areas of grassland in proximity to the Holy Island Coast SPA which may be important for nesting chough and to agree a suitable mitigation approach (for example, either avoid these areas of habitat or programme the work to avoid sensitive times of year). Note also the comments above (Section 4.7) in relation to Habitats Regulations Assessment.

#### **Cliff nesting birds**

- 4.42 Impacts on other cliff nesting seabirds (referred to in the Holy Island Coast SSSI citation) will depend on working methods and timing of works. If it is possible to install the cabling under the cliff using HDD and a sub-tidal connection point, the risk of an impact is likely to be avoided.
- 4.43 Other working methods (for installing cabling without HDD) have potential to have an adverse effect on two important features: cliff vegetation and birds using the cliffs, including chough, which nests in this area. Timing of work to avoid the nesting period (between February and August inclusive) would be an important consideration for mitigation if this engineering approach was taken.

#### **Other species**

- 4.44 It is recommended that, where possible, habitat suitable for nesting birds is avoided by the proposed work. This includes areas of heathland, scrub, wetland (reedbed and marshy grassland), cliff areas, and woodland habitats. If such areas cannot be avoided it is possible that further survey would be recommended, although this would depend on the extent of habitat to be affected and the proposed timing of the construction work, and the ability to devise reasonable avoidance measures.
- 4.45 As a general guide where vegetation removal is required it is recommended that this is carried out outside the nesting period for birds. As a guide, the bird nesting season is between February and August inclusive; dates vary by species and can be affected by prevailing weather conditions. The majority of species do not start nesting until March and April. If vegetation removal is required within this period, checks for nesting birds should be carried out; if nests are present the work should be delayed until young have fledged (noting that this approach is only practical for very small areas of habitat, and would not be appropriate for large scale project).

#### **Reptiles**

- 4.46 There is an abundance of suitable reptile habitat within the Study Area. The heathland within Holy Island Coast SSSI and Tre Wilmot SSSI is assessed to be a key area for reptiles within the Study Area, but small pockets of taller grassland, scrub and wetland habitats provide further good habitats throughout the Study Area, often in close proximity to roads. The vegetated walls (cloddiau) which separate some of the fields also provide suitable habitats for common lizard. The pasture fields, with a short, grazed sward, without vegetation structure to provide cover, are likely to be of low value for reptiles.
- 4.47 Where the route is located in roads or within grazed improved or semi-improved pasture the risk of an impact on reptiles on reptiles is likely to be avoided. It is recommended that the habitats that are more suitable for use by reptiles are avoided where possible.
- 4.48 If suitable habitats are to be affected an impact on reptiles is possible, although the significance of this is likely to be limited, due to the limited working area and temporary nature of the proposed work. Further survey for reptiles is not recommended at this stage. If any areas of habitat suitable

for use by reptiles could be affected it is likely that precautionary working measures would be required during the construction phase. The type of measures required would depend on the precise route selection, the extent of the working area, and timing of any work carried out.

### **Plants**

- 4.49 The majority of key habitats for plant species identified above are likely to be excluded from the working area (being located within SSSI areas). It is recommended that if any work which could affect cliff top vegetation is required, for example, work at the landfall areas or in proximity to the substations, then further detailed botanical survey work is recommended to ensure the risk of impacts to spatulate (South Stack) fleawort, golden-hair lichen and spotted rock-rose (and other areas of botanically rich vegetation) can be avoided. Such survey work, if required, should be carried out in May or June when fleawort is in flower.
- 4.50 The leek *Allium ampeloprasum* in the road verge and field edge at Ty Mawr, South Stack Road (see Figure 9), is potentially at risk of disturbance or removal if work is required to create a new or wider road access point at the entrance to the existing track to Ty Mawr or if other cabling infrastructure is required in this area. It is recommended that the location of this plant is clearly marked and identified and that this area is avoided during any construction work.

### **Invertebrates**

- 4.51 The majority of key habitats for invertebrate species identified above are likely to be excluded from the working area (being located within SSSI areas). The work will be temporary and if recommendations in relation to the avoidance of habitat impacts (set out above) are adopted, then an impact on habitats likely to be of value for invertebrates are likely to be of very minor/negligible significance. No further recommendations are made in relation to invertebrates.

### **Invasive species**

- 4.52 As described above (Table 7) Japanese knotweed has been identified in five locations within the Study Area.
- 4.53 Location 1 is just beyond the edge of the Proposed Working Area. It is recommended that this area is avoided, since roots can extend 7m laterally (Welsh Government, 2011) a buffer of at least 10m from the plant is recommended. If work is required in this part of the Site advice from a specialist contractor is recommended.
- 4.54 Location 2 is in a small walled field just to the south of Ty Mawr. As above, it is recommended that this area is marked out and avoided.
- 4.55 Location 3 is in the grass verge on the north side of the road adjacent to the route. This is a small stand of Japanese knotweed and therefore unlikely to have an extensive underground root system, however, the excavation of soil in close proximity to this plant may have potential to spread root material, by disturbing rhizomes of the plant. Further specialist advice will be required when working in this area (see below).
- 4.56 Location 4 is in woodland approximately 50m from the track. This is sufficiently distant that no further measures are considered necessary.
- 4.57 The Japanese knotweed at Location 5 is located in a field adjacent to the road, and separated by a ditch. It is recommended that this stand of the plant is avoided with a 10m stand-off from any plants. This could be achieved by locating the route within the road.
- 4.58 If work is required in close proximity to this plant (e.g. within 7m), advice from a specialist contractor is recommended to determine how any spoil generated from the work should be dealt with (for example, any possibly contaminated spoil may need to be disposed of at waste facility that is licenced to accept controlled waste), and to agree an appropriate working method in this area.

- 4.59 Since this plant occurs in various locations in the local area, as good practice it is recommended that contractors on the project are made aware of the presence of this species and the correct course of action to be followed if they encounter it (i.e. avoid, stop work in this area and seek further advice).

## 5 References

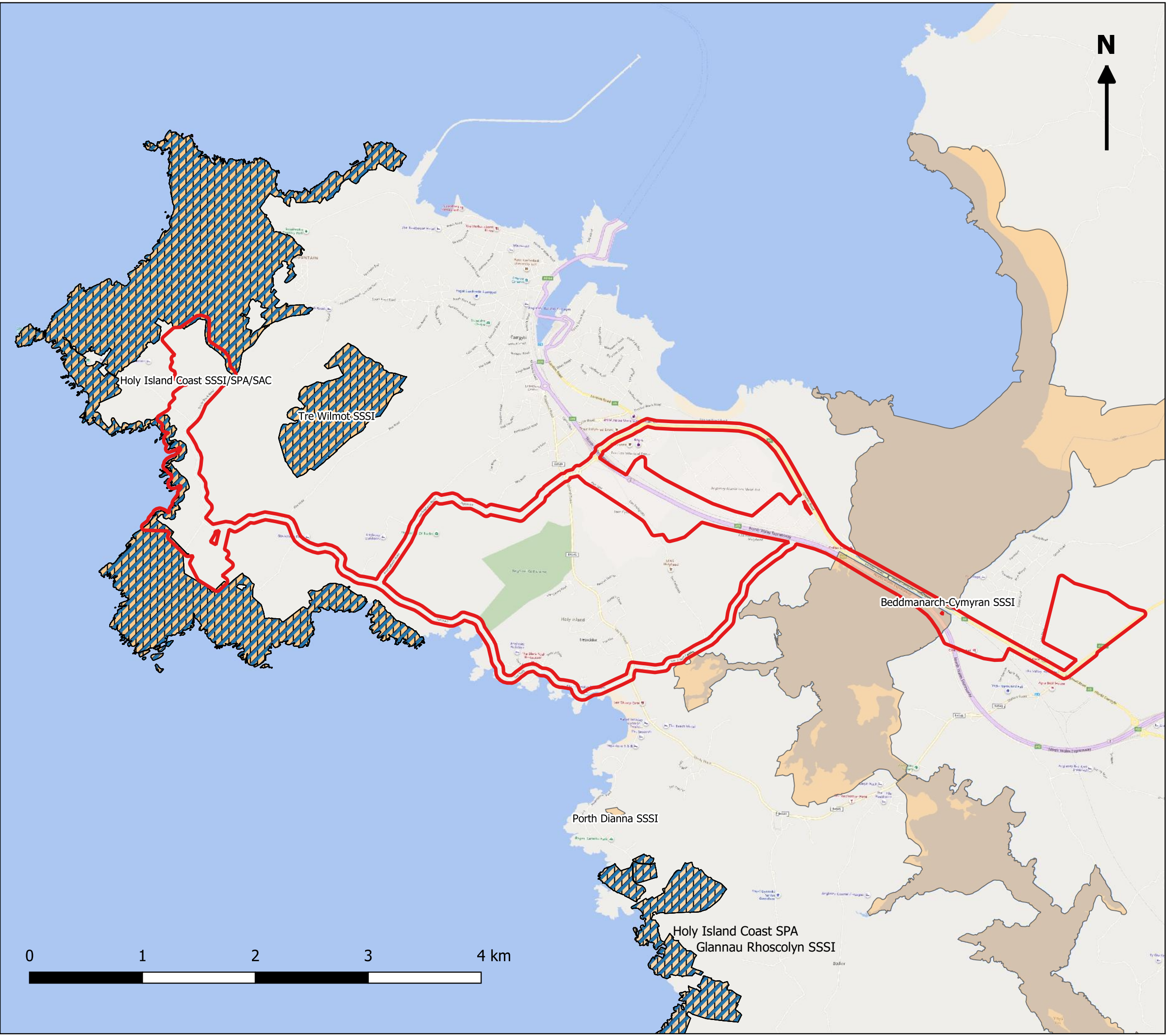
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## 6 Acronyms

AWS	Ancient Woodland Site
EAP	Ecological Action Plan
eDNA	Environmental DNA
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
GCN	Great crested newt
HDD	Horizontal Directional Drilling
HRA	Habitats Regulations Assessment
IoACC	Isle of Anglesey County Council
JNCC	Joint Nature Conservation Committee
LWS	Local Wildlife Site
MAGIC	Multi-Agency Geographical Information for the Countryside
NRW	Natural Resources Wales
OS	Ordnance Survey
PRoW	Public Right of Way
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TAN	Technical Advice Note

## **7     Figures**





Legend

Survey Area

Special Protection Area

Site of Special Scientific Interest

Special Area of Conservation

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Figure 1: Statutory protected sites

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Legend

- Survey Area
- Ancient Woodland
- Local Wildlife Sites

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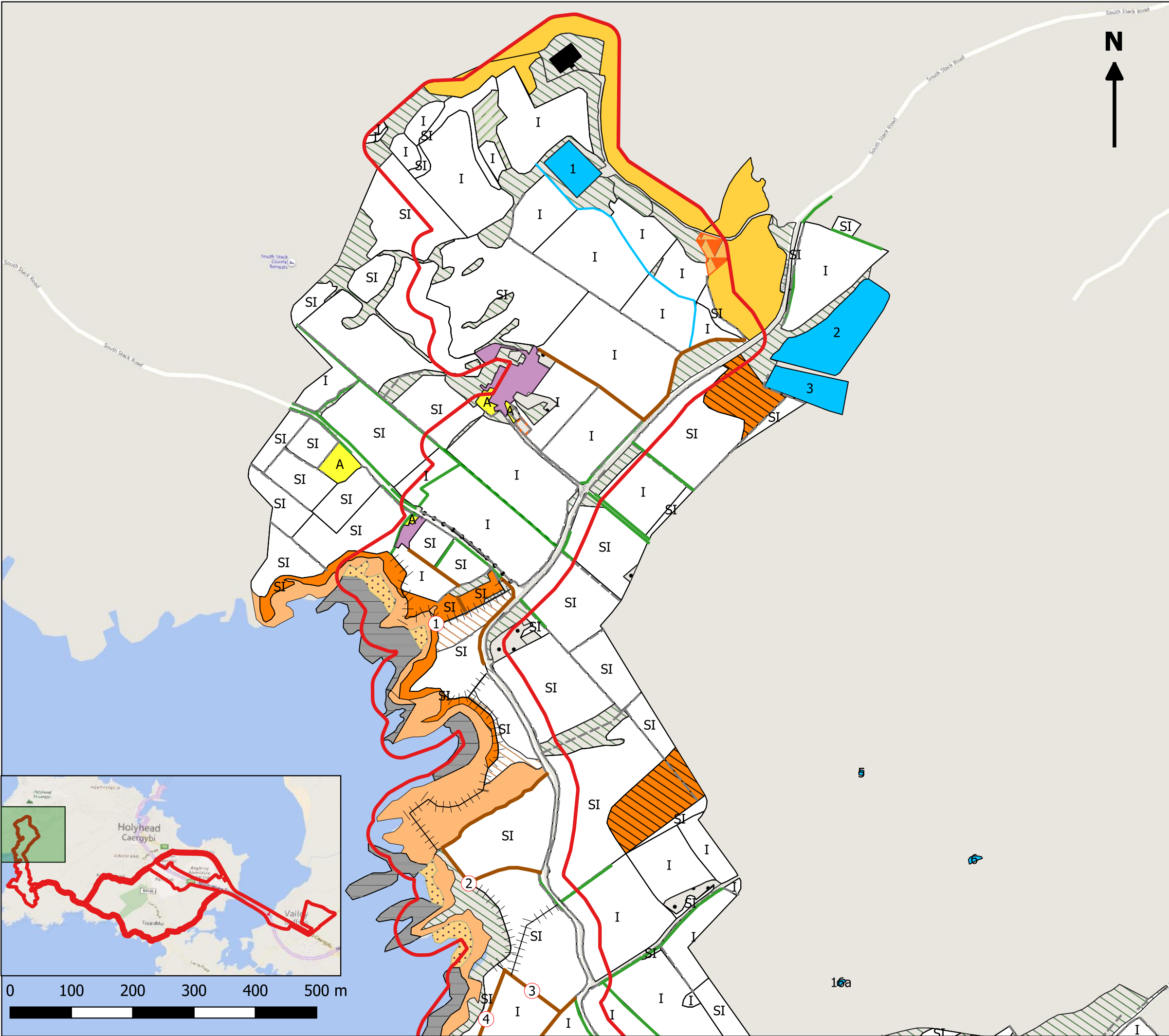
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Figure 2: Local Wildlife Sites and ancient woodland

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- Legend
- Survey Area
  - Phase 1
    - Developed area
    - Coniferous woodland - plantation
    - Scrub - dense/continuous
    - Neutral grassland - unimproved
    - Improved grassland
    - Marsh/marshy grassland
    - Poor semi-improved grassland
    - Tall ruderal
    - Dry dwarf shrub heath - acid
    - Standing water
    - Intertidal
    - Intertidal - rocks
    - Maritime cliff and slope
    - Amenity grassland
    - Japanese knotweed
    - Buildings
    - Bare ground
  - Target note
  - Coddiau
  - Running water
  - Intact hedge - species-poor
  - Defunct hedge - species-poor
  - Fence
  - Wall
  - Earth bank

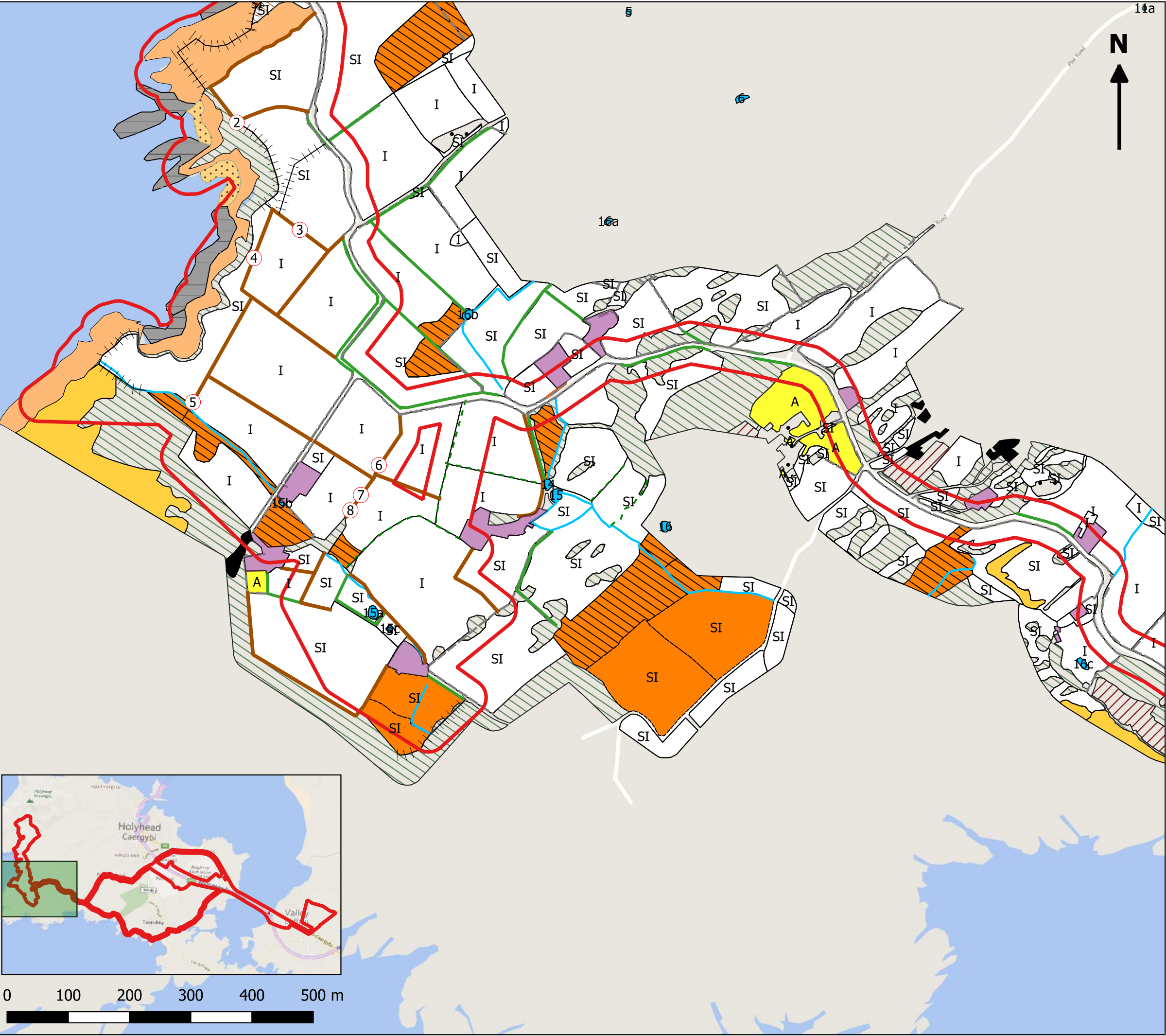
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Figure 3.1: Phase 1 habitat survey plan - Tile 1 of 8

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**Legend**

**Survey Area**

**Phase 1**

- Developed Area
- Scrub - dense/continuous
- Neutral grassland - unimproved
- Neutral grassland - semi-improved
- Improved grassland
- Marsh/marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Dry dwarf shrub heath - acid
- Standing water
- Intertidal
- Intertidal - rocks
- Maritime cliff and slope
- Natural rock exposure and waste
- Amenity grassland
- Japanese knotweed
- Caravan site
- Buildings/Hardstanding
- Bare ground
- Target note
- Cloddiau
- Running water
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Fence
- Wall

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Figure 3.2: Phase 1 habitat survey plan - Tile 2 of 8

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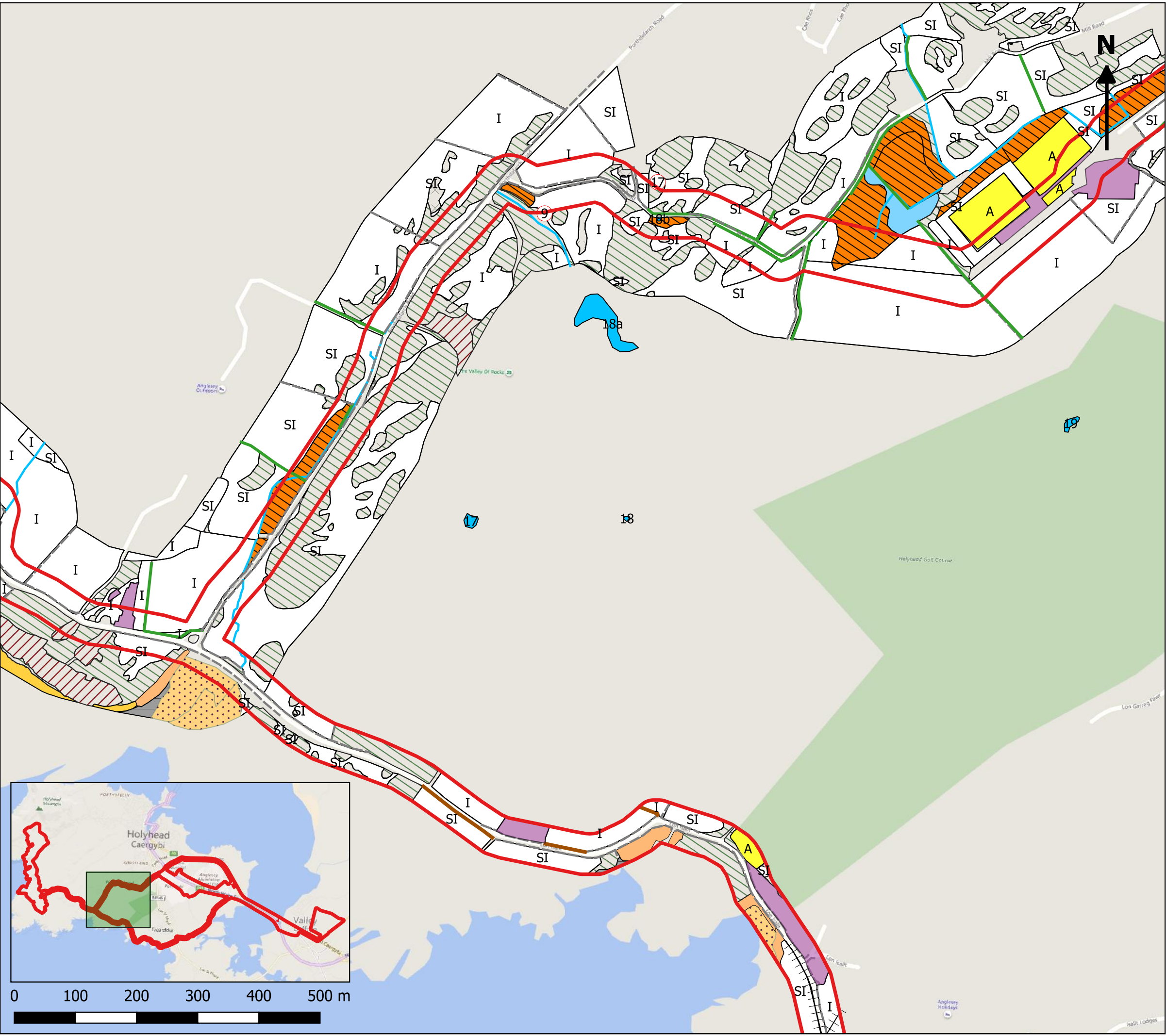
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- Legend
- Survey Area
  - Phase 1
    - Developed Area
    - Scrub - dense/continuous
    - Scrub - scattered
    - Improved grassland
    - Marsh/marshy grassland
    - Poor semi-improved grassland
    - Dry dwarf shrub heath - acid
    - Swamp
    - Standing water
    - Intertidal
    - Intertidal - rocks
    - Maritime cliff and slope
    - Amenity grassland
    - Caravan site
    - Bare ground
  - Target note
  - Cloddiau
  - Running water
  - Intact hedge - species-poor
  - Defunct hedge - species-poor
  - Fence
  - Wall

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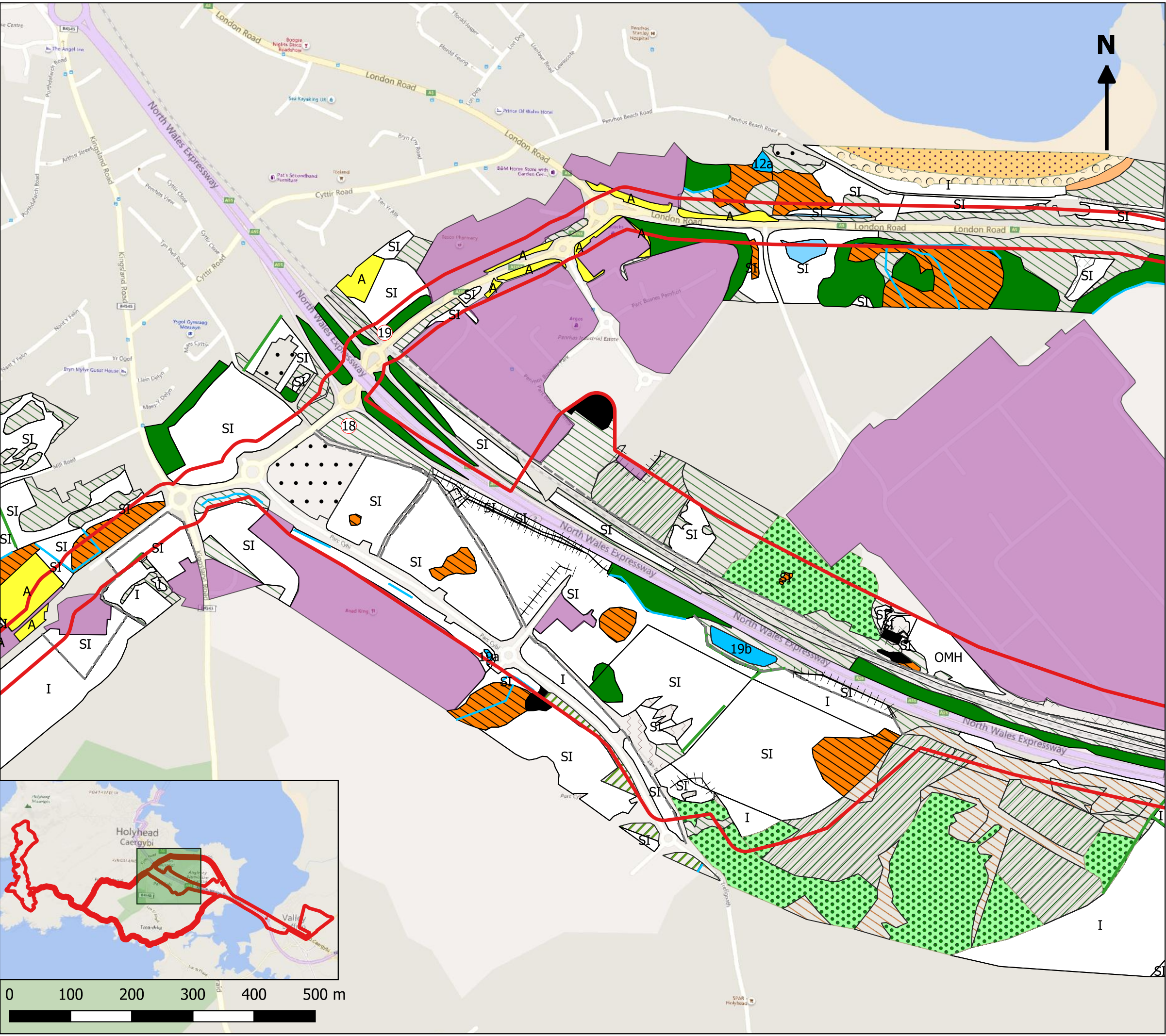
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Figure 3.3: Phase 1 habitat survey plan - Tile 3 of 8

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Legend

Survey Area

Phase 1

Developed Area

Target note

Broadleaved woodland - semi-natural

Broadleaved woodland - plantation

Mixed woodland - semi-natural

Mixed woodland - plantation

Scrub - dense/continuous

Scrub - scattered

Improved grassland

Marsh/marshy grassland

Poor semi-improved grassland

Tall ruderal

Swamp

Standing water

Intertidal

Shingle above high tide mark

Maritime cliff and slope

Natural rock exposure and waste

Amenity grassland

Ephemeral/short perennial vegetation

Buildings/Hardstanding

Bare ground

Open Mosaic Habitat (OMH)

Running water

Intact hedge - species-poor

Fence

Wall

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Figure 3.4: Phase 1 habitat survey plan - Tile 4 of 8

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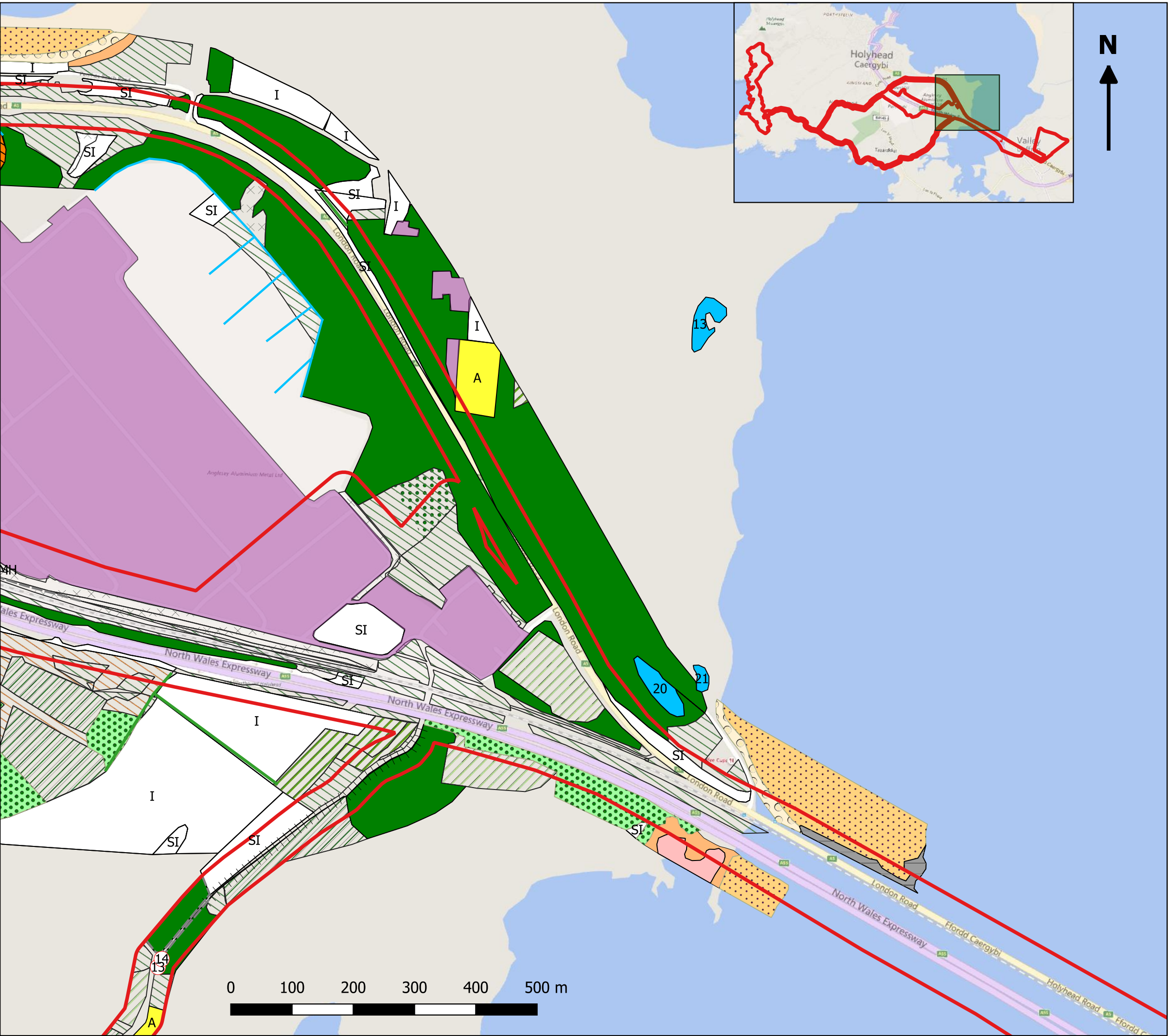
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Legend

Survey Area

Phase 1

Broadleaved woodland - semi-natural

Broadleaved woodland - plantation

Coniferous woodland - plantation

Mixed woodland - semi-natural

Mixed woodland - plantation

Scrub - dense/continuous

Scrub - scattered

Broadleaved parkland/scattered trees

Improved grassland

Marsh/marshy grassland

Poor semi-improved grassland

Tall ruderal

Standing water

Intertidal

Intertidal - rocks

Saltmarsh - scattered plants

Shingle above high tide mark

Maritime cliff and slope

Amenity grassland

Ephemeral/short perennial vegetation

Open Mosaic Habitat (OMH)

Target note

Running water

Intact hedge - species-poor

Fence

Wall

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Figure 3.5: Phase 1 habitat survey plan - Tile 5 of 8

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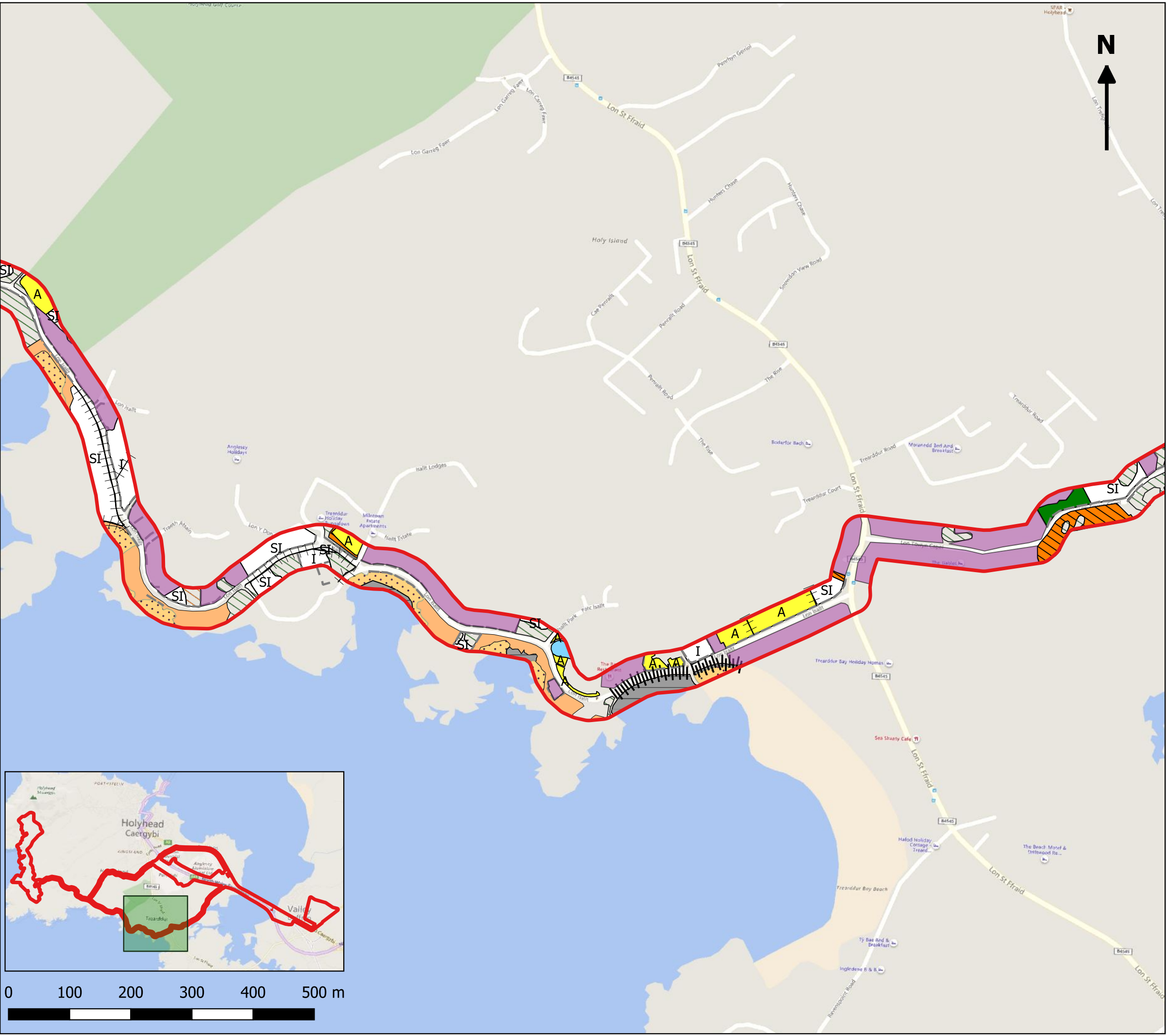
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- Legend
- Survey Area
  - Phase 1
    - Developed Area
    - Broadleaved woodland - semi-natural
    - Scrub - dense/continuous
    - Improved grassland
    - Marsh/marshy grassland
    - Poor semi-improved grassland
    - Tall ruderal
    - Swamp
    - Intertidal
    - Intertidal - rocks
    - Saltmarsh - scattered plants
    - Maritime cliff and slope
    - Amenity grassland
  - Fence
  - Wall
  - Artificial sea wall

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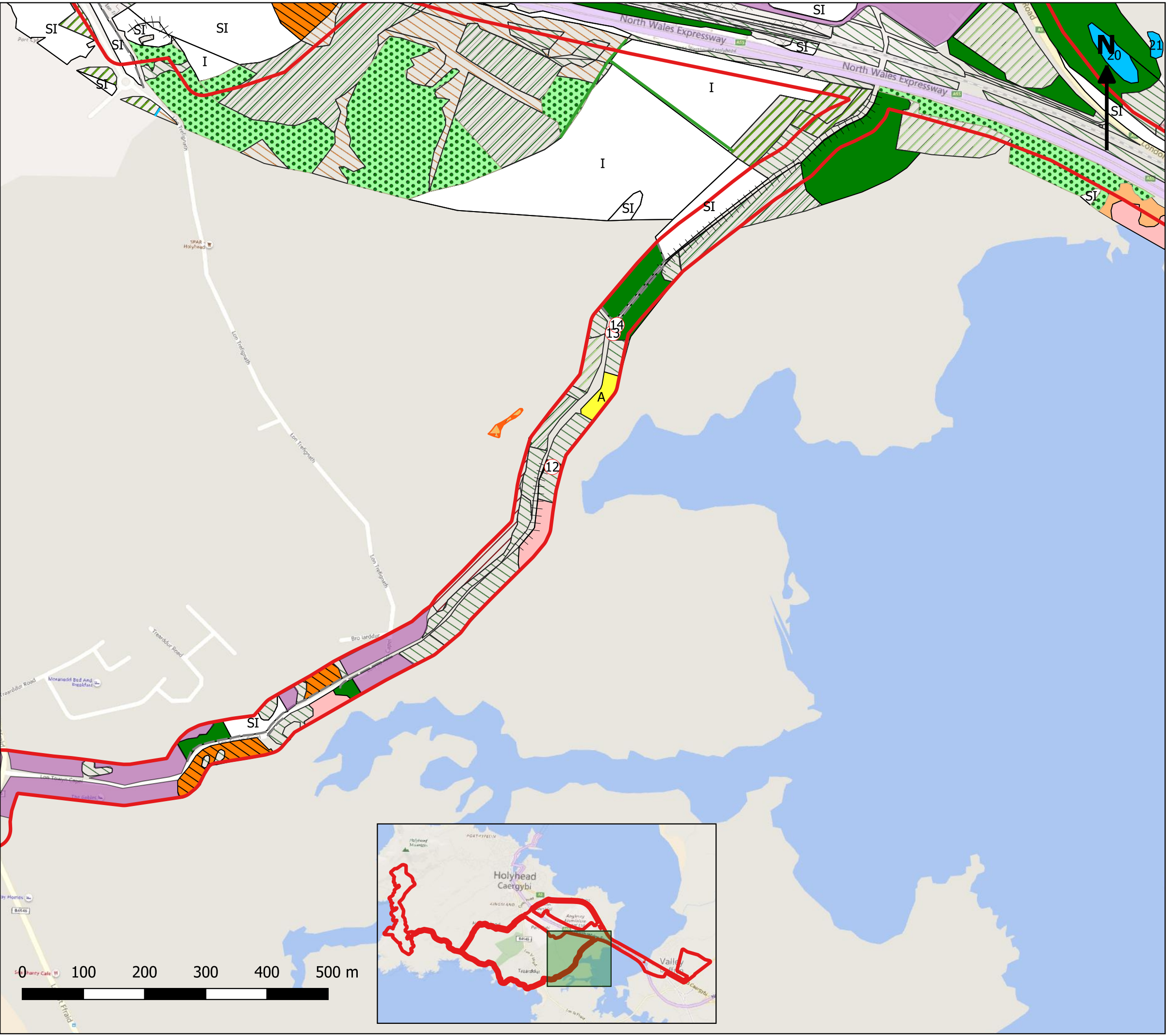
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Figure 3.6: Phase 1 habitat survey plan - Tile 6 of 8

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- Legend
- Survey Area
  - Phase 1
    - Developed Area
    - Broadleaved woodland - semi-natural
    - Broadleaved woodland - plantation
    - Coniferous woodland - plantation
    - Mixed woodland - semi-natural
    - Mixed woodland - plantation
    - Scrub - dense/continuous
    - Scrub - scattered
    - Improved grassland
    - Marsh/marshy grassland
    - Poor semi-improved grassland
    - Bracken - continuous
    - Tall ruderal
    - Standing water
    - Saltmarsh - scattered plants
    - Maritime cliff and slope
    - Natural rock exposure and waste
    - Amenity grassland
    - Ephemeral/short perennial vegetation
    - Japanese knotweed
    - Caravan site
  - Target note
  - Running water
  - Intact hedge - species-poor
  - Fence
  - Wall

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Figure 3.7: Phase 1 habitat survey plan - Tile 7 of 8

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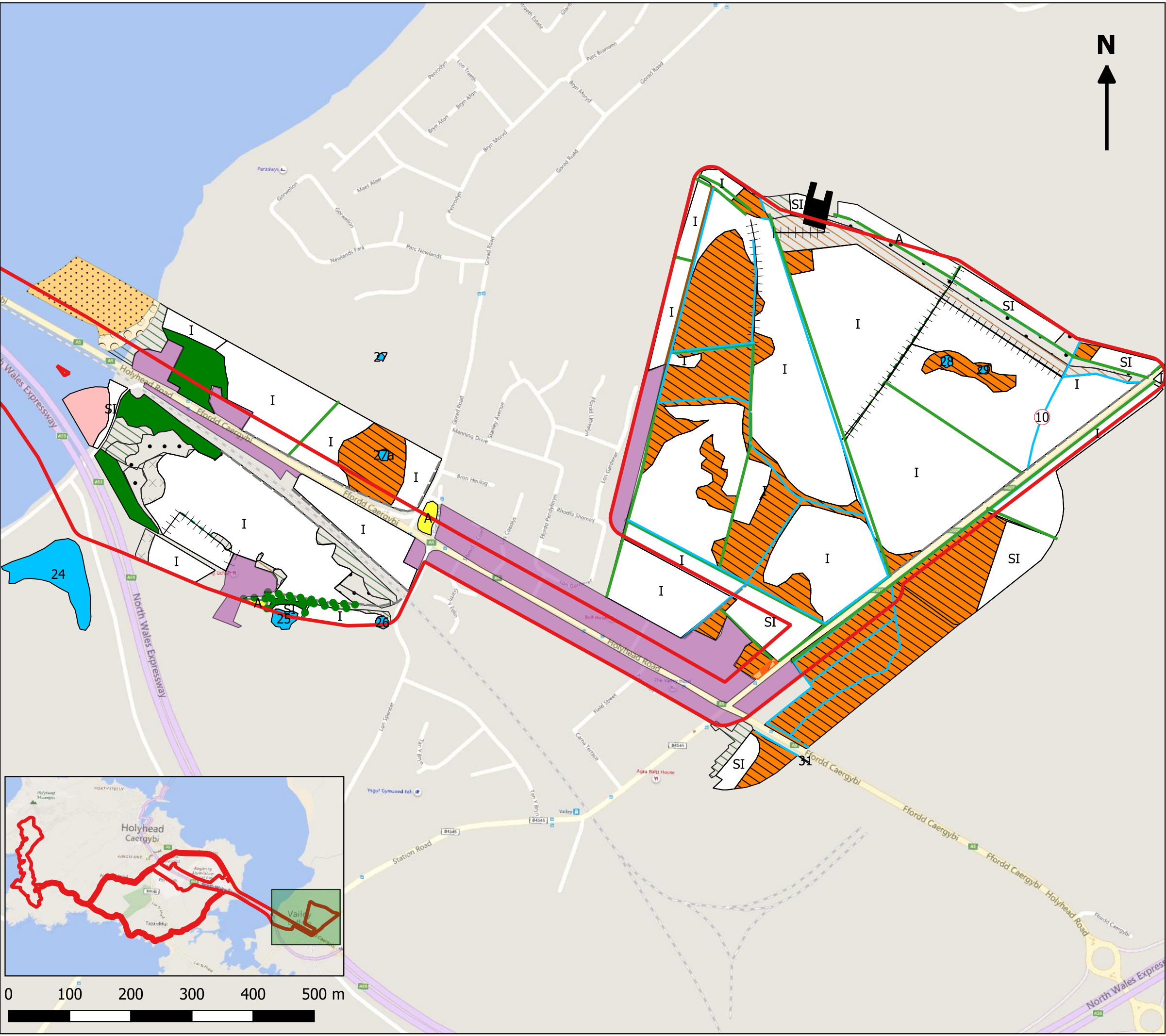
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- Legend
- Survey Area
  - Phase 1
    - Developed Area
    - Broadleaved woodland - semi-natural
    - Scrub - dense/continuous
    - Scrub - scattered
    - Improved grassland
    - Marsh/marshy grassland
    - Poor semi-improved grassland
    - Tall ruderal
    - Standing water
    - Intertidal
    - Saltmarsh - scattered plants
    - Shingle above high tide mark
    - Arable
    - Amenity grassland
    - Japanese knotweed
    - Buildings/hardstanding
    - Bare ground
  - Target note
  - Broadleaved line of trees
  - Cloddiau
  - Running water
  - Intact hedge - species-poor
  - Defunct hedge - species-poor
  - Fence
  - Wall
  - Dry ditch

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Figure 3.8: Phase 1 habitat survey plan - Tile 8 of 8

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- Legend
- Survey Area
  - Morlais great crested newt records
  - Pond location and reference number

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Figure 4b: Habitat Suitability Indices of ponds  
for great crested newt

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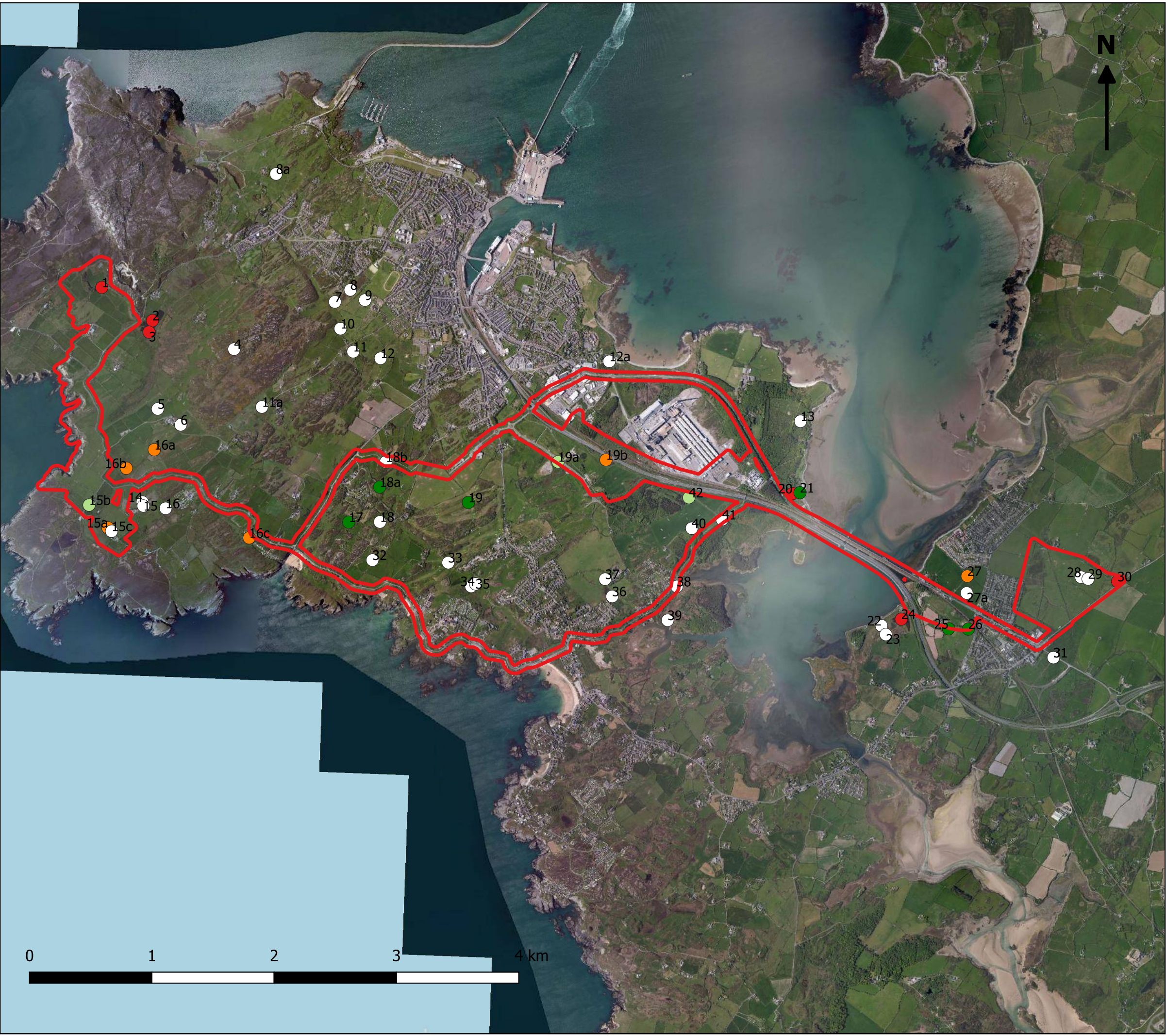
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Legend

Survey Area

Pond HSI Assessment

- Good
- Average
- Below average
- Poor
- Scoped out

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Morlais

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Figure 4b: Habitat Suitability Indices of ponds  
for great crested newt

DATE: 29.11.18	CHECKED: GM	SCALE: 1:30,000
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Legend

- Survey Area
- ◆ Otter
- ◆ Red Squirrel
- ▲ Water Vole
- ▲ Water vole evidence recorded during Phase 1 survey (BSG Ecology, 2018)

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PROJECT TITLE  
Morlais

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Figure 5: Otter, red squirrel and water vole records (Cofnod, 2018)

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- Legend
- Survey Area
  - Chough record

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PROJECT TITLE  
Morlais

DRAWING TITLE  
Figure 7: Chough records (Cofnod, 2018)

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Legend

Survey Area

● Adder

● Common Lizard

● Slow-worm

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PROJECT TITLE  
Morlais

DRAWING TITLE  
Figure 8: Reptile records (Cofnod, 2018)

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Legend

- Survey Area
- Wild leek (*Allium ampeloprasum*) recorded during Phase 1 survey (BSG Ecology, 2018)
- Wild leek (*Allium ampeloprasum*)
- Spatulate Fleawort
- Spotted Rock-rose

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PROJECT TITLE  
Morlais

DRAWING TITLE  
Figure 9: Protected plant species records (Cofnod, 2018)

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DRAWN: EM	APPROVED: GM	STATUS: FINAL

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Legend

Survey Area

Locations of Japanese knotweed

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PROJECT TITLE  
Morlais

DRAWING TITLE  
Figure 10: Locations of Japanese knotweed

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## **8     Photographs**

(overleaf)



Photograph 1: Maritime grassland and scrub, at SH 21630 81475 (near South Stack Road).



Photograph 2: Cliff vegetation at SH 21534 81475 (near South Stack Road).



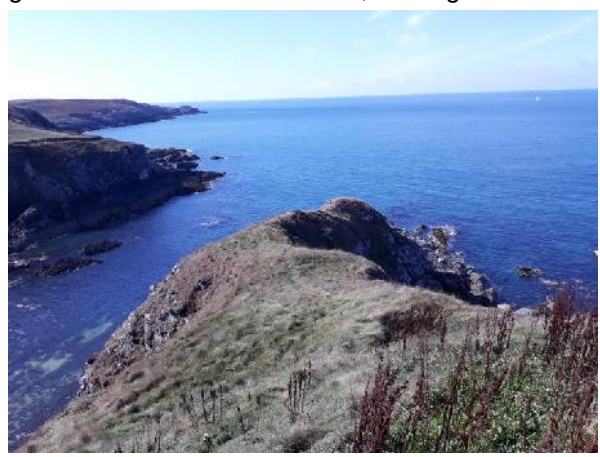
Photograph 3: Heathland (Holy Island Coast SSSI) at SH 21359 82307, looking north-east.



Photograph 4: Heathland (Holy Island Coast SSSI) in foreground, and semi-improved grassland at SH 21359 82307, looking south.



Photograph 5: Cloddiau (vegetated earth/stone wall), with species-rich vegetation (at SH 21747 81034).



Photograph 6: Coastline and cliff vegetation – Abraham's Bosom (bay), at SH215814.





Photograph 7: Rocky shore line west of Trearddur (maritime heath and Local Wildlife Site), at SH 242 796.



Photograph 8: Swamp vegetation by Lon Towyn Capel, at SH 26137 79517.



Photograph 9: Marshy Grassland And Saltmarsh (Beddmanarch-Cymyran SSSI), at SH 26153 79458.



Photograph 10: Scrub and mature trees near former school, at SH 25212 81185.



Photograph 11: Trees on embankments of A55 at SH 25304 81276 (viewed from A5153).



Photograph 12: Landscaping around Parc Cybi (SH 25426 81070).





Photograph 13: Scrub and semi-natural woodland adjacent to private track south of A55, at SH269803.



Photograph 14: Landscaping around Parc Cybi (SH 25126 81047).



Photograph 15: Penrhos Beach (SH 26473 81556).



Photograph 16: Area of grassland and patchy wetland habitat near Penrhos Beach (SH 26042 81527).



Photograph 17: Ancient woodland Penrhos Coastal Park (SH 26968 81247).



Photograph 18: Ancient woodland Penrhos Coastal Park adjacent to A5/London Road (SH 271 808).





Photograph 19: Semi-improved pasture and marshy grassland (Pond 16a visible in centre of photograph) at SH 218 807.



Photograph 20: Coastal grassland and heathland (from the Range looking towards South Stack) at SH 21494 80480.



Photograph 21: Japanese knotweed in road verge at SH 2195 80590.



Photograph 22: Semi-improved grassland, with scrub, heathland and wetland vegetation (SH 22771 80404).



Photograph 23: Scrub, heathland and rock exposures adjacent to Porthdafarch Road (at SH 23546 80350).



Photograph 24: Woodland and scrub vegetation adjacent to Porthdafarch Road (at SH 23615 80450).





Photograph 25: Wetland vegetation at SH 24445 80798, near Holyhead Leisure Centre, viewed from Mill Road.



Photograph 26: Balancing pond (Pond 19a in Parc Cybi (at SH 25525 80780).



Photograph 27: Ancient woodland on west side of A5, near former aluminium works, at SH 271 809.



Photograph 28: Pond 21 (Penrhos Country Park), SH 27503 80535.



Photograph 29: Shingle beach and intertidal habitats (Beddmanarch-Cymyran SSSI), at SH 27603 80356.



Photograph 30: Tidal lagoon and saltmarsh between A55 and A5, at SH 28390 79780.





Photograph 31: Flooded field in Valley, at SH 2884 7966 (Pond 27a).



Photograph 32: Pond 26, at SH 28882 79415, by Lon Spencer, Valley.



Photograph 33: Japanese knotweed in field adjacent to A5025 (at SH 29496 79337).



Photograph 34: Improved pasture and field drain at SH 29924 79659, north-east of Valley.



Photograph 35: Improved pasture and hedgerows north-east of Valley at SH299796.



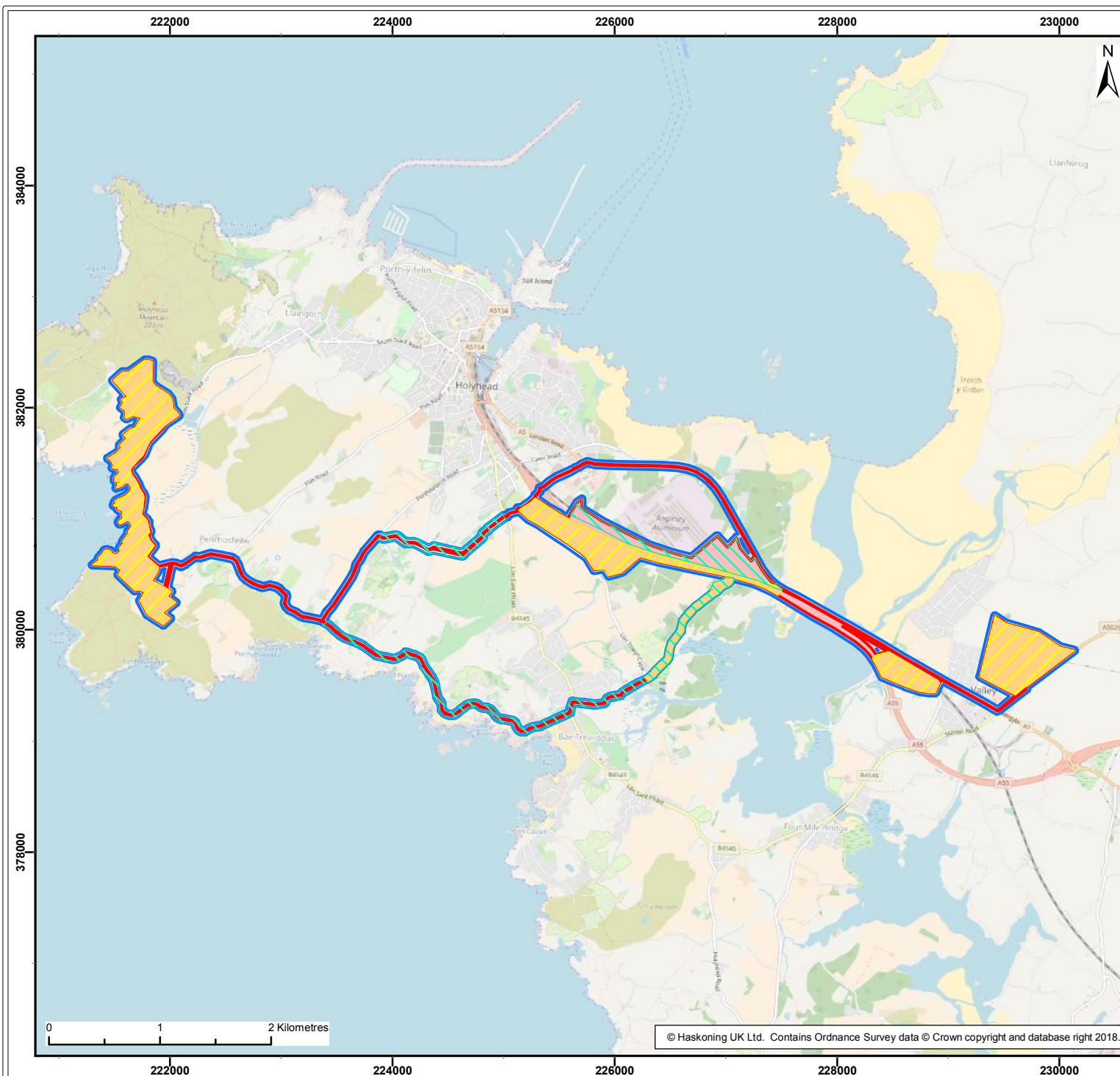
Photograph 36: Drain with evidence of use by water vole at SH 29965 79758.



## **9 Appendices**

(overleaf)

## **Appendix 1: Project plans - survey area and preferred route**



Legend:

- Working Area
- 30m Buffer
- Extended Phase 1 Habitat Survey
- Ground Truthing
- Protected Species Survey

Client: Mentor Môn Cyf  
Project: Morlais Tidal Energy Project

Title: Morlais Onshore Ecology Survey Area

Figure: 1 Drawing No: PB5034-000-250

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	02/08/18	GC	FM	A4	1:50,000

Co-ordinate system: British National Grid



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## Appendix 2: Great crested newt HSI assessment results

Pond	Grid Reference	Pond type	HSI-score	HSI Assessment	Rationale for scoping out	eDNA result
1	SH 21799 82209	Reservoir	0.31	Poor	Low HSI score	
2	SH 22213 81938	Reservoir	0.47	Poor	Low HSI score	
3	SH 22185 81844	Reservoir	0.47	Poor	Low HSI score	
4	SH 22881 81705	Pond on Tre Willmot	0.63	Average	Not close to preferred route	
5	SH 22256 81216	Field pond - dry	N/A	N/A	Not close to preferred route	
6	SH 22444 81086	Field pond - vegetated	N/A	N/A	Not close to preferred route	
7	SH 23705 82091	Shallow pond and wetland vegetation	0.32	Poor	Not close to preferred route	
8	SH 23831 82189	Reedbed and pond	N/A	N/A	Not close to preferred route	
8a	SH 23224 83137	Field pond	0.62	Average	Not close to preferred route	
9	SH 23951 82106	Recently excavated fish/wildfowl pond	0.46	Poor	Not close to preferred route	
10	SH 23750 81872	Field pond	N/A	N/A	Not close to preferred route	
11	SH 23854 81684	Field pond	0.65	Average	Not close to preferred route	
11a	SH 23108 81232	Drain/pond by road	0.55	Below average	Not close to preferred route	
12	SH 24078 81630	No pond present	N/A	N/A	Not close to preferred route	
12a	SH 25948 81605	No pond present	N/A	N/A	Not close to preferred route	
13	SH 27511 81115	Woodland pond in Penrhos coastal park	0.57	Below average	Not close to preferred route	
14	SH 22132 80454	Pond by spring - dry	N/A	N/A	Dry - not sampled	
15	SH 22139 80423	Pond by spring - dry	N/A	N/A	Dry - not sampled	
15a	SH 21848 80245	Field pond	0.67	Below average		Negative
15b	SH 21695 80430	Ditch holding standing water and emergent vegetation	0.65	Average		Negative
15c	SH 21879 80216	Excavation holding water	0.51	Below average	Dry - not sampled	
16	SH 22321 80403	Stream - not a pond	N/A	N/A		
16a	SH 22228 80882	Field pond	0.59	Below average		Negative
16b	SH 22000 80731	Field pond	0.53	Below average		Negative
16c	SH 23004 80162	Garden pond	0.58	Below average		Negative
17	SH 23818 80290	Pond in an area of pasture and heathland	0.76	Good		Negative

Pond	Grid Reference	Pond type	HSI-score	HSI Assessment	Rationale for scoping out	eDNA result
18	SH 24073 80292	Pond in scrub/near buildings	N/A	N/A	Beyond 250m	
18a	SH 24070 80577	Large pond near campsite	0.7	Good		Negative
18b	SH 24121 80782	Small shallow pond in pasture	0.51	Below average	Dry - not sampled	
19	SH 24796 80451	Pond on golf course	0.72	Good		Negative
19a	SH 25529 80783	New balancing pond on Parc Cybi	0.64	Average		Negative
19b	SH 25921 80799	Large pond near A55	0.51	Below average		Negative
20	SH 27446 80524	Woodland pond in Penrhos Coastal park	0.42	Poor	Low HSI score	
21	SH 27507 80531	Pond by car park in Penrhos Coastal Park	0.76	Good		Negative
22	SH 28173 79444	Pond with dense emergent vegetation	N/A	N/A	Beyond 250m	
23	SH 28209 79372	Pond with dense emergent vegetation	N/A	N/A	Beyond 250m	
24	SH 28335 79497	Large pond with wildfowl	0.49	Poor	Low HSI score	
25	SH 28722 79418	Pond surrounded by trees	0.72	Good		Negative
26	SH 28883 79416	Field pond	0.72	Good		Negative
27	SH 28875 79849	Field pond	0.59	Below average		Negative
27a	SH 28870 79711	Depression in field holding water	0.34	poor	Not a pond	
28	SH 29806 79840	Not present	N/A	N/A	Not present	
29	SH 29862 79826	Not present	N/A	N/A	Not present	
30	SH 30103 79805	Field drain	0.37	Poor	Low HSI score	
31	SH 29579 79183	Large field drain	0.61	Average	Part of drain network connected to watercourses - likely to support fish.	
32	SH 24012 79980	Shallow depression	N/A	N/A	Not present	
33	SH 24631 79959	Pond on golf course, fountain	0.82	Excellent	Scoped out due to distance (>250m) but sampled for eDNA due to HSI score to provide additional context.	Negative
34	SH 24819 79765	Pond by V-shaped drain	N/A	N/A	Beyond 250m	
35	SH 24855 79785	Pond by V-shaped drain	N/A	N/A	Beyond 250m	

Pond	Grid Reference	Pond type	HSI-score	HSI Assessment	Rationale for scoping out	eDNA result
36	SH 25972 79683	Not present - rush pasture only	N/A	N/A	Not present	
37	SH 25914 79824	Not present - rush pasture only	N/A	N/A	Not present	
38	SH 26500 79764	Brackish	N/A	N/A	Brackish	
39	SH 26425 79488	Brackish	N/A	N/A	Brackish	
40	SH 26622 80240	Pond in scrub	N/A	N/A	Dry - not sampled	
41	SH 26871 80311	Pond beside track	N/A	N/A	Dry - not sampled	
42	SH 26599 80491	Pond at field edge - with stream	0.61	Average		Negative

## Appendix 4: Summaries of Relevant Policy, Legislation and Other Instruments

This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

### Planning Policy Wales (Chapter 5 - Conserving and Improving Natural Heritage and the Coast)

- 9.13 The Welsh Government publishes Planning Policy Wales, which is amended periodically.
- 9.14 The Welsh Government's objectives for conserving and improving the natural environment are as follows:
- 'Promote the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats
  - Ensure that action in Wales contributes to meeting international responsibilities and obligations for the natural environment
  - Ensure that statutorily designated sites are properly protected and managed
  - Safeguard protected species
  - Promote the functions and benefits of soils, and in particular their function as a carbon store'
- 9.15 There is a clear requirement for pre-planning consent consultation with Natural Resources Wales (NRW) (formerly Countryside Council for Wales) where a planning application or proposal may be 'likely to have a significant effect on sites of more than local importance or on a designated area' or would be 'likely to result in disturbance or harm to a protected species.'
- 9.16 Pre-application discussions are recommended for any development proposal likely to have an effect on the wildlife of a given area whether designated or not. For example, paragraph 5.5.1 identifies that the effect of a development proposal on the wildlife 'of any area can be a material consideration' and that 'in such instances and in the interests of achieving sustainable development it is important to balance conservation objectives with the wider economic needs of local business and communities.' There is a requirement for development proposals to include reasonable steps to safeguard or enhance the environmental quality of the land should development take place.
- 9.17 Planning Policy Wales requires local planning authorities to 'have regard to the relative significance of international, national and local designations in considering the weight to be attached to nature conservation interests and should take care to avoid placing unnecessary constraints on development.' Statutory designations do not necessarily prohibit development taking place, however, paragraph 5.5.5 states that development proposals 'must be carefully assessed for their effect' on the interests for which the designation is made.
- 9.18 There is a presumption against development that is likely to damage a SSSI and it is noted that SSSIs can be damaged by developments that lie either within or beyond the SSSI boundaries and that this could be 'some distance away.' There is specific reference to the duty on all public bodies under the Wildlife and Countryside Act 1981 (as amended by the Countryside Rights of Way Act 2000) to further conserve and enhance the features and reasons for a SSSI being of special interest in the exercise of public body functions which includes local planning authorities.
- 9.19 Paragraph 5.4.4. acknowledges that non-statutory designations carry less weight than statutory designations and that at a policy level local authorities are required to be clear that a non-statutory designation does not 'preclude appropriate socio-economic activities' and if certain features or



component characteristics of sites specifically need to be conserved and, as such, require additional protection, this should be explained at a policy level.

- 9.20 Species protected under European or UK legislation are identified as a material consideration when considering a development proposal where protected species are present and if the development would 'be likely to result in disturbance or harm to the species or its habitat.' The potential need for ecological survey and assessment of likely impact of a proposed development on a protected species to inform planning decisions is highlighted in paragraph 5.5.11.
- 9.21 Trees, woodlands and hedgerows are identified as being of 'great importance' and that local planning authorities should seek their protection where they have natural heritage value. 'Ancient and semi-natural woodlands' are specifically highlighted as "irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage." Consultation with NRW and/or the Forestry Commission is required if a site is recorded on the inventory of ancient woodland before authorising potentially damaging operations.

#### **TAN 5 Nature Conservation and Planning (Wales only)**

- 9.22 Technical Advice Note (TAN) 5 supplements Planning Policy Wales and provides advice about how the land use planning system in Wales 'should contribute to protecting and enhancing biodiversity and geological conservation.'
- 9.23 The TAN provides guidance to local planning authorities on: 'the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and, development affecting protected and priority habitats and species.'
- 9.24 In section 2.4 when deciding planning applications that may affect nature conservation, 'local authorities should:
- contribute to the protection and improvement of the environment...seeking to avoid irreversible harmful effects on the natural environment;
  - ensure that appropriate weight is attached to designated sites of international, national and local importance;
  - protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
  - ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of a development on nature conservation;
  - ensure that the range and population of protected species is sustained;
  - adopt a stepwise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.'
- 9.25 At section 3.3.2 regarding Local Development Plans policies the guidance states that a policy should be included in respect of the application of the precautionary principle.
- 9.26 Section 4 includes specific and detailed guidance, expanding on the principles set out in 2.4, in respect of the development control process including pre-application discussions, preparing planning applications, requests for further information and ecology in respect of Environmental Impact Assessment (EIA). The broad principles of development control requirements are set out as follows:



- 'adopting the five-point approach to decision-making – information, avoidance, mitigation, compensation and new benefits;
- ensuring that planning applications are submitted with adequate information, using early negotiation, checklists, requiring ecological surveys and appropriate consultation;
- securing necessary measures to protect, enhance, mitigate and compensate through planning conditions and obligation;
- carrying out effective planning enforcement; and
- identifying ways to build nature conservation into the design of new development.'

### **Environment (Wales) Act 2016**

- 9.27 The Environment (Wales) Act 2016 passed into law in March 2016. Part 1 of the Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.
- 9.28 Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 in relation to Wales, and applies to those authorities that fell within the previous duty.
- 9.29 Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. This is expanded on in sub-section (2):
- 9.30 In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular the following aspects—
- diversity between and within ecosystems;
  - the connections between and within ecosystems;
  - the scale of ecosystems;
  - the condition of ecosystems (including their structure and functioning);
  - the adaptability of ecosystems.
- 9.31 Section 7 concerns biodiversity lists and the duty to take steps to maintain and enhance biodiversity. It replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.
- 9.32 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

### **European protected species (Animals)**

- 9.33 The Conservation of Habitats and Species Regulations 2017 consolidates various amendments that have been made to the 2010 and original (1994) Regulations which transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.
- 9.34 "European protected species" (EPS) of animal are those which are shown on Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). They are subject to the provisions of Regulation 43 of those Regulations. All EPS are also protected under the Wildlife and

Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:

- a. Intentionally or deliberately capture, injure or kill any wild animal included amongst these species
- b. Possess or control any live or dead specimens or any part of, or anything derived from a these species
- c. deliberately disturb wild animals of any such species
- d. deliberately take or destroy the eggs of such an animal, or
- e. intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place

9.35 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—

- a. to impair their ability—
  - i. to survive, to breed or reproduce, or to rear or nurture their young, or
  - ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- b. to affect significantly the local distribution or abundance of the species to which they belong.

9.36 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works and by Natural Resources Wales in Wales. In accordance with the requirements of the Regulations (2010), a licence can only be issued where the following requirements are satisfied:

- a. The proposal is necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'
- b. 'There is no satisfactory alternative'
- c. The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.'

### ***Definition of breeding sites and resting places***

9.37 Guidance for all European Protected Species of animal, including bats and great crested newt, regarding the definition of breeding and of breeding and resting places is provided by The European Council (EC) which has prepared specific guidance in respect of the interpretation of various Articles of the EC Habitats Directive.<sup>7</sup> Section II.3.4.b) provides definitions and examples of both breeding and resting places at paragraphs 57 and 59 respectively. This guidance states that 'The provision in Article 12(1)(d) [of the EC Habitats Directive] should therefore be understood as aiming to safeguard the ecological functionality of breeding sites and resting places.' Further the guidance states: 'It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.'

<sup>7</sup> Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.

### Competent authorities

- 9.38 Under Regulation 7 of the Conservation of Habitats and Species Regulations 2017 (as amended) a “competent authority” includes “any Minister of the Crown..., government department, statutory undertaker, public body of any description or person holding a public office.
- 9.39 In accordance with Regulation 9, “a competent authority must exercise their functions which are relevant to nature conservation, including marine conservation, so as to secure compliance with the requirements of the [Habitats and Birds] Directives. This means for instance that when considering development proposals a competent authority should consider whether EPS or European Protected Sites are to be affected by those works and, if so, must show that they have given consideration as to whether derogation requirements can be met.

### Birds

- 9.40 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.
- 9.41 The Conservation of Habitats and Species Regulations 2017 places duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, ‘Birds Directive’<sup>8</sup>) (Regulation 10 (3)) requires that the objective is the ‘preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat, as appropriate, having regard to the requirements of Article 2 of the new Wild Birds Directive...’ Regulation 10 (7) states: ‘In considering which measures may be appropriate for the purpose of security or contributing to the objective in [Regulation 10 (3)] Paragraph 3, appropriate account must be taken of economic and recreational requirements’.
- 9.42 In relation to the duties placed on competent authorities under the 2017 Regulations, Regulation 10 (8) states: ‘So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).’

### Badger

- 9.43 Badger is protected under the Protection of Badgers Act 1992. It is not permitted to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as “a structure or place, which displays signs indicating current use by a badger”.
- 9.44 ODPM Circular 06/2005<sup>9</sup> provides further guidance on statutory obligations towards badger within the planning system. Of particular note is paragraph 124, which states that “The likelihood of disturbing a badger sett, or adversely affecting badgers’ foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions.”

<sup>8</sup> 2009/147/EC Birds Directive (30 November 2009. European Parliament and the Council of the European Union.

<sup>9</sup> ODPM Circular 06/2005. *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.

- 9.45 Natural England provides Standing Advice<sup>10</sup>, which is capable of being a material consideration in planning decisions. Natural England recommends mitigation to avoid impacts on badger setts, which includes maintaining or creating new foraging areas and maintaining or creating access (commuting routes) between setts and foraging/watering areas.

### Reptiles

- 9.46 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade only. Sand lizard and smooth snake receive additional protection as “European Protected species” under the provisions of the Conservation of Habitats and Species Regulations 2017 and are fully protected under the Wildlife and Countryside Act 1981 (as amended).
- 9.47 All six native species of reptile are included as ‘species of principal importance’ for the purpose of conserving biodiversity under Section 41 (England) of the NERC Act 2006 and Section 7 of the Environment (Wales) Act 2016.
- 9.48 Current Natural England Guidelines for Developers<sup>11</sup> states that ‘where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.’ Further the guidance states: ‘Normally prohibited activities may not be illegal if ‘the act was the incidental result of a lawful operation and could not reasonably have been avoided’. Natural England ‘would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.’
- 9.49 The Natural England Guidelines for Developers state that ‘planning must incorporate two aims where reptiles are present:
- To protect reptiles from any harm that might arise during development work;
  - To ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate the reptile population, either on-site or at an alternative site, with no net loss of local reptile conservation status.’

### Water vole

- 9.50 Water vole is protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to kill, injure or take any water vole, damage, destroy or obstruct access to any place of shelter or protection that the animals are using, or disturb voles while they are using such a place. Water vole is listed as a Species of Principal Importance under the provisions of the NERC Act 2006 in England and under the provisions of the Environment (Wales) Act 2016.

### Hedgerows

- 9.51 Article 10 of the Habitats Directive<sup>12</sup> requires that ‘Member States shall endeavour...to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure...or their function as stepping stones...are essential for the migration, dispersal and genetic exchange of wild species’. Examples given in the Directive include traditional field boundary systems (such as hedgerows).
- 9.52 The aim of the Hedgerow Regulations 1997<sup>13</sup>, according to guidance produced by the Department of the Environment<sup>14</sup>, is “to protect important hedgerows in the countryside by controlling their removal through a system of notification. In summary, the guidance states that the system is

<sup>10</sup> <http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/specieslinks.aspx>

<sup>11</sup> English Nature, 2004. *Reptiles: guidelines for developers*. English Nature, Peterborough.

<http://publications.naturalengland.org.uk/publication/76006?category=31018>

<sup>12</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

<sup>13</sup> Statutory Instrument 1997 No. 1160 – The Hedgerow Regulations 1997. HMSO: London

<sup>14</sup> The Hedgerow Regulations 1997: a guide to the law and good practice, HMSO: London

concerned with the removal of hedgerows, either in whole or in part, and covers any act which results in the destruction of a hedgerow. The procedure in the Regulations is triggered only when land managers or utility operators want to remove a hedgerow. The system is in favour of protecting and retaining 'important' hedgerows.

- 9.53 The Hedgerow Regulations set out criteria that must be used by the local planning authority in determining which hedgerows are 'important'. The criteria relate to the value of hedgerows from an archaeological, historical, wildlife and landscape perspective.

#### **Japanese knotweed**

- 9.54 It is an offence to plant or cause the spread of Japanese knotweed in the wild under the Wildlife and Countryside Act 1981 (as amended). All waste containing Japanese knotweed comes under the control of Part II of the Environmental Protection Act 1990.

- 9.55 The Environment Agency has produced "The Knotweed Code of Practice", which provides guidance on how to manage Japanese knotweed legally on development sites<sup>15</sup>. This document provides ecological information on Japanese knotweed, details of how to prevent its spread, how to manage Japanese knotweed and information on disposal. Natural Resources Wales refers to Environment Agency guidance in respect of landowners responsibilities in Wales and to the Wildlife and Countryside Act 1981 (as amended).

9.56

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<sup>15</sup> *Managing Japanese knotweed on development sites: the knotweed code of practice* (2006). Environment Agency. <https://www.gov.uk/government/publications/japanese-knotweed-managing-on-development-sites>. See also 2013 Code of Practice update.





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## Morlais Project Environmental Statement

### Appendix 19.2: Confidential Bird Records

### Volume III

Applicant: Menter Môn Morlais Limited  
Document Reference: PB5034-ES-0192  
Appendix 19.2: Confidential Bird Records  
Author: Royal HaskoningDHV



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# Morlais Project Environmental Statement

## Annex 1: Report from the Cross And Stratford Welsh Chough Project

### Volume III

Applicant: Menter Môn Morlais Limited  
Document Reference: PB5034-ES-0192  
Chapter 19: Onshore Ecology  
Appendix 19.2: Confidential Bird Records  
Annex 1: Report from the Cross And Stratford Welsh Chough Project

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## 2014-2018 Occupancy of Holy Island Chough Nest-sites

Choughs are very exacting in their nest-site requirements, far more so than the closely – related Jackdaw. Choughs generally nest in deep fissures or cavities in steep cliff-faces, preferably protected by an overhang, on high ledges within sea-caves, or occasionally known to use derelict buildings. For security, they rely on the nest being completely out of sight, generally further into darkness than most other species will venture. For this reason, “good” nest-sites are in short supply and tend to be traditional, used by the same pair over successive years. Pioneering inexperienced young pairs may attempt to nest at new, less enclosed sites, generally unsuccessfully, before moving into any vacancies that may arise at established sites.



Within the Holy Island SPA boundary, in the five year period up to and including 2018, there has been a total of between 19-23 active chough nest sites, all but one of which are coastal, out of a total of 33 known sites (including some of which are regarded as alternatives to other sites, but not including any *very* close alternatives e.g. different nest ledges within the same sea-cave).

Of these active sites, only four fall within or very close to the consultation boundary for the Morlais offshore tidal energy project, all on the West coast of Holy Island:

**Table 1: Chough nest sites: locations and descriptions.**

Nest Code	Site name	Grid ref	Site type / location	Site Occupancy
A12	Porth y Corwgl	SH23667961	Natural site - Sea cave	Regularly occupied.
A13	Porth Dafarch East	SH23347980	Natural site - Sea cave	Regularly occupied.
A23	Range North	SH21228047	Natural site - Sea cave	Irregularly used, poor quality site.
A25	Henborth Bay	SH21518115	Natural site - Sea cave	Regularly occupied.

**Table 2: Chough nest sites: Occupancy by year.**

Nest Code	Site name	Year:	2014	2015	2016	2017	2018
A12	Porth y Corwgl		Conf	Conf	Conf	Conf	Conf
A13	Porth Dafarch East		Conf	Conf	Conf	Conf	Conf
A23	Range North		0	0	0	Prob	0
A25	Henborth Bay		Conf	Conf	Conf	Conf	Conf
Total of occupied sites:			3	3	3	4	3

**Confirmed nest attempt** (Conf) – active nest in current season (direct observation of lined nest, eggs, or young, or indirect evidence of incubation or of pair feeding young).

**Probable nest attempt** (Prob) – lesser evidence of nesting (includes birds carrying nest material, copulating, part-built current season's nest, also presence of marked adults from previous season).

**Possible nest attempt** (Pos) – insufficient evidence of nesting (includes allofeeding/prospecting pair, pair around possible site, or "territorial" / "proprietary" bird(s) present, but apparently no nest attempt at this site, or no suitable site available.)

**Not occupied** (0) – no nest attempt. Either site/sites checked, and/or no adult activity during at least 1 hour observation on more than one occasion in nesting season. (Unfortunately, this category may include inaccessible nests that failed early, if no observations made in early part of season.)

Three of the four sites are in use every year and these pairs are usually successful in raising broods. The fourth site (A23 Range North) has a history of mostly productive occupation between 1994 and 2001, since when there have been territorial birds around in only two years, but otherwise unoccupied. In the nest attempt categorised as “probable” in 2017, the site was occupied by a territorial trio which carried nest material to the site, but there was no evidence of eggs laid or further progression of a nest. The following season, the site was abandoned again, with a least one member of the trio (a colour-ringed male) nesting at a different, regular site on the Range, again as part of a nesting trio.

## **Chough Feeding sites overlapping with buffered consultation boundary for the Morlais offshore tidal energy project.**

The attached spreadsheet covers Cross & Stratford Welsh Chough Project Chough feeding records in any 1 km square contained within or partially overlapping with the buffered consultation boundary. Please note these records are collected on an ad-hoc basis, not as part of a systematic survey of the area. While presence of feeding choughs may indicate the relative importance of an area to this species, a lack of records cannot be interpreted as being unsuitable for them. The RSPB holds any additional foraging records for land on/around the South Stack Reserve.

Choughs regularly feed on short swards of cliff-top pastures, heath, and in most of the semi-improved and improved fields, most often in association with livestock grazing, in the western part of the buffered consultation boundary, including all fields to the North of the RSPB Range car-park (SH216803).

Particularly favoured feeding areas include the RSPB-owned and managed Gors Goch fields between the coast and the road within 1 km square SH2180, the fields within SH2181 (mostly in private ownership on the coastal side of the road and RSPB-owned and managed on the inland side of the road) and the privately-owned fields around Ty Mawr farm (SH217818). A number of the fields abutting the coastal road between the RSPB Range car-park and Porth y Corwgl (SH240796), and to a lesser extent as far as Trearddur Bay (SH254791) are also used by feeding choughs.

The central and eastern portions of the buffered search area do not cross or pass near to any known areas of importance for feeding choughs.

Report prepared by Adrienne Stratford on behalf of the Cross & Stratford Welsh Chough Project, 27<sup>th</sup> Jan 2019

The Cross & Stratford Welsh Chough Project only releases these data on the understanding that these data remain the property of the Cross & Stratford Welsh Chough Project and are used for the sole purpose of informing and assessing the EIA process for the specified development only. The data relating to nests must be treated as confidential and not published in any public documents or passed on to any other parties. By accessing and using these data, you have agreed your acceptance of these conditions and fees (as invoiced). If you cannot agree, then please delete all copies of the data immediately.



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## Annex 2: Peregrine Nesting Sites (RSPB, 2019)

### Volume III

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Mynegai / Legend:

● Peregrine

Cydnabyddiaeth a Nodiadau /  
Acknowledgements & Notes:

Creu gan / Created by: RSPB

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Graddfa map /  
Map scale = 1:25,492

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