

Appendix B Preliminary Ecological Appraisal

Connah's Quay Combined Cycle Gas Turbine (CCGT) with Carbon Capture

Preliminary Ecological Appraisal Report

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Uniper

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Executive Summary

Overview

This Preliminary Ecological Appraisal (PEA) has been prepared on behalf of Uniper UK Limited (hereafter referred to as the 'the Applicant') to assess the ecological constraints and opportunities in connection with the proposed construction, operation and decommissioning of a Combined Cycle Gas Turbine (CCGT) Generating Plant fitted within Carbon Capture Plant (CCP) on land at, and in the vicinity of, the existing Connah's Quay Power Station (Kelsterton Road, Connah's Quay, Flintshire, CH6 5SJ), North Wales.

An initial desk study was undertaken in November 2023 to inform the Environmental Impact Assessment (EIA) scoping stage, using publicly available resources, to:

- identify Habitat Sites (formerly known as European Sites), Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNRs) within 15 km;
- identify protected and notable habitats and other statutory designated sites within 2 km;
- review ecological survey data collected during initial surveys by Aspect Ecology; and
- map the habitats making up inaccessible areas of the Proposed Development using available aerial imagery.
- In addition, a walkover survey of accessible land within the Main Site and Indicative Enhancement Area (**Figure 5, Annex A**) was undertaken on 7 November 2023.

The walkover survey identified the need for further survey or assessment of the following Important Ecological Features:

- Designated sites;
- Habitats;
- Bats;
- Badger;
- Otter;
- Water vole;
- Great crested newt;
- Birds (wintering, breeding and passage);
- Terrestrial invertebrates; and
- Natterjack toad.

1. Introduction

1.1 Background

- 1.1.1 This Preliminary Ecological Appraisal (PEA) has been prepared on behalf of Uniper UK Limited (hereafter referred to as 'the Applicant'), to assess the ecological constraints in connection with the proposed construction, operation and decommissioning of a new Combined Cycle Gas Turbine (CCGT) fitted within Carbon Capture Plant (CCP) on land at, and in the vicinity of, the existing Connah's Quay Power Station (Kelsterton Road, Connah's Quay, Flintshire, CH6 5SJ), North Wales.
- 1.1.2 The Proposed Development is located approximately 0.6 km north-west of Connah's Quay in Flintshire, north-east Wales. The indicative land under consideration for the Proposed Development (hereafter referred to as the 'Site') is shown on **Figure 1 (Annex A)** and is located within the administrative boundary of Flintshire County Council (FCC).
- 1.1.3 The assessment of ecological constraints has been undertaken with reference to current good practice. The PEA addresses relevant wildlife legislation and planning policy as summarised in **Annex B** and is consistent with the requirements of British Standard 42020:2013 *Biodiversity. Code of Practice for Planning and Development* and accords with the Guidelines for Preliminary Ecological Appraisal published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017¹).

1.2 The Site

- 1.2.1 The Site and Indicative Site Layout as shown on **Figure 1** and **Figure 2 (Annex A)** contains a number of different components which are listed below.
- The Main Site;
 - Access to the Main Site;
 - The Existing Surface Water Outfall;
 - The Access to Wildlife Hides;
 - Proposed CO₂ Connection Corridor;
 - Repurposed CO₂ Connection Corridor;
 - Water Connection Corridor;
 - Existing Natural Gas Connection Corridor;
 - Electrical Connection Corridor;
 - Indicative Enhancement Area; and
 - Alternative Access to Main Site and Access to Indicative Enhancement Area.

¹ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal Second Edition. Available at <https://cieem.net/wp-content/uploads/2018/01/Guidelines-for-Preliminary-Ecological-Appraisal-Jan2018-typo-edit.pdf>

- 1.2.2 Further information on the Proposed Development is provided in **Chapter 3: The Proposed Development** and definitions are set out in **Chapter 1: Introduction** of the main EIA Scoping Report.

1.3 Purpose of the Preliminary Ecological Appraisal

- 1.3.1 This PEA presents ecological information obtained from the following sources:

- An initial desk study undertaken in November 2023 of publicly available sources including Magic² and the Joint Nature Conservation Committee (JNCC) website³ which provided information on the following ecological features relevant to the Proposed Development:
 - All Habitat Sites (formerly known as International Sites), Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNRs) within 15 km.
 - All protected and notable habitats⁴ and other statutory designated sites within 2 km.
- At the time of reporting, it was only possible to conduct this search using publicly available data sources, (all search areas covered by the desk study are hereafter known as the study area).
- A document review of previous ecological survey reports within the Main Site⁵ and Indicative Enhancement Area commissioned by the Applicant. These surveys were confined to the Main Site and Indicative Enhancement Area of the Proposed Development. The reports included the following:
 - Phase 1 Habitat and Faunal Surveys;⁶
 - Breeding, Passage and Wintering Bird Surveys; and⁷
 - Reptile Surveys.⁸
- A walkover survey on 7 November 2023 of accessible land within the Main Site and Indicative Enhancement Area (the area covered by the survey is herein referred to as the 'survey area' and shown on **Figure 6, (Annex A)**.
- A desk-based assessment based on aerial imagery of all habitats within the Site using available aerial imagery.

² Multi-Agency Geographic Information for the Countryside (MAGIC) website www.magic.gov.uk last accessed 22/11/2023.

³ Joint Nature Conservation Committee (JNCC) website <https://jncc.gov.uk/> last accessed 22/11/2023.

⁴ Notable habitats are taken as principal habitats for the conservation of biodiversity listed under Section 7 of the *Environment (Wales) Act 2016*; habitats listed under the Flintshire Biodiversity Action Plan (FBAP); hedgerows identified as being 'important' under the wildlife criteria of the *Hedgerow Regulations 1997*, ancient woodlands and veteran trees.

⁵ The 'Main Site' is a term to reflect the CCGT and CCP site including the proposed laydown area, internal access roads, existing utilities connections for welfare use, and the existing Connah's Quay Power Station – refer to Section 1.2 'Definitions' of the EIA Scoping Report

⁶ Aspect (2023) Connah's Quay Power Station: Northern Land Parcel: Phase 1 Habitat and Faunal Surveys & Aspect (2023) Connah's Quay Power Station: Southern Land Parcel: Phase 1 Habitat and Faunal Surveys

⁷ Aspect (2023) Connah's Quay Power Station: Northern Land Parcel: Breeding, Passage and Wintering Bird Surveys & Aspect (2023) Connah's Quay Power Station: Southern Land Parcel: Breeding, Passage and Wintering Bird Surveys

⁸ Aspect (2023) Connah's Quay Power Station: Northern Land Parcel: Reptile Surveys & Aspect (2023) Connah's Quay Power Station: Southern Land Parcel: Reptile Surveys

- 1.3.2 The purpose of the PEA is to provide a high-level ecological appraisal of the Site in order to inform the Ecological Impact Assessment (EclA), specifically to:
- identify statutory and non-statutory biodiversity nature conservation designations of potential relevance;
 - inform baseline conditions and the presence of Important Ecological Features (IEF) (or those that could be present), based on available information at this stage;
 - to identify potential ecological constraints to the Proposed Development and make initial recommendations to avoid impacts on IEFs, as far as reasonably practicable;
 - to begin to identify requirements for mitigation, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final Proposed Development design);
 - to establish the requirements for more detailed surveys; and,
 - to identify any opportunities offered by the Proposed Development to deliver biodiversity enhancements.

1.4 Report Structure

- 1.4.1 Section 2 sets out the ecological baseline, constraints and recommendations for designated sites, habitats and species. Section 3 summarises the recommendations for further survey work to inform the EclA.
- 1.4.2 The following figures are provided to support this PEA in **Annex A** at the end of this report:
- Figure 1 – Site Location Plan;
 - Figure 2 – Indicative Site Layout Plan;
 - Figure 3 – Statutory Designated Sites within 15 km;
 - Figure 4 – Statutory Designated Sites within 2 km;
 - Figure 5 – Priority Habitats and Ancient Woodlands; and
 - Figure 6 – Indicative UK Habitats.
- 1.4.3 **Annex B** sets out relevant legislation and planning policy.
- 1.4.4 The methodology followed for undertaking the desk study and field surveys is detailed in **Annex C**, including any limitations to the assessment.
- 1.4.5 **Annex D** presents the target notes that inform this PEA and a photographic record.

2. Ecological Baseline, Constraints and Recommendations

2.1 Overview

- 2.1.1 The following sections detail the results of the desk and field-based studies undertaken to inform this PEA. Where necessary, recommendations for mitigation measures to protect known IEFs, or further surveys to determine the presence or likely absence of likely IEFs, are provided.

2.2 Designated Sites

Desk Study

- 2.2.1 There are seven Habitat Sites within the study area; one Special Protection Area (SPA) one Ramsar site and five Special Areas of Conservation (SAC). These are detailed in **Table 2-1** below.
- 2.2.2 There are 35 Sites of Special Scientific Interest (SSSI) within the study area. These are detailed in **Table 2-2** below.
- 2.2.3 The location of all habitat sites and SSSIs within 15 km can be found on **Figure 3 (Annex A)**.
- 2.2.4 There are no National Nature Reserves (NNRs) within the study area.
- 2.2.5 There is one local statutory designated site within the study area this is a Local Nature Reserve (LNR): Gathering Grounds Woods & Llywyni Pond LNR, located approximately 1.5 km southeast of the Site which is shown on **Figure 4 (Annex A)**.

Table 2-1 Habitat Sites located within 15 km of the Site

Designated Site	Summary of Citation	Approximate location
The Dee Estuary SPA	<p>Designated for supporting over wintering bird species including:</p> <ul style="list-style-type: none"> Bar-tailed godwit (<i>Limosa lapponica</i>) Black-tailed godwit (<i>Limosa limosa islandica</i>) Curllew (<i>Numenius arquata</i>) Dunlin (<i>Calidris alpina alpina</i>) Grey plover (<i>Pluvialis squatarola</i>) Knot (<i>Calidris canutus</i>) Oystercatcher (<i>Haematopus ostralegus</i>) Pintail (<i>Anas acuta</i>) Redshank (<i>Tringa tetanus</i>) Shelduck (<i>Tadorna tadorna</i>) Teal (<i>Anas crecca</i>) <p>The site also supports breeding common tern (<i>Sterna hirundo</i>) and little tern (<i>Sterna albifrons</i>), as well as supporting on passage sandwich tern (<i>Sterna sandvicensis</i>) and redshank (<i>Tringa tetanus</i>).</p> <p>The SPA regularly supports >20,000 waterfowl.</p>	Overlaps with the Proposed Development Site, specifically the Water Connection Corridor.
The Dee Estuary Ramsar	<p>Criteria for its designation include, Wintering and passage waterfowl populations. The estuary supports internationally important numbers of waterfowl and waders. Estuarine and maritime habitats including, mud flats, sand flats and salt marsh. Breeding colonies of natterjack toad (<i>Epidalea calamita</i>)</p>	Overlaps with the Site, specifically the Water Connection Corridor.
The River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC	<p>Designated for the presence of the Annex 1 habitat Watercourses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-batrachion</i> vegetation; and its populations of the Annex II species Atlantic salmon <i>Salmo salar</i> and floating water-plantain <i>Luronium natans</i>. Annex II qualifying features for selection of the site include sea Lamprey (<i>Petromyzon marinus</i>), river lamprey (<i>Lampetra fluviatilis</i>), brook lamprey (<i>Lampetra planeri</i>), otter (<i>Lutra lutra</i>), petalwort (<i>Petalophyllum ralfsii</i>), and bullhead (<i>Cottus gobio</i>).</p>	Located adjacent to the Site
The Dee Estuary / Aber Dyfrdwy SAC	<p>Designated for its mudflat and sandflat habitats, not covered by seawater at low tide: <i>Salicornia</i> and other annuals colonising mud and sand; Atlantic salt meadows (<i>Glauco-Picciniellietalia maritimae</i>); estuaries; annual vegetation of drift lines; vegetated sea cliffs of the Atlantic and Baltic Coasts; embryonic shifting dunes; shifting dunes along the shoreline; fixed dunes with herbaceous vegetation and humid dune slacks. Annex II qualifying features for selection of the site include sea lampreys (<i>Petromyzon marinus</i>) and river lampreys (<i>Lampetra fluviatilis</i>) and petalwort (<i>Petalophyllum ralfsii</i>).</p>	Overlaps with the Site, specifically the Water Connection Corridor.

Designated Site	Summary of Citation	Approximate location
Deeside and Buckley Newt Sites SAC	Designated for its great crested newt (<i>Triturus cristatus</i>) population, one of the largest in Great Britain.	Located approximately 1.5 km south of the Site
Halkyn Mountain / Mynydd Helygain SAC	Designated primarily for the presence of Annex 1 habitats Calaminarian grasslands of the <i>Violetalia calaminariae</i> ; and Annex II species great crested newt.	Located approximately 3.6 km west of the Site
Alyn Valley Woods / Coedwigoedd Dyffryn Alun SAC	Designated primarily for the Annex 1 habitat Tilio-Acerion forests of slopes, screes and ravines; holding one of the largest continuous areas of Tilio-Acerion fores in Wales.	Located approximately 6.8 km to the south-west of the Site

Table 2-2 SSSIs⁹ located within 15 km of the Site

Designated Site	Approximate Location
Dee Estuary / Aber Afon Dyfrdwy SSSI	Overlaps with the Site, specifically the Water Connection Corridor
Afon Dyfrdwy (River Dee) SSSI	Located approximately 0.1 km southeast of the Proposed Development Site
Shotton Lagoons and Reedbeds SSSI	Located approximately 0.2 km east from the Proposed Development Site
Mynydd Y Fflint / Flint Mountain SSSI	Located approximately 0.5 km west of the Proposed Development Site
Dee Estuary SSSI	Located approximately 1.3 km north of the Proposed Development Site
Inner Marsh Farm SSSI	Located approximately 1.3 km north of the Proposed Development Site
Connah's Quay Ponds and Woodland SSSI	Located approximately 1.5 km south of the Proposed Development Site.
Comin Helygain a Glaswelltiroedd Treffynnon / Halkyn Common and Holywell Grasslands SSSI	Located approximately 3.6 km west of the Proposed Development Site
Buckley Claypits and Commons SSSI	Located approximately 4 km south of the Proposed Development Site
Maes y Grug SSSI	Located approximately 4 km south of the Proposed Development Site
Hallwood Farm Marl Pit SSSI	Located approximately 6 km north-east of the Proposed Development Site
Herward Smithy SSSI	Located approximately 6.3 km northwest of the Proposed Development Site
Parc Linden, Lixwm SSSI	Located approximately 6.8 km west of the Proposed Development Site
Tyddyn-y-barcut SSSI	Located approximately 6.8 km southwest of the Proposed Development Site
Alyn Valley Woods and Alyn Gorge Caves SSSI	Located approximately 6.8 km southwest of the Proposed Development Site

⁹ No online citations available to download.

Designated Site	Approximate Location
Parc Bodlondeb and Gwenallt-parc, Lixwm SSSI	Located approximately 7.2 km west of the Proposed Development Site
Pen-y-Cefn Pasture SSSI	Located approximately 7.5 km southwest of the Proposed Development Site
Cefn Meadow SSSI	Located approximately 7.7 km east of the Proposed Development Site
Chwarel Cambrian / Cambrian Quarry, Gwernymynydd SSSI	Located approximately 9 km southwest of the Proposed Development Site
Dibbinsdale SSSI	Located approximately 9.2 km to the north of the Proposed Development Site
Heswall Dales SSSI	Located approximately 9.8 km to the northwest of the Proposed Development Site
Dee Cliffs SSSI	Located approximately 10.3 km to the northwest of the Proposed Development Site
River Dee (England) SSSI	Located approximately 10.7 km to the southeast of the Proposed Development Site
Ddol Uchaf SSSI	Located approximately 10.7 km west of the Proposed Development Site
The Dungeon SSSI	Located approximately 11.1 km to the northwest of the Proposed Development Site
Mersey Estuary SSSI	Located approximately 11.2 km to the northeast of the Proposed Development Site
Coed Trefraith SSSI	Located approximately 11.6 km northwest of the Proposed Development Site
Coed Talon Marsh SSSI	Located approximately 11.6 km northwest of the Proposed Development Site
Caerwys Tufa SSSI	Located approximately 12 km west of the Proposed Development Site
Bryn Alyn SSSI	Located approximately 12.2 km west of the Proposed Development Site
Thurstaston Common SSSI	Located approximately 12.5 km northwest of the Proposed Development Site
New Ferry SSSI	Located approximately 13.2 km northeast of the Proposed Development Site
Glaswelltiroedd Eryrys (Eryrys Grasslands) SSSI	Located approximately 13.3 km southwest of the Proposed Development Site
Graig, Llanarmon-yn-Ial SSSI	Located approximately 14.5 km southwest of the Proposed Development Site
Chwarel Singret SSSI	Located approximately 14.9 km south of the Proposed Development Site

2.2.6 A review of baseline data carried out by Aspect Ecology (see **Annex E**) identified four Local Wildlife Sites (LWSs) within the study area. The details of these can be found in **Table 2-3** below. It should be noted that this search was only conducted within 2 km of the Main Site and Indicative Enhancement Area of the Proposed Development.

Table 2-3 LWSs located within 2 km of the Site¹⁰

Designated Site	Approximate Location
Leadbrook Wood LWS	Located approximately 100 m south of the Site
Llwyn-onn LWS	Located approximately 500 m west of the Site
Top-y-fron Dingle and Kelserton Brook LWS	Located approximately 800 m south-east of the Site
Cheshire Farm LWS	Located approximately 1.5 km south of the Site

Constraints and recommendations

- 2.2.7 As shown in **Table 2-1** and **Table 2-2**, the Site coincides, in part, with a number of Habitat Sites (formerly known as International Sites) and SSSIs and therefore the Proposed Development has the potential to impact them through habitat loss, disturbance and damage.
- 2.2.8 No local designated sites fall within the footprint of the Proposed Development and therefore LWS are unlikely to be directly impacted.
- 2.2.9 A Habitat Regulations Assessment (HRA) should be conducted to determine the potential impact of the Proposed Development on these designated sites. Natural England and Natural Resources Wales will be consultees on the HRA Report that will accompany the DCO Application and therefore technical engagement with these parties, where required, in relation to the assessment of impacts and mitigation requirements will form part of the DCO application process to limit the damage to these sites.
- 2.2.10 An air quality assessment in line with relevant Environmental Permitting Regulations (EPR) 2016 (as amended) guidance¹¹ should be undertaken to assess the impacts from stack emissions, which may potentially lead to adverse effects on sensitive habitats, including nature conservation designations in the vicinity of the Proposed Development.

2.3 Habitats

Desk Study

- 2.3.1 The desk study returned a number of areas of priority habitat and approximately 20 areas of ancient woodland within the study area including ancient woodlands, coastal and floodplain grazing marsh, lowland fens and reedbeds, lowland meadows and purple moor grass and rush pastures. The locations of these habitats can be found on **Figure 5 (Annex A)**.
- 2.3.2 **Table 2-4** summarises the records of priority habitats situated within the study area that are within or adjacent to the Site, have habitat links to the Site or are hydrologically connected to the Site.

¹⁰ The Proposed Development Site referenced here, in relation to the Aspect Ecology Report, is based on a previous version of the Site Boundary, which has subsequently been updated. Refer to Site Location Plan 6322/ECO1 within those reports.

¹¹ Air emissions risk assessment located here: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>

Table 2-4 Summary of Notable habitats within the Study Area

Habitat	Reason for Conservation Interest	Location of Habitat ¹²
Salt marsh	UK priority habitat	Within the Site
Coastal and floodplain grazing marsh	UK priority habitat	Within the Site
Ancient Semi-natural Woodland	Ancient Woodland	40m southwest of the Site

2.3.3 All areas of recorded ancient woodland within the study area could be impacted by changes to air quality as a result of the Proposed Development.

2.3.4 The habitats identified through available aerial imagery can be found on **Figure 6, (Annex A)**. A brief description of the habitats present in each area of the Site and UK habitat codes can be found below:

- **The Main Site** – The habitats present within the Main Site that were not covered by the field survey consisted of g4 modified grassland, roads (u1b6 800) and industrial buildings (u1b5 817).
- **The Repurposed CO₂ Connection Corridor** – The habitats present along the Repurposed CO₂ Connection Corridor appear from aerial imagery to be largely pastureland for animals intersected with hedgerows. The pasture is assumed to be g4 modified grassland and the hedgerows that are present throughout the corridor are assumed to be h2a native hedgerow, some of which have trees present within them. Additionally, there are areas of urban gardens (u1d).
- **The Proposed CO₂ Connection Corridor** – This area of the Site is made up of two fields (the northern field appears to be cropland c1c and southern field appears to be g4 modified grassland) separated by hedgerow (assumed to be h2a native hedgerow) and bordered to the north and west by hedges (assumed to be h2a native hedgerow) and roads (u1b6 800) and to the east by a strip of broadleaved woodland (w1f lowland mixed deciduous woodland) and a stream (r2b – Other rivers and streams).
- **Existing Natural Gas Connection Corridor** – This area of the Site crosses salt marsh (t2a-coastal salt marsh) the River Dee estuary (r2a – Rivers) areas of grassland (assumed to be g3c other neutral grassland) woodland associated with the verges of the A548 (w1f lowland mixed deciduous woodland) and roads (u1b6 800).
- **Water Connection Corridor** – This area of the Site crosses salt marsh (t2a – coastal salt marsh) and the River Dee estuary (r2a – Rivers).

Field Survey

2.3.5 Summary descriptions of the habitats within the survey area are provided below and shown on **Figure 5 (Annex A)**, with specific features highlighted by target notes (TNs). TN descriptions and photographs are provided in **Annex D**.

¹² Where features are situated outside of the Site boundary, the distance and direction is given at the closest point of the designated site from the Site

g3c- Other Neutral Grassland

- 2.3.6 Large areas of the survey area were made up of grassland habitats. As the field survey was conducted in November, it was not possible to identify these areas further as many herb and grass species would have died back and would no longer be present. Species present at the time of survey included musk thistle (*Carduus nutans*), common nettle (*Urtica dioica*), perennial rye grass (*Lolium perenne*), red fescue (*Festuca rubra*) and creeping thistle (*Cirsium arvense*).

w1f7 29 – Other Lowland mixed deciduous woodland Plantation

- 2.3.7 Two strips of young (<30 years) plantation woodland (TN1 & TN2). Made up of a mix of tree species including silver birch (*Betula pendula*), ash (*Fraxinus excelsior*), pedunculate oak (*Quercus robur*), sycamore (*Acer pseudoplatanus*), goat willow (*Salix caprea*) and hawthorn (*Crataegus monogyna*).

h3d – Bramble Scrub

- 2.3.8 Several areas of dense scrub were located throughout the survey area. These were dominated by bramble (*Rubus fruticosus* agg).

u1b5 817 – Buildings Industrial

- 2.3.9 Buildings making up the existing Connah's Quay Power Station.

u1b6 800- Developed land; sealed surface - other developed land – road

- 2.3.10 Roads and other asphalt surfaces that make up the existing Connah's Quay Power Station.

g1c – bracken

- 2.3.11 Strip of bracken to the east of the Site (TN8).

u1f 80 – Sparsely vegetated urban land – possible Open mosaic habitat on previously developed land

- 2.3.12 An area of possible open mosaic habitat (OMH) on previously developed land (TN9). Species included buddleia (*Buddleja davidii*) and thyme sp. The plants present within this area were largely dead or had gone over at the time of survey. There were a mixture of tracks (some of which were remnant asphalt, some concrete and some compacted crushed aggregate in places) and some of what appeared to be raised foundations of old buildings all supporting more or less vegetation. Grasses were more abundant in places and buddleia was more abundant towards the Main Site, but there was also evidence of management by cutting in some areas. Potentially an area of priority habitat.

g3c 81- Other Neutral Grassland – ruderal ephemeral

- 2.3.13 There were pockets of tall ruderal vegetation dominated by nettle with umbellifers and willowherb species (*Epilobium* sp.) present (TN3) within the survey area.

g4 – modified grassland

- 2.3.14 Areas of amenity grassland making up parts of the existing Connah's Quay Power Station. These were located around reception and west of the main plant area and were dominated by perennial rye grass with daisy *Bellis perrenis* and dandelion *Taraxacum* sp.

r1g 42 – Other Standing Water Ponds

- 2.3.15 Three large ponds (approximate sizes of which are: 2,990 m², 9,980 m² and 2,560 m²) indicated by Target Note 4 in **Figure 6, Annex A**. Two of these were located to the north-east of the survey area and the third is located partially within the survey area.

Constraints and Recommendations

- 2.3.16 The field survey was conducted in November so many plant species would not have been present at the time of survey. Detailed botanical surveys should be conducted in the spring and summer to determine the quality of habitats on site such as grassland, sparsely vegetated urban land, salt marsh and hedgerows. These surveys to inform the baseline will be the 'right' standard to allow a habitat condition assessment to be undertaken to inform Net Biodiversity Benefit (NBB).
- 2.3.17 It is recommended that construction methodology avoids impacts to any priority habitats, such as rivers, salt marsh and possible OMH. Salt marsh represents an irreplaceable habitat and its loss cannot be mitigated or compensated. It is also recommended that semi-natural habitats such as scrub, woodland and grassland should be retained and protected, as far as reasonably practicable. Where habitat loss cannot be avoided, it should be the minimum required and habitat replacement proposed as compensation.
- 2.3.18 If there is to be any habitat loss in areas where habitats have only been identified by aerial survey, then botanical surveys should be undertaken to 'ground truth' the aerial survey information.
- 2.3.19 The remaining habitats within the Site are considered to be common and widespread and any loss to them will be compensated by habitat creation being undertaken to ensure the Proposed Development does not result in a loss of biodiversity, but instead results in a biodiversity net benefit.

2.4 Bats

Desk Study

- 2.4.1 Surveys conducted by Aspect Ecology (see **Annex E**) identified areas of suitable habitat for foraging and commuting bats within the Indicative Enhancement Area. These habitats included rough grassland, scrub, and a line of trees.
- 2.4.2 These suitable habitats areas were also present within the Main Site area of the Proposed Development; however, it was determined that the lighting from the existing Connah's Quay Power Station and town of Connah's Quay may reduce the suitability of these habitats for roosting bats.

- 2.4.3 There is habitat connectivity to the surrounding landscape to the Site through the railway corridor that runs along the southern boundary of the Main Site and the River Dee estuary to the north of the Site.
- 2.4.4 Several trees that are large enough to support potential bat features have been identified both within the survey area and within the areas surveyed by aerial imagery. These were located in the hedgerows and areas of woodland in the Repurposed CO₂ Connection Corridor and the Proposed CO₂ Connection Corridor.

Field Survey

- 2.4.5 The habitats on Site provide potential flightpaths and foraging habitats, as there are grassland, scrub, woodland and wetland habitats present, and the Site has habitat connections to the wider landscape.
- 2.4.6 The field survey identified trees with potential to support features suitable for roosting bats within the Indicative Enhancement Area and south of the survey area along the access road to the existing Connah's Quay Power Station.
- 2.4.7 The buildings that make up the existing Connah's Quay Power Station may offer potential to support features for roosting bats although they are illuminated and largely subject to levels of existing industrial noise and regular disturbance and so are unlikely to support significant roosts.

Constraints and Recommendations

- 2.4.8 The habitats on Site are considered to be of moderate value as potential flightpaths and foraging habitats, therefore activity surveys need to be undertaken to determine the potential impacts of the Proposed Development on foraging and commuting bats. Night bat walkover surveys should be carried out across all habitats suitable for bats coupled with automatic detector surveys to identify important commuting features or activity hotspots.
- 2.4.9 A number of trees with the potential to support features suitable for roosting bats were identified both in the Indicative Enhancement Area and the Proposed/Repurposed CO₂ Connection Corridor. If these trees are likely to be directly impacted by the Proposed Development, then the classification of the bat roost suitability of affected trees within these areas should be determined at the earliest stage possible using current survey guidelines¹³. This would be done by undertaking an initial ground level Preliminary Roost Assessment (PRA) of the tree followed by a detailed Potential Roost Features (PRF) aerial inspection survey (if deemed to be required and where safe to do so), to establish all PRFs found on each tree. The result of the PRA / PRF aerial inspection survey will give a roost suitability rating (PRF-Individual or PRF-Multiple) and may also establish the presence/absence of roosting bats within the tree.
- 2.4.10 The buildings that make up the existing Connah's Quay Power Station may offer suitable features for roosting bats. The classification of the bat roost suitability of structures within the Proposed Development will be required

¹³ Collins, J.(ed) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust. London.

where an impact to a structure will occur, to determine further survey requirements. This requirement would be assessed as the design of the Proposed Development is established and progressed. If an impact to a structure is required, a detailed PRA would be undertaken, to establish all PRFs at the earliest stage possible using current survey guidelines¹⁴. The result of the PRA will give a roost suitability rating of each structure (from Negligible to High), which in turn will inform the number of emergence surveys required to establish the presence/absence of roosting bats within each structure.

- 2.4.11 These surveys will enable appropriate avoidance /mitigation measures to be developed for the physical works associated with the Proposed Development. Works affecting a bat roost would need to be completed under a Natural Resources Wales European Protected Species mitigation licence. The licence would detail the appropriate mitigation and compensation measures necessary to maintain the Favourable Conservation Status of bats. Mitigation measures would include, for example, the appropriate timing and supervision of works, and compensation would include the provision of replacement roosting habitat.

2.5 Badger

Desk Study

- 2.5.1 The initial survey work conducted by Aspect Ecology (see **Annex E**) found that habitats within the Site were suitable for use by badger (*Meles meles*) for foraging and sett building, including scrub, tall ruderal vegetation, and grassland. Targeted badger surveys undertaken by Aspect Ecology found no setts present, but there was evidence of badger using the Site such as areas of foraging and badger paths.
- 2.5.2 Habitats were identified throughout the whole site through aerial imagery as being suitable for badger, and these included woodland, grassland and hedgerows.

Field Survey

- 2.5.3 Habitats were found to be present within the survey area that are suitable for foraging and sett building, including grassland, woodland, scrub, and ruderal habitats.
- 2.5.4 No badger setts were found during the field surveys.

Constraints and Recommendations

- 2.5.5 The desk study identified habitats within the Site with suitability for badger and evidence of badger use of the Site through field survey although determined no setts were present.
- 2.5.6 The updated field surveys confirmed the habitats were suitable to support badger foraging and sett building although no evidence of recent badger activity was recorded. Therefore, it is recommended that a full badger survey

¹⁴ Collins, J.(ed) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust. London.

is conducted within the Site and a 30 m buffer to determine if there are any badger setts present that could be impacted by the Proposed Development.

- 2.5.7 Where active badgers or their setts may be impacted by the Proposed Development, then a licence may be required from Natural Resources Wales. Badger licences permit the closure of setts in the period 01 July to 30 November. Where high-status badgers' setts are impacted then it may be necessary to provide a replacement sett.

2.6 Otter

Desk Study

- 2.6.1 The initial Aspect Ecology survey work (see **Annex E**) identified the Dee Estuary as highly suitable for foraging and commuting otter (*Lutra lutra*)¹⁵. This determined the habitats within the area surveyed were unsuitable for otter.
- 2.6.2 The aerial image search identified corridors with woodland and streams present within the Proposed CO₂ Connection Corridor and the salt marsh habitats and River Dee to the north of the survey area that could provide suitable otter habitat for foraging commuting and resting.

Field Survey

- 2.6.3 No evidence of otter was recorded during the field survey. The majority of the survey area was of limited suitability for otter, comprising of open and exposed habitats that offer limited shelter for otter. The habitats associated with the River Dee provide a suitable foraging and commuting route for otter, although the tidal character limits opportunities for shelter or breeding. Some potential opportunities for shelter may be provided by pipes that lead from the existing Connah's Quay Power Station into to the River.

Constraints and Recommendations

- 2.6.4 Otters are a widespread species that are likely to be present on most watercourses in lowland Wales. Operations affecting watercourses or suitable terrestrial habitat are likely to impact this species, with locations representing breeding sites being most sensitive. It is recommended that as the design of the Proposed Development is established and progressed, and any affected watercourses and potential terrestrial habitat suitable for otters are identified and the potential for impacts reviewed. Further detailed surveys including monitoring may then be required to determine the likely presence of breeding sites.
- 2.6.5 In the event that impacts to otters are identified then best practice avoidance measures or a Natural Resources Wales European Protected Species mitigation licence may be required. If required, the mitigation licence would include the measures necessary to maintain the Favourable Conservation Status of otter, including the appropriate timing of works and provision of replacement habitat.

¹⁵ Aspect Ecology (2023) Connah's Quay Power Station: Northern Land Parcel Phase 1 Habitat and Faunal Survey & Aspect Ecology (2023) Connah's Quay Power Station: Southern Land Parcel Phase 1 Habitat and Faunal Survey

2.7 Water Vole

Desk Study

- 2.7.1 The initial survey work undertaken by Aspect Ecology (see **Annex E**) determined that water vole (*Arvicola amphibius*) were not detected within any habitats that make up the Site or its immediate surroundings.
- 2.7.2 The aerial image search identified a stream within the Proposed CO₂ Connection Corridor that could offer suitable habitat to water vole.

Field Survey

- 2.7.3 Habitats were found to be present within the survey area that are suitable for water vole, including ponds and salt marsh.

Constraints and Recommendations

- 2.7.4 Previous survey determined that water vole were likely absent from the Site and its immediate surroundings. However, the surveys undertaken were not in line with best practice guidance, with individual surveys being completed in 2021 and 2023; therefore, it is not possible to conclude that water vole are absent.
- 2.7.5 A stream is also located within the Proposed CO₂ Connection Corridor that could offer suitable habitat to water vole and the updated field surveys identified that the three ponds to the north-east of the Site also provide suitable habitat.
- 2.7.6 It is recommended that if these habitats are likely to be directly impacted by the works (if construction works are going to come within 5m of any of these waterbodies) then further surveys would be required to determine if water vole are present.
- 2.7.7 Surveys should involve a habitat suitability assessment for water vole of all waterbodies to be directly impacted by the Proposed Development followed by two survey visits of all suitable waterbodies, one in Spring (mid-April to June) and one in Summer (July-September) to determine water vole presence and population size and the impact the Proposed Development will have on them.
- 2.7.8 If water vole are likely to be impacted, then a Natural Resources Wales species licence would be required. The licence would detail the appropriate timing and supervision of works, including measures to displace water vole from the working area. Displacement may involve the management off vegetation and / or the use of exclusion fencing and trapping during the appropriate time of year. Subject to the level of impact this may include a requirement to provide suitable replacement habitat.

2.8 Great crested newt

Desk Study

- 2.8.1 The initial survey work undertaken by Aspect Ecology (see **Annex E**) determined that great crested newt (*Triturus cristatus*) were not present within any habitats that make up the Site or its immediate surroundings.

Field Survey

- 2.8.2 Three ponds with potential to support great crested newt were identified within 50m of the Site.
- 2.8.3 There are also terrestrial habitats present suitable for great crested newt such as grassland, scrub, woodland, ruderal habitat and hedgerows. The railway line that runs along the southern boundary of the Main Site area offers habitat connections to the surrounding area, along with the hedgerows that connect to the wider landscape.

Constraints and Recommendations

- 2.8.4 The Proposed Development has the potential to impact great crested newts if they are present within habitats within the Site. It is recommended that a desk study is undertaken to identify all ponds within 500m of the Site boundary.
- 2.8.5 All ponds identified by the desk study should be subject to a habitat suitability assessment for great crested newt and eDNA survey (undertaken between mid-April and June) to determine if great crested newts are present.
- 2.8.6 If the eDNA surveys return a positive result for great crested newts then population class estimate surveys will need to be undertaken to determine the size of great crested newt populations present and therefore to inform the Proposed Development's potential impact on this species.
- 2.8.7 If great crested newts are impacted, then a Natural Resources Wales European Protected Species mitigation licence may be required. The mitigation licence would include the measures necessary to maintain the favourable Conservation Status of great crested newt, including the appropriate timing of works and provision of replacement habitat.

2.9 Reptiles

- 2.9.1 Common species of reptile refers to common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix helvetica*).

Desk Study

- 2.9.2 Reptile surveys conducted by Aspect Ecology in 2022 (see **Annex E**)¹⁶ determined that a low population of common lizard were present within the

¹⁶ Aspect Ecology (2023) Connah's Quay Power Station: Northern Land Parcel: Reptile Surveys & Aspect Ecology (2023) Connah's Quay Power Station: Southern Land Parcel: Reptile Surveys

Site (present within the Indicative Enhancement Area). Surveys throughout the rest of the Site found reptiles to be absent.

Field Survey

- 2.9.3 The habitats suitable for reptiles present within the Survey Area were found to be largely unchanged since the initial reptile surveys conducted by Aspect in 2022 and there is potential for small numbers of common reptiles to be present across the survey area focused on areas of less managed habitat.

Constraints and Recommendations

- 2.9.4 A low population of common lizard is present within the Site boundary.
- 2.9.5 Where possible, the Proposed Development should be designed to avoid suitable reptile habitat where there is a risk of harm to reptiles. Where this is not possible then construction works within areas of suitable reptile habitat should implement precautionary working methods and standard practice mitigation measures to manage the risk to reptiles. In addition to the avoidance of suitable hibernation habitat in the reptile hibernation period (mid-October to mid-March), mitigation measures may also involve measures to displace reptiles into areas of retained or created habitat. This would be undertaken during suitable weather conditions in the reptile active period (mid-March to mid-October, inclusive), and involves the sensitive management of vegetation and / or the capture of reptiles.

2.10 Birds

Desk Study

- 2.10.1 The Dee Estuary SPA, SSSI and Ramsar sites are all designated due to the important assemblage of bird species.
- 2.10.2 The initial survey work undertaken by Aspect Ecology (see **Annex E**)¹⁷ found that '*Two of the four Annex 1 species relevant to the SPA/Ramsar site were recorded in significant numbers in the estuary adjacent to the site*' and '*Of the qualifying migratory species, seven were recorded in the estuary in significant numbers*'.
- 2.10.3 The aerial image search identified habitats suitable for bird species including woodland, grassland, salt marsh, hedgerows and the River Dee.

Field Survey

- 2.10.4 Grassland and wetland habitats within the survey area were suitable for birds, including wading birds. Buildings and woody vegetation also provided suitable nesting habitat for widespread bird species.
- 2.10.5 Large numbers of foraging curlew (*Numenius arquata*) were present within these habitats at the time of the field surveys.

¹⁷ Aspect Ecology (2023) Connah's Quay Power Station: Northern Land Parcel Breeding, Passage and Wintering Bird Surveys & Aspect Ecology (2023) Connah's Quay Power Station: Southern Land Parcel Breeding, Passage and Wintering Bird Surveys

Constraints and Recommendations

- 2.10.6 The Dee Estuary SPA, SSSI and Ramsar sites coincide partly with the Site and construction works have the potential to impact the assemblage of bird species they are designated for.
- 2.10.7 Habitats within the survey area were found to support large assemblages of wading birds at the time of the field survey. Therefore, further survey is proposed to determine the impacts of the Proposed Development on these bird assemblages.
- 2.10.8 Breeding bird surveys should comprise up to six survey visits over the period March to July, inclusive. Transects would record bird sound and behavior to classify the breeding status of birds present. The locations of all species of conservation importance that are breeding or likely to breed would be mapped and an estimate of their numbers (pairs/territories) derived. These breeding bird survey visits should also comprise wader surveys to identify the presence of any breeding wader species either within the Site or the adjacent intertidal and salt marsh habitat. These are targeted surveys that would monitor the most suitable habitats for waders in these locations.
- 2.10.9 Wintering and passage bird survey will be completed over a 12-month period. The surveys would be timed to take place at the appropriate high and low water periods to cover the spring and neap tides, with nocturnal monitoring also included.
- 2.10.10 These surveys will inform what avoidance/mitigation and compensation measures need to be put in place to ensure that the Proposed Development will not impact the Favorable Conservation Status of birds in the area and to minimize impacts of the Proposed Development on the assemblages of birds that use the nearby protected sites.

2.11 Terrestrial Invertebrates

Desk Study

- 2.11.1 The initial survey work undertaken by Aspect Ecology (see **Annex E**)¹⁸ scoped out invertebrates as a constraint to the Proposed Development stating '*site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates*'.

Field Survey

- 2.11.2 There are habitats suitable for terrestrial invertebrates throughout the survey area including sparsely vegetated urban land, grassland, woodland, hedgerows, and ruderal habitats. These habitats in a mosaic can offer opportunities for terrestrial invertebrates.

¹⁸ Aspect Ecology (2023) Connah's Quay Power Station: Northern Land Parcel Phase 1 Habitat and Faunal Survey & Aspect Ecology (2023) Connah's Quay Power Station: Southern Land Parcel Phase 1 Habitat and Faunal Survey

Constraints and Recommendations

- 2.11.3 Suitable habitat for terrestrial invertebrates are present within the Site and so there is a potential that they could be impacted by the Proposed Development.
- 2.11.4 It is recommended that further surveys are carried out. The scope of these would be confirmed following the review of third-party data and a scoping walkover of the Site by an entomologist, targeted on habitats suitable for terrestrial invertebrates, such as OMH.

2.12 Natterjack Toad

Desk Study

- 2.12.1 Natterjack toad (*Epidalea calamita*) have been reintroduced along the Dee Estuary¹⁹ through the Natterjack Reintroduction Project.

Field Survey

- 2.12.2 Three ponds with potential to support natterjack toad were identified within the survey area.
- 2.12.3 There are also terrestrial habitats present suitable for natterjack toad such as salt marsh, scrub and ruderal habitat.

Constraints and Recommendations

- 2.12.4 It is not known if the reintroduction of natterjack toad along the Dee Estuary is in close enough proximity to the Proposed Development for it to impact this species.
- 2.12.5 It is recommended that a further desk study is undertaken to determine the current range of this species and if further survey is needed.

2.13 Hazel Dormouse

Desk Study

- 2.13.1 The initial survey work conducted by Aspect Ecology (see **Annex E**)²⁰ scoped out Hazel dormouse (*Muscardinus avellanarius*) as a constraint to the Proposed Development stating '*the site is close to the limits of the known UK distribution of this species. Habitats present provide very limited opportunities for Dormouse*'.

Field Survey

- 2.13.2 The habitats present within the survey area provide very little opportunity for dormouse lacking the variety of food plants required for this species or the vegetation structure required.

¹⁹ Natterjacks in North Wales Available here: <https://www.arc-trust.org/natterjacks-in-north-wales> last accessed 24/11/2023

²⁰ Aspect Ecology (2023) Connah's Quay Power Station: Northern Land Parcel Phase 1 Habitat and Faunal Survey & Aspect Ecology (2023) Connah's Quay Power Station: Southern Land Parcel Phase 1 Habitat and Faunal Survey

- 2.13.3 There is very limited habitat connection from the Proposed Development to any potential areas of suitable dormouse habitat in the surrounding landscape.

Constraints and Recommendations

- 2.13.4 The lack of suitable habitat within the Site and the lack of suitable connections to any potential habitat in the surrounding landscape means dormouse are very unlikely to be present within the Site and so are unlikely to be impacted by the Proposed Development.
- 2.13.5 This species is proposed to be scoped out of any further assessment.

3. Recommendations for Further Survey

3.1.1 The following further surveys, summarised in **Table 3-1**, are recommended.

Table 3-1 Recommendations for Further Survey

Survey	Scope	Survey Timing	Survey Extents
Preliminary Ecological Appraisal (PEA) including UKHab survey and habitat condition assessment to inform NBB	<p>A PEA including UKHab survey and habitat condition assessment will be carried out during the optimal survey season based on the following methodology: UKHab Classification²¹, Natural England Statutory Biodiversity Metric²², and CIEEM PEA Guidance.</p> <p>Hedgerows within the Site would be surveyed against the landscape and wildlife important hedgerow criteria of the Hedgerow Regulations 1997.</p> <p>The survey will also reaffirm the potential habitats to support protected and/or notable fauna, including protected species, Species of Principal Importance (SOPI) and Local Biodiversity Action Plan species, specifically in association with the Proposed CO₂ Connection Corridor.</p>	April - September 2024	Accessible terrestrial habitats within the Site plus up to 50 m (where accessible).
Botanical survey including National Vegetation Classification (NVC) surveys	Detailed NVC of the saltmarsh and sparsely vegetated urban land (possible OMH), will be completed in accordance with Rodwell (2006) ²³ .	May - July 2024	<p>Accessible terrestrial habitats within the Site, specifically the Main Site, Water Connection Corridor, and Indicative Enhancement Area.</p> <p>Further surveys in association with the Proposed CO₂ Connection Corridor are to be confirmed following the PEA.</p>
Wetland bird surveys	Year-round waterbird surveys over a 12-month period with a minimum of three visits per month, following modified Wetland Bird (WeBS) methodology ²⁴	November 2023-	All land within the Site (specifically, the Main Site including the Water Connection

²¹ UKHab Ltd (2023), UK Habitat Classification Version 2.0. Available at: <https://www.ukhab.org>.

²² Defra (2023) Statutory Biodiversity Metric Tool. Available at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

²³ Rodwell, J.S. (2006) *National Vegetation Classification User's Handbook*. Joint Nature Conservation Committee, Peterborough

²⁴ British Trust for Ornithology, 2023; Wetland Bird Survey. Available at: <https://www.bto.org/our-science/projects/wetland-bird-survey>

Survey	Scope	Survey Timing	Survey Extents
	<p>utilising point and sector counts across various tidal states. The surveys will be timed to take place at the appropriate high and low water periods to cover the spring neap tides. Each month these survey visits would include a nocturnal survey visit.</p> <p>The survey techniques in each month would comprise a combination of walked transects and monitoring of key habitats, including the use of spotting scopes and thermal imaging cameras to record birds at night.</p>	<p>October 2024</p>	<p>Corridor, Proposed CO₂ Connection Corridor, and Indicative Enhancement Area) and study area of estuary and saltmarsh habitats up to 1.5 km (as visibility allows).</p>
<p>Breeding bird surveys</p>	<p>Common Bird Census (CBC) methodology²⁵ of all terrestrial parts of the Site and surrounding saltmarsh habitats.</p> <p>The survey will comprise 5 monthly visits March to July, inclusive.</p> <p>The survey in each month would comprise a walked transect.</p> <p>An additional four visits April to June will also be conducted to identify the presence of any breeding wader species within the Site or intertidal habitats. These are target surveys, in addition to the wetland surveys, to monitor the most suitable habitats for waders in these locations.</p> <p>Approximate bird territories will be extrapolated from the survey data in accordance with the territory mapping methods based on Gilbert et al (1998)²⁶.</p>	<p>March 2024- July 2024 (one visit per month for five months); and April 2024 to June 2024 (an additional four visits)</p>	<p>All land within the Site (specifically, the Main Site including the Water Connection Corridor, Proposed CO₂ Connection Corridor, and Indicative Enhancement Area) and study area of estuary and saltmarsh habitats up to 1.5 km (as visibility allows).</p>
<p>Great crested newt habitat suitability assessments including environmental DNA</p>	<p>A great crested newt habitat suitability index (HSI) will be completed at ponds on and within 500 m of the Site (where applicable). The HSI assessment will evaluate the suitability of accessible ponds for great crested newt based on methodology of Oldham et al (2000)²⁷. Water samples will also be taken from accessible ponds in accordance with the method of Briggs et al (2014) and analysed for great crested newt environmental DNA (eDNA) at a laboratory approved by Natural Resource Wales.</p> <p>Further great crested newt population size class assessment survey may be required, depending on the results of the eDNA survey.</p>	<p>15th April to end of June 2024</p>	<p>Ponds within the Site (Main Site including Water connection Corridor, Proposed CO₂ Connection Corridor, and Indicative Enhancement Area) plus up to 500 m where applicable.</p>

²⁵ Marchant, J. H, 1983; Common Birds Census instructions. British Trust for Ornithology, Tring.

²⁶ Gilbert, G., Gibbon, D. W. and Evans, J.,1998; Bird Monitoring Methods – a manual of techniques for key UK species. RSPB, Sandy.

²⁷ Oldham, R.S. & Keeble, J. & Swan, M.J.S. & Jeffcote, M., 2000; Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). Herpetological Journal. 10. 143-155

Survey	Scope	Survey Timing	Survey Extents
Potentially natterjack surveys	<p>Natterjack toads were introduced along the Dee Estuary through the Natterjack Reintroduction Project. Saltmarsh habitat within the Site may potentially offer opportunities for natterjack toads, particularly any shallow pools of water and coastal habitat.</p> <p>Scope and requirement for surveys is to be confirmed upon review of third-party desk study data and potential impacts to suitable habitat.</p>	April - September ²⁸	If required, potentially ponds and salt marsh habitat within the Site, specifically the Main Site including Water Connection Corridor, and Indicative Ecological Enhancement Area.
Bats – Preliminary Roost Assessment (PRA)	<p>Some buildings within the Site, specifically the Main Site comprising the Gas Treatment Plant, and Contractor Facilities are potentially proposed to be demolished, which may offer potential suitability to support roosting bats. Additionally, buildings to be retained may have potential for roosting bats and be indirectly impacted by the Proposed Development, for example the Above Ground Installation (AGI).</p> <p>Trees within the Indicative Enhancement Area and along the access road to the power station have potential suitability to support roosting bats.</p> <p>A detailed daytime bat walkover will be carried out of the Site, comprising a PRA. The methodology will follow the Bat Conservation Trust (BCT) Good Practice Guidelines²⁹.</p> <p>Further bat roost presence / absence surveys and hibernation to be confirmed following the PRA.</p>	Any time of year	PRA of buildings and trees within the Site and up to 50 m, specifically the Main Site, Indicative Enhancement Area and <i>potentially</i> the Proposed CO ₂ Connection Corridor.
Bats – Foraging and Commuting	The habitats within the Site, specifically the Main Site including Water Connection Corridor, Indicative Enhancement Area, and potentially the Proposed CO ₂ Connection Corridor (to be confirmed) are assessed as moderate suitability for foraging and commuting bats e.g., grassland, scrub, woodland, wetland habitats and hedgerows.	April to October 2024	A night-time walkover of the Site to include walked transects three times per active season augmented with use of static detectors recording for five nights per season, Specifically the Main Site including Water Connection Corridor, Indicative Enhancement Area, and <i>potentially</i> the

²⁸ Martin, Y et., al; 2021: Guidance for monitoring natterjack toad populations in the United Kingdom. Natterjack Toad Species Recovery Programme. Amphibian and Reptile Conservation. Available at: <https://www.arc-trust.org/Handlers/Download.ashx?IDMF=e9980a11-c175-42f1-8374-df06f5de97d2>

²⁹ Bat Conservation Trust, 2023; Bat Surveys for Professional Ecologists Good Practice Guidelines. 4th edition. The Bat Conservation Trust, London.

Survey	Scope	Survey Timing	Survey Extents
	<p>A night-time walkover will be carried out based upon BCT Guidelines (2023)³⁰. This comprises one survey visit per season (spring – April/May; summer – June/July/August; autumn – September/October).</p> <p>Additionally, automated / static bat detector surveys will be carried out, with data to be collected for a minimum of five consecutive nights per month (April to October) in appropriate (or the best available) weather conditions for bats. Detector locations would aim to provide a representative sample of all habitats in the Site that could be impacted by construction or operation activities.</p>		<p>Proposed CO₂ Connection Corridor (to be confirmed).</p> <p>Targeted habitats would be identified for the automated / static detector locations within the Site based on a representative sample of those habitats to be impacted (directly or indirectly) by construction or operation.</p>
Badger	<p>A badger survey will be carried out of the Site plus adjacent areas (where possible). Habitats found within the Site were identified as suitable for foraging and sett building specifically the woodland, scrub, grassland and tall ruderal habitat.</p> <p>Survey methodology will follow best practice guidelines (Harris et al. 1989³¹; and Badger Trust, 2023³²).</p>	Anytime of year	The Site (excluding the Repurposed CO ₂ Connection Corridor and Existing Natural Gas Connection Corridor), plus up to 30 m study area (where accessible).
Otter	<p>Otter survey of the Site and adjacent areas, with potential suitable terrestrial habitat to support otter e.g., the River Dee.</p> <p>The otter survey will be completed in accordance with best practice guidance (Chanin, 2023³³, Ward 1994³⁴, and Lenton et al, 1980³⁵).</p>	Any time of year	The Site, focused on the River Dee and adjacent habitat within the Site, extending up to 200 m up and downstream (where applicable).
Water Vole	<p>Water vole survey of the Site and adjacent areas, with potential suitable habitat to support otter and water vole e.g., ponds within the Site.</p> <p>The water vole survey will be completed in accordance with best practice guidance (Dean et al, 2016³⁶).</p>	Mid-April to end of June 2024 (survey one) July to end of September	The Site, focused on the waterbodies within the Site.

³⁰ Bat Conservation Trust, 2023; Bat Surveys for Professional Ecologists Good Practice Guidelines. 4th edition. The Bat Conservation Trust, London.

³¹ Harris, S. Cresswell, P. and Jefferies, D., 1989; Surveying Badgers.

³² Badger Trust, 2023; Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (Wales)

³³ Chanin, P. (2003) Monitoring the Otter. Conserving Natura 2000 Rivers. Monitoring Series No. 10. English Nature, Peterborough

³⁴ Ward D, Holmes N and José P, 1994; The New Rivers and Wildlife Handbook. RSPB, Bedfordshire

³⁵ Lenton, E.J., Chanin, P.R.F. and Jefferies, D.J., 1980; Otter Survey of England 1977-79. Nature Conservancy Council, London

³⁶ Dean, M. Strachan, R. Gow, D. Andrews, R., 2016; The Water Vole Mitigation Handbook (The Mammal Society Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society. London.

Survey	Scope	Survey Timing	Survey Extents
Terrestrial invertebrates	Terrestrial invertebrate survey scope is to be confirmed following review of third-party data and scoping walkover by an entomologist. Targeted on habitats suitable for terrestrial invertebrates including OMH.	2024 (survey two) April - September	The Site (excluding the Repurposed CO ₂ Connection Corridor and Existing Natural Gas Connection Corridor).

Annex A Figures

Figure 1 Site Location Plan

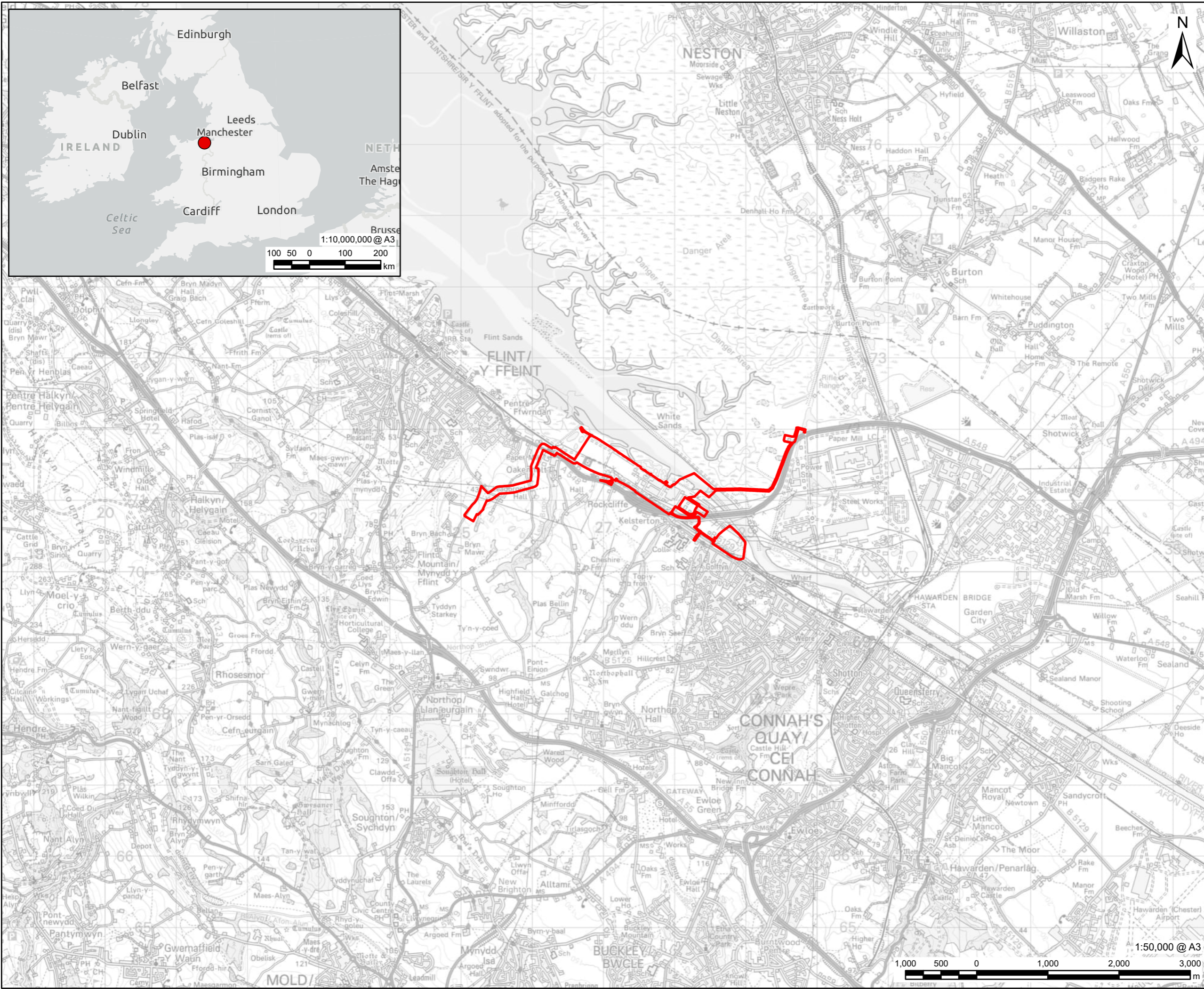
Figure 2 Indicative Site Layout Plan

Figure 3 Habitat Sites and National Designated Sites within 15km

Figure 4 National Local Designated Sites within 2km

Figure 5 Priority Habitats and Ancient Woodlands within 2km


Figure 6 Indicative UK Habitats



PROJECT
 Connah's Quay Low
 Carbon Power

CLIENT
 Uniper

CONSULTANT
 AECOM Limited
 2 City Walk, Holbeck
 Leeds
 LS11 9AR
 www.aecom.com

LEGEND
 Indicative Site Boundary

NOTES
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 Ordnance Survey 0100031673.
 Esri UK, Esri, TomTom, Garmin, FAO, NOAA,
 USGS

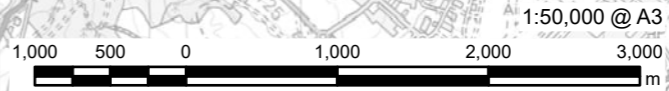
ISSUE PURPOSE
 First Issue

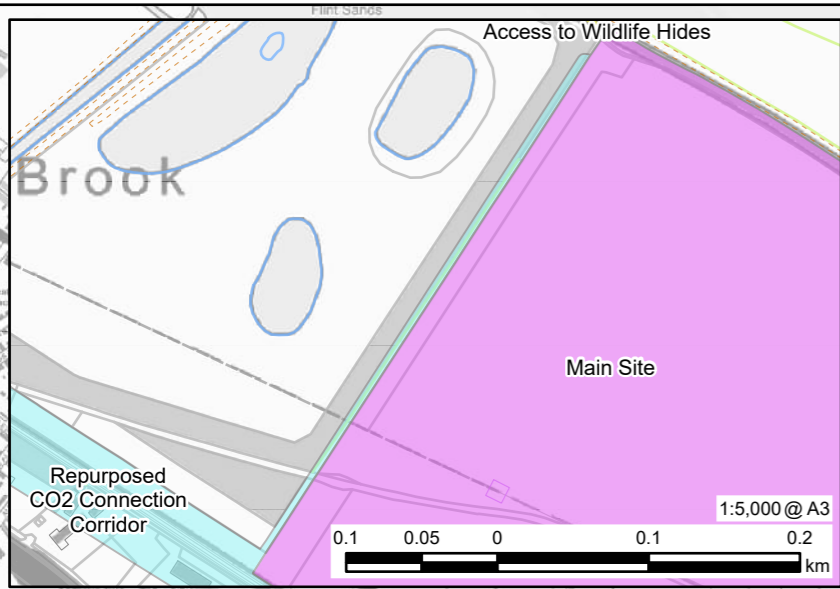
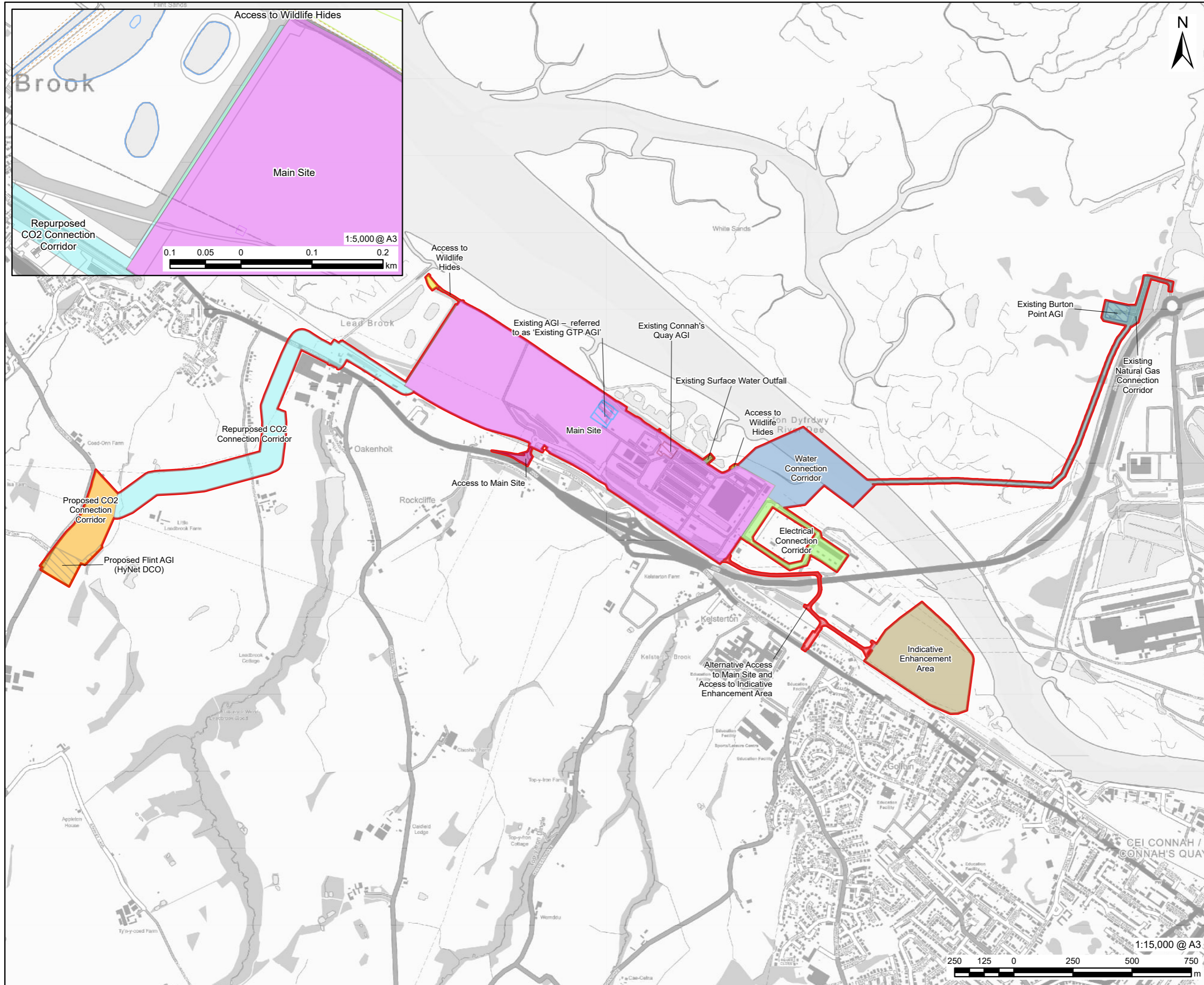
PROJECT NUMBER
 60717119

FIGURE TITLE
 Site Location Plan

FIGURE NUMBER
 Figure 1

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 Connah's Quay Low Carbon Power

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- LEGEND**
- Indicative Site Boundary
 - Access to Main Site
 - Access to Wildlife Hides
 - Alternative Access to Main Site and Access to Indicative Enhancement Area
 - Electrical Connection Corridor
 - Repurposed CO2 Connection
 - Existing AGI – referred to as 'Existing GTP AGI'
 - Existing Surface Water Outfall
 - Indicative Enhancement Area
 - Main Site
 - Existing Connah's Quay AGI
 - Proposed CO2 Connection Corridor
 - Proposed Flint AGI (HyNet DCO)
 - Water Connection Corridor
 - Existing Natural Gas Connection Corridor
 - Existing Burton Point AGI

NOTES

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The Indicative Enhancement Area is under consideration to be used for mitigation or enhancement (planting), but this does not represent a formal commitment of the Applicant at this stage of design.

ISSUE PURPOSE
 First Issue

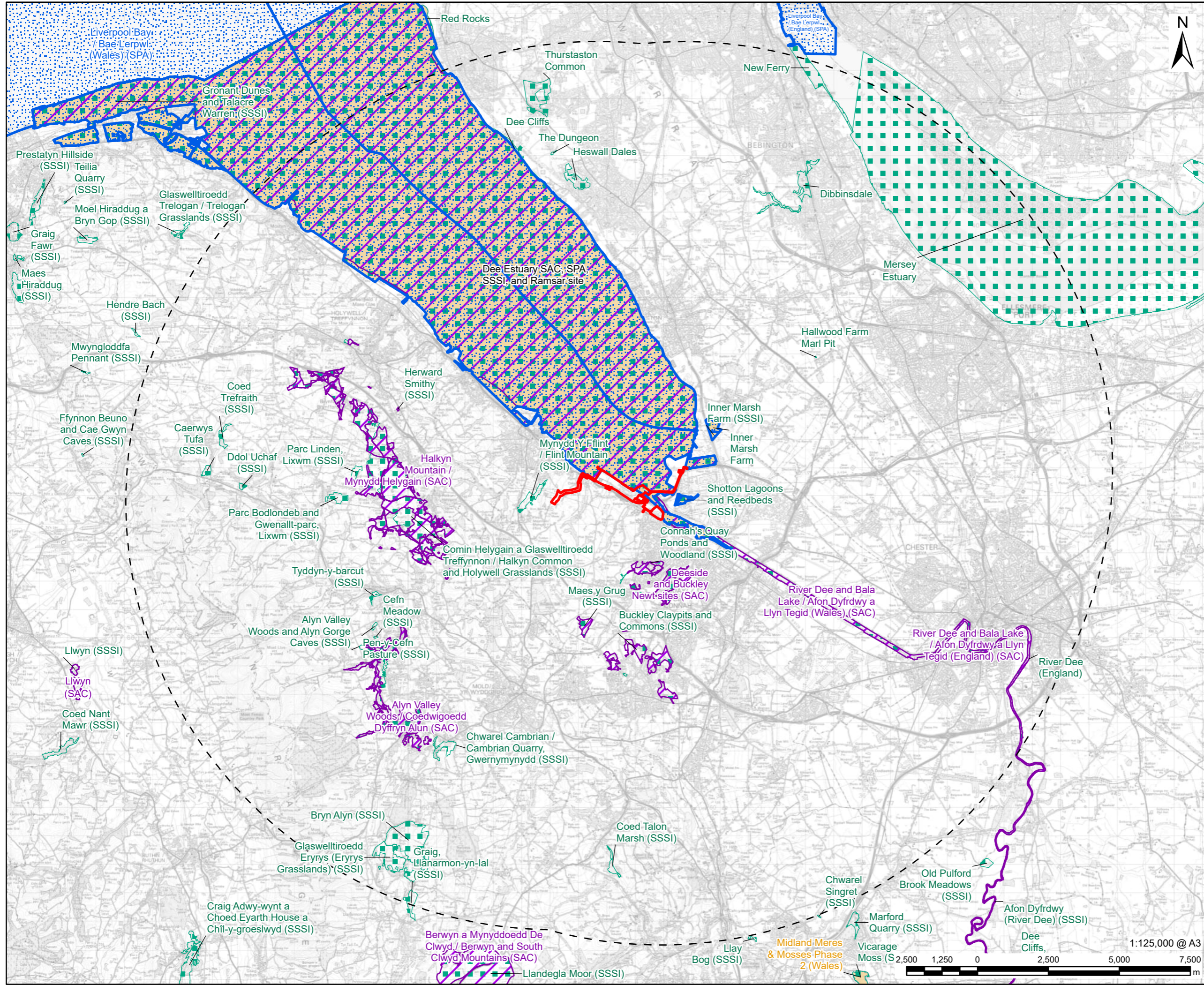
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FIGURE TITLE
 Indicative DCO Site Layout

FIGURE NUMBER
 Figure 2



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LEGEND

- Indicative Site Boundary
- Study Area (15km Buffer of the Indicative Site Boundary)
- Ramsar Wetlands of international importance
- Special Protection Areas (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)

NOTES

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ISSUE PURPOSE
 First Issue

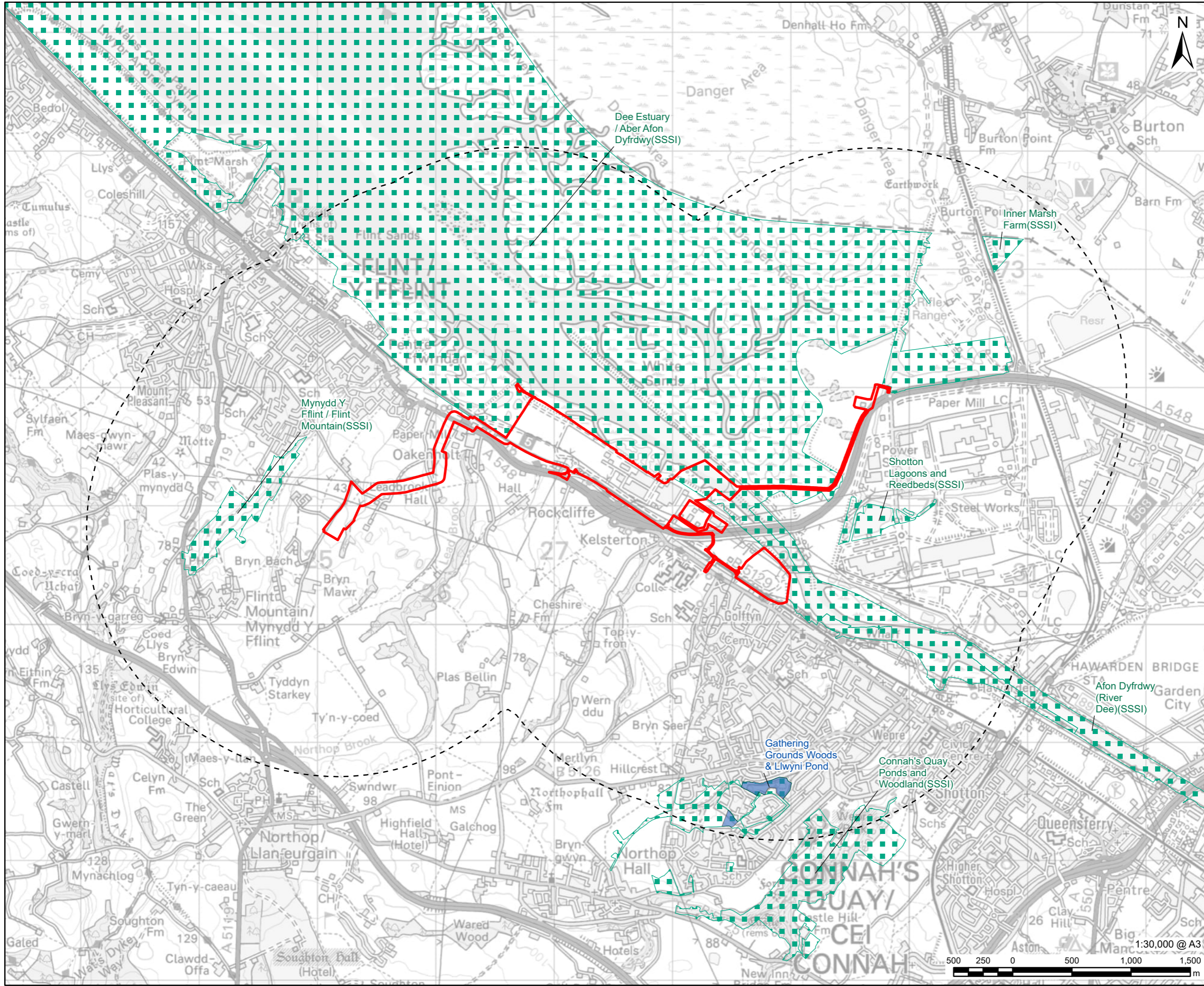
PROJECT NUMBER
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FIGURE TITLE
 Statutory Designated Sites within 15km

FIGURE NUMBER
 Figure 3



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- Indicative Site Boundary
- Study Area (2km Buffer of the Indicative Site Boundary)
- Site of Special Scientific Interest (SSSI)
- Local Nature Reserve (LNR)

NOTES

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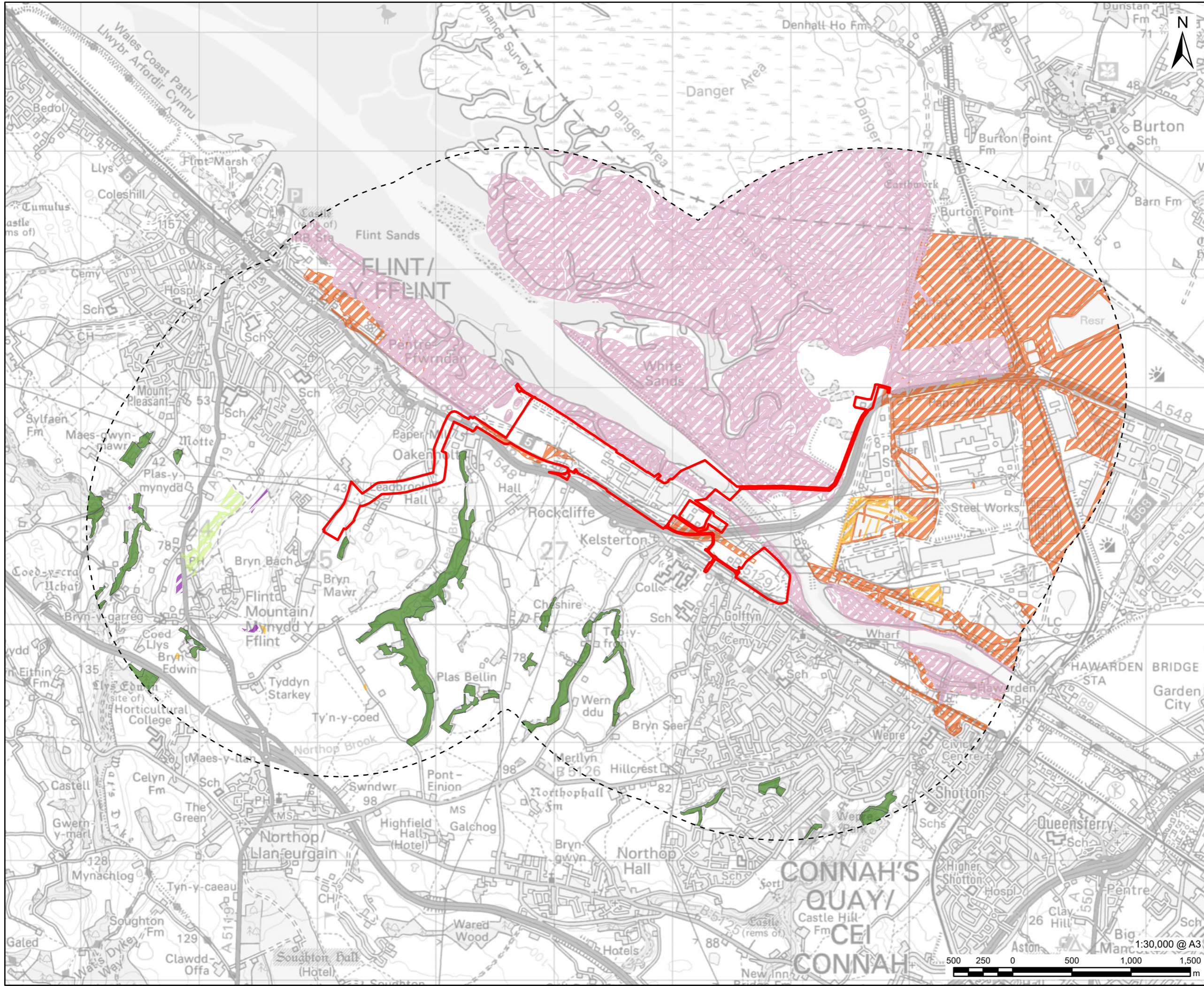
FIGURE TITLE

Statutory Designated Sites within 2km

FIGURE NUMBER

Figure 4

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LEGEND

	Indicative Site Boundary
	Study Area (2km Buffer of the Indicative Site Boundary)
	Ancient Woodland
	Priority Habitat
	Coastal and Floodplain Grazing Marsh
	Lowland fens and Reedbeds
	Lowland meadows
	Purple moor grass and rush pastures
	Saltmarsh

NOTES

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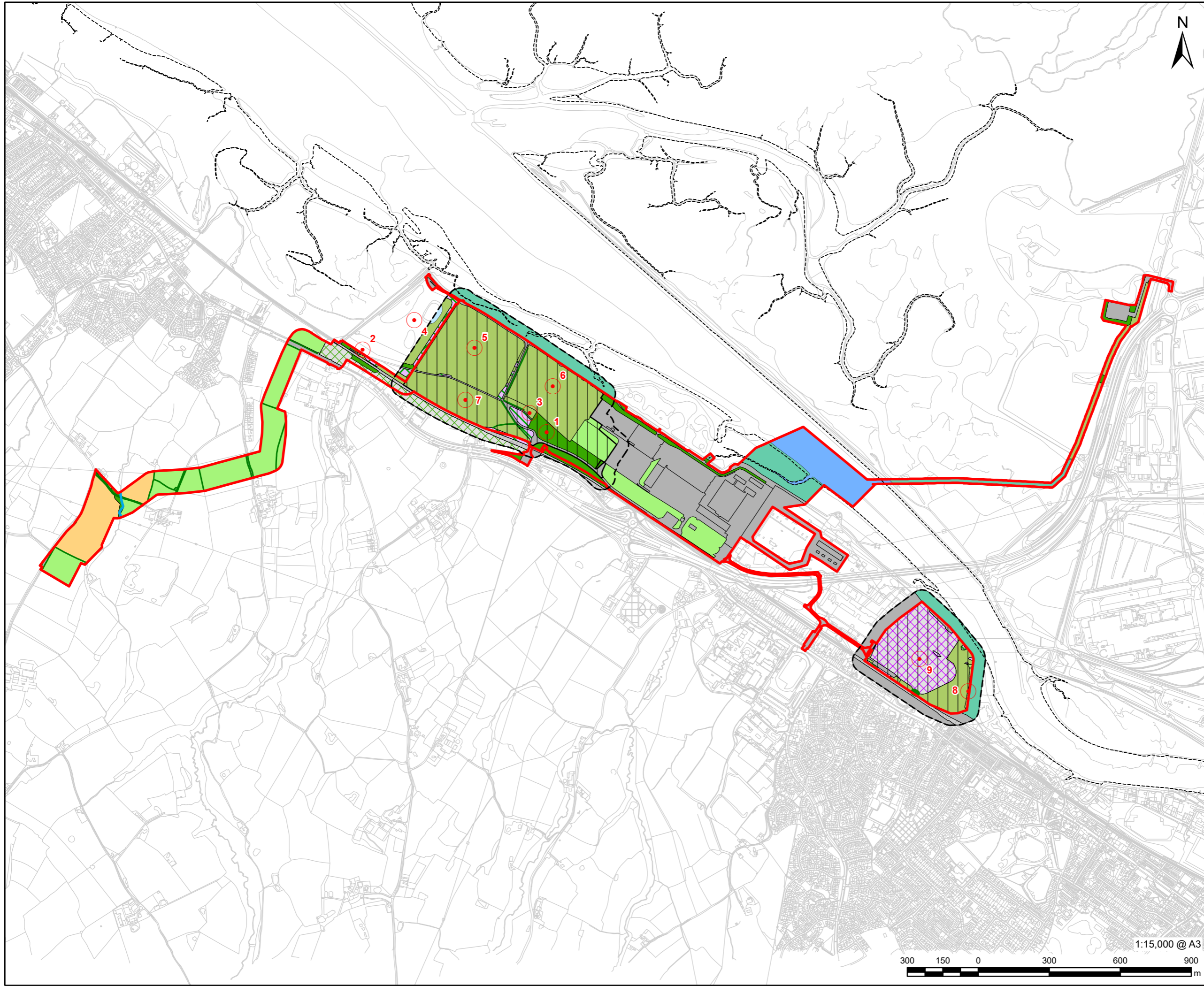
PROJECT NUMBER
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FIGURE TITLE
Priority Habitats and Ancient Woodland within 2 km

FIGURE NUMBER
Figure 5



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- LEGEND**
- Indicative Site Boundary
 - Area Accessed on Site
 - 50m Buffer of the Area Accessed on Site
 - High Water Mark
 - Coastal saltmarsh - Saltmarshes and saline reedbeds
 - Cropland - Cereal crops
 - Grassland - Bracken
 - Grassland - Modified grassland
 - Grassland - Other neutral grassland
 - Heathland and shrub - Bramble scrub
 - Heathland and shrub - Mixed scrub
 - Urban - Artificial unvegetated, unsealed surface
 - Urban - Developed land; sealed surface
 - Urban - Possible Open Mosaic Habitats on Previously Developed Land
 - Urban - Vegetated garden
 - Woodland and forest - Lowland mixed deciduous woodland
 - Rivers
 - Other Standing Water Ponds
 - Native hedgerow
 - Other Rivers And Streams
 - A3.1 - Broadleaved parkland/ scattered trees
 - Target Note

NOTES

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ISSUE PURPOSE
 First Issue

PROJECT NUMBER
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FIGURE TITLE
 Indicative UK Habitats

FIGURE NUMBER
 Figure 6

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1:15,000 @ A3



Annex B Relevant Legislation and Planning Policy

B.1 Legislation

The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the Conservation of Habitats and Species Regulations 2017 (referred to as the 2017 Habitats Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in Wales. All other processes or terms in the 2017 Habitats Regulations remain unchanged and existing guidance is still relevant.

B.2 Designated Sites

Special Protection Areas (SPA) / Special Areas of Conservation (SAC)

These sites in the UK no longer form part of the EU's Natura 2000 ecological network. The *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* (referred to as the 2019 Regulations) have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- existing SACs and SPAs
- new SACs and SPAs designated under these Regulations

Any references to Natura 2000 in the 2017 Habitats Regulations and in guidance now refers to the new national site network.

Formal Appropriate Assessment is required to be undertaken by the competent authority before undertaking, or giving consent, permission or other authorisation for any work which are likely to have a significant effect on such a site.

Wetland of International Importance (Ramsar site)

Designated under the *Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971* (the Ramsar Convention), in the UK, these sites are treated as having the same level of protection as SPA's and SAC's.

Sites of Special Scientific Interest

Under the *Wildlife and Countryside Act 1981* (as amended), it is an offence to carry out or permit to be carried out any operations likely to damage the Site of Special Scientific Interest (SSSI). These operations are listed in the SSSI notification.

Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 of the *Wildlife and Countryside Act 1981* (as amended), before undertaking operations likely to damage a SSSI. National Nature Reserve

National Nature Reserves (NNR) are established under the National Parks and Access to the Countryside Act 1949. Most NNRs are also underpinned by SSSIs and are therefore protected by the measures detailed above. For NNRs not underpinned by SSSIs it is still an offence to carry out or permit to be carried out any potentially damaging operation.

NNRs are given protection through policies in a local development plan.

Local Nature Reserve

A Local Nature Reserve (LNR) is a statutory designation made under National Parks and Access to the Countryside Act 1949, by principal local authorities (district, borough or unitary councils).

The local authority must control the LNR land - either through ownership, a lease, or an agreement with the owner.

LNRs are given protection through policies in a local development plan.

Locally Designated Sites

Local Wildlife Sites (LWS) are sites with 'substantive nature conservation value'. They are defined areas, identified and selected for their nature conservation value, based on important, distinctive and threatened habitats and species with a region.

They are usually selected by the relevant Wildlife Trust, along with representatives of the local authority and other local wildlife conservation groups.

The LWS selection panel, select all sites that meet the assigned criteria, unlike SSSIs, which for some habitats are a representative sample of sites that meet the national standard. Consequently, many sites of SSSI quality are not designated and instead are selected as LWSs. Consequently, LWSs can be amongst the best sites for biodiversity.

Protected Species

Bats / Hazel Dormouse / Otter / Great Crested Newt / Smooth Snake / Sand Lizard / Natterjack Toad

These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Habitats Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.

Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing. Deliberate 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 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.

Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural Resources Wales can be obtained to facilitate the works that would otherwise be illegal.

These species are also protected under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

Lower levels of disturbance not covered by the 2017 Habitats Regulations remain an offence under the *Wildlife and Countryside Act 1981* although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Water Vole

Water voles are protected under *the Wildlife and Countryside Act 1981* (as amended). There are no licensing purposes that explicitly cover development or other construction activities which could have an impact on water voles.

When development work is proposed in or near an area which is either known to or likely to contain water voles, then the developer will need to implement suitable mitigation to prevent impacts to water voles. The preferred mitigation option is to leave water voles *in situ*, with the development works adopting avoidance measures through redesign of the proposals.

Where impacts cannot be avoided, operations aimed at displacing water voles from a development site are now no longer covered by the “*incidental result of an otherwise lawful action*” defence in the *Wildlife and Countryside Act 1981* (as amended). Displacement of water voles now needs to be undertaken under a licence.

In Wales, small scale (limited to continuous lengths of bank not exceeding 50 m) displacement of water voles can be carried out at certain times of the year (February to April) for the purposes of conservation under a Class Licence by a registered person. For larger scale displacements or displacements outside of this period, displacement can be undertaken under a site-specific conservation licence.

Where it is considered that the best outcome for water voles is capture and translocation to a different location, then this action is considered by Natural Resources Wales to be outside the scope of the defence as the intentional capture of water voles is unlikely to be considered ‘incidental’. In these circumstances there may be genuine grounds for issuing a conservation licence for the purpose of translocating the water vole population to suitable alternative habitat.

Nesting Birds

All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended), with some species afforded greater protection under Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended). In addition to the protection from killing or taking that all birds receive, Schedule 1 birds and their young must not be disturbed at the nest.

There are no licensing purposes that explicitly cover development activities affecting wild birds.

Common Species of Reptile (common lizard, slow worm, grass snake and adder)

Common species of reptile are protected against intentional killing and injury under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). There is no requirement for a licence where development works affect common species of reptiles. Instead, where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Badger

Badgers and their setts are protected under the *Protection of Badgers Act 1992* (as amended). This makes it an offence to wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett.

It is not illegal to carry out disturbance activities near setts that are not occupied, i.e. those that do not show signs of current use.

Where required, licences for development activities involving disturbance or sett interference or closure are issued by Natural Resources Wales. Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process.

Natural Resources Wales provide guidance on working close to badger setts and the methods that can be employed to avoid or minimise impacts to active badger setts³⁷.

Licences are normally not granted from December to June inclusive (the badger breeding season) because dependent cubs may be present within setts.

Species and Habitats of Principal Importance for the Conservation of Biodiversity

Section 7 of the Environment (Wales) Act 2016 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.

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.

Part 1 of the Act, including Sections 6 and 7, came into force on May 21, 2016.

Hedgerows

Under the Hedgerows Regulations 1997, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. In general, permission will be required before removing hedges that are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will assess the importance of the hedgerow using criteria set out in the regulations.

³⁷ *Badgers – A Guide for Developers*. Natural Resources Wales. January 2018.

Non-native Invasive Species

Under the Wildlife and Countryside Act 1981 (as amended), it is an offence to plant or otherwise cause these species to grow or spread in the wild.

Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990.

B.3 Planning Policy

Planning Policy Wales

Planning Policy Wales (PPW) (2021) explains that planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions so that development does not cause any significant loss of habitats or populations of species, locally or nationally and 'must provide a net benefit for biodiversity'. PPW also notes that ancient woodland and individual ancient and veteran trees are irreplaceable habitat and should be afforded protection from development unless there are significant and clearly defined public benefits.

Local Planning Policy

The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'.³⁸ The following policies are relevant to the EclA:

- Policy STR13: Natural and Built Environment, Green Networks and Infrastructure;
- Policy EN2: Green Infrastructure;
- Policy EN3: Undeveloped Coast and Dee Estuary Corridor;
- Policy EN6: Site of Biodiversity Importance; and
- Policy EN7: Development Affecting Trees, Woodland and Hedgerows.

Local Biodiversity Action Plans

The Flintshire Biodiversity Strategy is set out on the Flintshire Biodiversity Action Plan (FBAP).³⁹

³⁸ Flintshire Local Development Plan Available here:

<https://cyfarfodyddpwyllgor.siryfflint.gov.uk/documents/s74248/Adoption%20of%20the%20Flintshire%20Local%20Development%20Plan%20LDP.pdf?LLL=1>

³⁹ Flintshire Biodiversity Action Plan Available here: <https://www.flintshire.gov.uk/en/PDFFiles/Countryside--Coast/Biodiversity/Flintshire-County-Council-Environment-Act-Section-6-Biodiversity-Duty-Delivery-Plan-update-2020.pdf>

Annex C Methodology

C.1 Desk Study

Background Records Search

The preliminary ecological assessment includes a desk study to obtain background records relevant to the Site and the Proposed Development. The data obtained provides contextual information for the scope of field surveys, to aid the evaluation of field survey results, and to provide supplementary information where complete field survey coverage is not possible.

The study area is dependent upon the nature, timing and scale of the Proposed Development, as well as the location of the Site and the surrounding landscape. These variables all contribute to what is referred to as the Zone of Influence (Zoi) of the Proposed Development, which is the area over which ecological features may be affected by biophysical changes because of the works and associated activities.

The Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk) was reviewed for the following information:

- Designated sites of nature conservation importance (statutory sites only) within 2 km of the Site. This was extended to 15 km for internationally designated sites: Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites) Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs); and,
- Notable habitats within 2 km of the Site, these being areas of ancient woodland and 'Habitats of Principal Importance for the Conservation of Biodiversity' included in Section 7 of the Environment (Wales) Act 2016.

Aerial habitat survey

The habitats within areas of the Site boundary not covered by the field surveys were identified using publicly available aerial mapping sources such as google earth⁴⁰ since land access had not been agreed at the time of survey.

C.2 Field Survey

A site-walkover to survey habitats within the Main Site and Indicative Enhancement Area boundary plus up to 50m to re-affirm habitats on the ground with reference to existing baseline surveys (see Section 3), the UK Habitat Classification⁴¹ and the CIEEM guidelines for Preliminary Ecological Appraisal (PEA)⁴².

The Habitat Survey was also used to re-affirm the potential of habitats to support protected and/or notable fauna, including protected species, Species of Principal Importance and local Biodiversity Action Plan (BAP) species. Any field signs and direct sightings of protected or notable species and any invasive species noted during the survey were also be recorded using the following methodologies:

⁴⁰ Google Earth Available at: <https://earth.google.com/web>

⁴¹ UKHab Ltd (2023), UK Habitat Classification Version 2.0 (at: <https://www.ukhab.org>)

⁴² CIEEM (2017), Guidelines for Preliminary Ecological Appraisal. Second Edition. Chartered Institute of Ecology and Environmental Management, Winchester (at <https://cieem.net/wp-content/uploads/2019/Guidelines-for-Preliminary-Ecological-Appraisal-Jan2018-1.pdf>).

- **Badger:** the survey involves assessing the potential of habitats within the Survey Area to support badger, following the methodology detailed in Scottish Badgers (2018)⁴³, Harris et al (1989)⁴⁴ and Badger Trust (2023)⁴⁵;
- **Bats:** the survey involves assessing the potential of habitats within the Survey Area to support bats, in accordance with Bat Conservation Trust (BCT) guidance (2023)⁴⁶;
- **Hazel dormouse:** the survey involves assessing the potential of habitats within the survey area to support hazel dormouse, following English Nature guidance (2006)⁴⁷;
- **Otter:** the survey involves assessing the potential of watercourses and water bodies, and adjacent terrestrial habitat within the survey area to support otter, following RSPB (1994) and Chanin, P. (2003)⁴⁸ guidance;
- **Water vole:** the survey involves assessing the potential of watercourses and water bodies within the survey area to support water vole, following The Mammal Society (2016)⁴⁹ guidance;
- **Birds:** the survey involves assessing the potential of habitats within the survey area to support breeding, wintering or migrating birds, either individually notable species or assemblages of both common and rarer species;
- **Great crested newt:** the survey involves assessing the potential of habitats within the survey area to support great crested newt, following English Nature (2001)⁵⁰ and Froglife (2001)⁵¹ guidance;
- **Reptiles:** the survey involves assessing the potential of habitats within the survey area to support reptiles (typically adder, grass snake, common lizard and slow worm only, though in some locations and habitat types (most notably heathland) may also include smooth snake and sand lizard), following Froglife (1999)⁵² and JNCC (2003)⁵³ guidance;
- **Notable species of invertebrate:** the survey involves assessing the potential of habitats within the survey area to support notable species of invertebrates, both terrestrial and aquatic (including white-clawed crayfish);
- **Protected or Notable species of plants:** the survey involves recording protected or notable plant species;

⁴³ Scottish Badgers (2018). *Surveying for Badgers: Good Practice Guidelines*. Version 1.

⁴⁴ Harris, S. Cresswell, P. and Jefferies, D. (1989). *Surveying Badgers*.

⁴⁵ Badger Trust (2023) *Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (Wales)*

⁴⁶ Collins, J.(ed) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). The Bat Conservation Trust. London.

⁴⁷ English Nature (2006). *The Dormouse Conservation Handbook*, 2nd edition

⁴⁸ Chanin, P (2003b). *Monitoring the Otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. English Nature, Peterborough.

⁴⁹ Dean, M. Strachan, R. Gow, D. Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society. London.

⁵⁰ English Nature (2001). *The Great Crested Newt Mitigation Guidelines*.

⁵¹ Froglife (2001). *The Great Crested Newt Conservation Handbook*.

⁵² Froglife (1999). *Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.


⁵³ Joint Nature Conservation Committee (2003). *Herpetofauna Workers Manual*.

- **Other notable species:** the survey involves assessing the potential of habitat within the survey area to support other Notable Species, such as hedgehog, brown hare, polecat or common toad;
- **Non-native invasive plant species:** the survey involves recording evidence of the presence of invasive plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and subject to strict legal control.

C.3 Limitations and Assumptions

- i) This PEA (January 2024) is a point in time appraisal of the indicative land required for the Proposed Development utilising data gathered up to November 2023 detailed herein.
- ii) The data informing the advice given in this PEA report cannot be relied on indefinitely, however "it is difficult to set a specific timeframe over which reports or survey data should be considered valid, as this will vary in different circumstances" (CIEEM, 2019b).
- iii) It was not possible to directly access the areas of salt marsh (on health and safety grounds and to avoid disturbance to foraging and roosting birds) to the north of the Survey Area.
- iv) At the time of reporting, it was not possible to request information from the local biological records office. Therefore, historic information on local designated sites and protected and notable species may have been missed. This information will be requested and the PEA updated accordingly.
- v) Some field signs associated with fauna may not have been identified, but that sufficient information was gathered to evaluate habitats and features and provide recommendations for further survey and outline recommendations for mitigation.
- vi) The field survey was conducted in November so many plant species may have died off and not been present at the time of the survey.

Annex D Target Notes and Photos

Target Note (Refer to Figure 6 in Annex A)	Description	Photo
TN1	Woodland corridor suitable for commuting bats (tree roost potential assessment needed) and nesting, foraging and sheltering birds, foraging badgers also possible	
TN2	Woodland corridor suitable for commuting bats (tree roost potential assessment needed) and nesting, foraging and sheltering birds, foraging badgers also possible	

Target Note (Refer to Figure 6 in Annex A)	Description	Photo
TN3	Ruderal with mammal tracks, likely fox, but potential for foraging badger and potential for reptiles	
TN4	Grassland and wetland habitats suitable for waders	

Target Note (Refer to Figure 6 in Annex A)

Description

Photo

TN5 Grassland and suitable for waders. Approx 60 curlew present during survey



TN6 Grassland and suitable for waders. Approx 30 curlew present during survey



Target Note (Refer to Figure 6 in Annex A)	Description	Photo
TN7	Grassland potentially suitable for waders, perhaps less so than other fields. Sheep present. No waders present during survey	
TN8	Bracken potentially suitable for reptiles	No picture
TN9	Ephemeral/colonising habitat potentially botanically interesting and potential for invertebrates/pollinators - needs both survey assessments.	

Annex E Aspect Ecology Reports

Connah's Quay Power Station:
Northern Land Parcel

Phase 1 Habitat and Faunal Surveys

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Northern Land Parcel
Report Title:	Phase 1 Habitat and Faunal Surveys
Project Number:	ECO-6322
File Reference:	6322 EcoAp P1 North 2023 dv3 /ADB
Date:	10/07/2023

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Confidentiality

This report may contain sensitive information relating to protected species. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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4 Habitats and Ecological Features.....	12
5 Faunal Use of the Site	16
6 Conclusions	21

Plans:

Plan 6322/ECO1	Site Location
Plan 6322/ECO2	Ecological Designations
Plan 6322/ECO3	Habitats and Ecological Features

Appendices:

Appendix 6322/1	Desk Study Data
Appendix 6322/2	Evaluation Methodology
Appendix 6322/3	Legislation Summary

Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.
- ii) **Survey.** The site was surveyed in August 2021 and April 2023 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger and Otter.
- iii) **Ecological Designations.** The site lies adjacent to the statutory designation Dee Estuary (SPA, Ramsar and SAC). This is a vast site which extends substantially from the site's northern and western boundaries. The nearest non-statutory designation is Leadbrook Wood (LWS) located approximately 260m south of the site, separated from it by industrial development, roads and the railway.
- iv) **Habitats.** The site comprises areas of rough pasture and improved grassland, scrub, tall ruderal vegetation, hardstanding, hedgerows and tree lines.
- v) **Protected Species.** The site generally offers few opportunities for protected species although evidence of badger foraging activity was recorded during the survey work. Several trees were identified with low potential to support roosting bats and it is likely that bats forage and commute along linear habitats within and around the site. Although no evidence of their presence was confirmed by surveys, Otter are highly likely to make use of habitat adjacent to and outside the site boundary associated with the Dee Estuary.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake a desk study and baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 270 716 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north-east by the River Dee, beyond which extend large areas of open wetland associated with the River Dee Estuary. Connah's Quay Power Station is located immediately adjacent to the site's south-eastern boundary and a railway line and industrial development, with associated planting, forms the site's southern boundary. A field outside the site, adjacent to the northern site boundary, contains three ponds.

1.2.2 The site itself comprises grassland fields with roads, treelines, hedgerows, along with areas of scrub and tall ruderal vegetation.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study and baseline ecology surveys undertaken. The importance of the habitats and species present is evaluated.

2 Methodology

2.1 Data Search

- 2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.
- 2.1.2 Information on statutory designations was obtained from the MAGIC database¹, which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.
- 2.1.3 In addition, the Woodland Trust database² was searched for records of ancient, veteran or notable trees within or in proximity to the site.

2.2 Habitat Survey

- 2.2.1 The site was surveyed in August 2021 and April 2023 to assess the general ecological value of the land and to identify the main habitats and ecological features present. Habitats present are shown on Plan 6322/ECO3.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology³, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal⁴ to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 The nomenclature used for plant species within this report is based on that of the Botanical Society for the British Isles (BSBI) Checklist and Stace (2019)⁵.

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded during all surveys. Attention was paid to the potential presence of protected, rare or notable species as described below.

¹ Multi-Agency Geographic Information for the Countryside (MAGIC), <https://magic.defra.gov.uk/>

² Woodland Trust Ancient Tree Inventory, <https://ati.woodlandtrust.org.uk/>, consulted March 2022.

³ Joint Nature Conservation Committee (2010, as amended) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'

⁴ Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) 'Guidelines for Preliminary Ecological Appraisal.'

⁵ Stace, C (2019) 'New Flora of the British Isles (4th Edition)' C & M Floristics

Bats⁶

Visual Inspection Surveys

2.3.2 **Trees.** Trees were assessed for their suitability to support roosting bats based on the presence of potential roosting features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁷ as:

- Negligible;
- Low;
- Moderate; or
- High.

2.3.3 Where possible, potential roost features identified were inspected for signs indicating possible use by bats, including staining, scratch marks or bat droppings.

Badger (*Meles meles*)

2.3.4 A Badger survey was carried out in August 2021 and again in April 2023. The survey, undertaken in accordance with standard methods⁸, comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The survey set out to record the following information, where present:

- Number and location of well used / active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;
- Number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance; and
- Number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3.5 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

Otter (*Lutra lutra*)

2.3.6 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Otter⁹ in August 2021 and again in April 2023. Such signs include holts (underground chambers used for lying up), spraints, prints, paths and slides. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

⁶ English Nature (2004) '*Bat Mitigation Guidelines*'

⁷ Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*.' Bat Conservation Trust

⁸ Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

⁹ Life in UK Rivers (2003) '*Monitoring the Otter - Conserving Natura 2000 Rivers*'. Monitoring Series No. 10

Water Vole (*Arvicola amphibius*)

- 2.3.7 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Water Vole¹⁰ in August 2021 and again in April 2023. Such signs include latrines, tunnels, lawns (small areas of vegetation grazed by Water Vole) and footprints. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

2.4 Survey Constraints and Limitations

- 2.4.1 All of the species that occur in each habitat are not necessarily detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat surveys were undertaken within the optimal season and during different months, thereby allowing a robust and thorough assessment of habitats and botanical interest across the site.
- 2.4.2 All parts of the site and its immediate surroundings were accessed at the time of both surveys.
- 2.4.3 The presence of invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was noted. However, the detectability of such species varies according to time of year, management regime and other factors and this report should not be taken as definitive regarding the presence or absence of such species at the site.
- 2.4.4 Densely vegetated habitats and areas that have limited access such as steep river banks may reduce the detectability of field signs of species such as Badger, Otter and Water Vole. Whilst some areas of dense vegetation are present within the site, these were searched as thoroughly as practicable and hence it is considered that the survey results provide a sufficiently accurate baseline to assess the potential impacts of the proposals on all species assessed.

2.5 Ecological Evaluation Methodology

- 2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)¹¹, which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.6 National Policy Approach to Biodiversity in the Planning System

- 2.6.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)¹². This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an

¹⁰ Surveys based on: Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) 'Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

¹¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

¹² Llywodraeth Cymru/Welsh Government (2021). 'Planning Policy Wales', Edition 11, February 2021.

element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.6.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

- *improving the resilience of ecosystems and ecological networks;*
- *halting and reversing the loss of biodiversity;*
- *maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;* amongst other measures.

2.6.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.6.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

- *support the conservation of biodiversity, in particular the conservation of wildlife and habitats;*
- *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;*
- *ensure statutorily and non-statutorily designated sites are properly protected and managed;*
- *safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*
- *secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'*

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.6.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'...development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'...planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.6.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019¹³, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.7 Local Policy

2.7.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.7.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

- a. *Create new green infrastructure linkages from the proposed development to the existing local network;*
- b. *Fill in gaps in the existing network to improve connectivity.*

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.7.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

¹³ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

- a. *It can be demonstrated a coastal location is essential;*
- b. *It conserves and enhances the open character of the coast;*
- c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*
- d. *It would not harm existing or proposed recreational or active travel routes;*
- e. *Extensive coastal protection measures are not required; and*
- f. *It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.7.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

- a. *it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*
- b. *it can be demonstrated that the development cannot reasonably be located elsewhere; and*
- c. *any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.7.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

- a. *the development maximises their retention through sensitive design*
- b. *measures; and*
- c. *where the removal of trees is considered necessary, suitable replacements*
- d. *shall be provided elsewhere within the site; and*

- e. *it results in a net benefit in biodiversity.”*

2.7.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

“Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area’s special characteristics, and pay particular regard to:

- a. *important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*
- b. *the retention of historically significant boundaries or other elements that contribute to the established form of development;*
- c. *the relationship to existing buildings and spaces, and pattern of development;*
- d. *scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials.”*

3 Ecological Designations

3.1 Statutory Designations

Description

- 3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 6322/ECO2.
- 3.1.2 The Dee Estuary Special Protection Area (SPA), Ramsar site, Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), all of which designations cover the same area, extends beyond the site's northern and western boundaries. The Dee Estuary is designated as a SPA and Ramsar site on the basis of its breeding and winter waterbird populations and assemblages. It is designated as a SAC on the basis of its mudflats and sandflats, annual colonising mud and sand and Atlantic salt meadow habitats (see Appendix 6322/1 for citation sheets).
- 3.1.3 The next closest statutory designation to the site is Mynydd y Fflint/Flint Mountain SSSI, approximately 1.4km to the west. This site comprises unimproved grassland and woodland in association with other habitats that support a diverse flora
- 3.1.4 The River Dee and Bala Lake Special Area of Conservation (SAC) is located approximately 2.6km east of the site at its closest point. This is an extensive site covering over 1200ha extending through North Wales along the River Dee to Bala Lake. The SAC is designated for Atlantic Salmon *Salmo salar*, Floating Water-plantain *Luronium natans*, and for comprising a watercourse of plain to montane level with *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation characterised by an abundance of Water-crowfoot *Ranunculus* spp.
- 3.1.5 Other statutory designations in the wider area include Deeside and Buckley Newt Sites SAC approximately 2.5km south of the site and Halkyn Mountain SAC over 5km to the west.

Evaluation

- 3.1.6 The site lies adjacent to the Dee Estuary SPA/Ramsar/SAC (see Plan 6322/ECO2).
- 3.1.7 No other statutory designation would be at risk of adverse effects as a result of works at the site.

3.2 Non-statutory Designations

Description

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 6322/ECO2. The nearest non-statutory designation is Leadbrook Wood Local Wildlife Site (LWS) approximately 260m south of the site, separated from it by industrial development, roads and the railway. This LWS is designated because it is an area of semi-natural broad-leaved woodland occupying a deeply wooded valley in which the Lead Brook and its tributaries flow (see Appendix 6322/1 for citation).
- 3.2.2 The next nearest non-statutory designation is Top-y-fron Dingle and Kelserton Brook LWS approximately 800m south-east of the site. This is a similar wooded valley to Leadbrook Wood LWS located further to the south.

- 3.2.3 All non-statutory designations are separated from the site by intervening development and road and rail infrastructure and are not likely to be at risk of adverse effects resulting from works undertaken at the site.

Evaluation

- 3.2.4 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are sufficiently distant from the site and separated by other land uses that they are unlikely to be affected by activities at the site.

3.3 **Priority Habitats, Ancient Woodland and Notable Trees**

Description

- 3.3.1 No Priority habitats are located within the site, however, the Priority Habitat Saltmarsh is present outside the site immediately adjacent to the northern and western site boundaries, within the River Dee Estuary.
- 3.3.2 There are no areas of ancient woodland within the site or its wider area.
- 3.3.3 There are no records of any notable or veteran trees within or adjacent to the site.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 Data supplied by Cofnod from the last 10 years within 2km of the site included records of the Flintshire Rare plant species (occurring in no more than three 2km tetrads within the vice-county) Rock Samphire *Crithmum maritimum*, Caper Spurge *Euphorbia lathyris*, Narrow-leaved Pepperwort *Lepidium ruderae*, Sweet Briar *Rosa rubiginosa*, Annual Pearlwort *Sagina apetala* subsp. *apetala*, Long-spiked Glasswort *Salicornia dolichostachya*, Wild Clary *Salvia verbenaca*, Knotted Hedge-parsley *Torilis nodosa* and Navelwort *Umbilicus rupestris*.

4.1.2 Records were also returned of the Flintshire Scarce species (occurring in 4-8 2km tetrads) Red Goosefoot *Chenopodium rubrum*, Perennial Wall-rocket *Diploaxis tenuifolia*, Wood Spurge *Euphorbia amygdaloides*, Small-flowered Crane's-bill *Geranium pusillum*, Stinking Iris *Iris foetidissima*, Prickly Lettuce *Lactuca serriola*, Narrow-leaved Meadow-grass *Poa angustifolia* and Reflexed Saltmarsh-grass *Puccinellia distans*.

4.1.3 Records were also returned of numerous invasive species including Japanese Knotweed *Fallopia japonica*, Himalayan Balsam *Impatiens glandulifera*, Cherry Laurel *Prunus laurocerasus* and *Cotoneaster* sp.

4.1.4 No evidence of the presence of any of these species within the site was recorded during any of the surveys undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The likely effects of potential works on these habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats and ecological features were identified within the site:

- Rough Pasture and Improved Grassland;
- Scrub;
- Tall Ruderal Vegetation;
- Hardstanding; and
- Hedgerows and Tree Lines.

4.2.3 These habitats and features are shown on Plan 6322/ECO3 and described below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK

Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

- 4.3.2 Of the habitats within the site, hedgerows are likely to qualify as Priority Habitat.

4.4 Rough Pasture and Improved Grassland

Description

- 4.4.1 The site contains three grassland fields (**F2-F4**).
- 4.4.2 Field **F2** comprises rough grassland dominated by common and widespread species including Perennial Rye-grass *Lolium perenne*, Creeping Bent *Agrostis stolonifera*, Red Fescue *Festuca rubra*, Yorkshire-fog *Holcus lanatus* and Cock's-foot *Dactylis glomerata*. Herbs include Creeping Thistle *Cirsium arvense*, Ragwort *Senecio jacobaea*, Nettle *Urtica dioica*, Dock *Rumex* sp., Hogweed *Heracleum sphondylium*, Wild Carrot *Daucus carota*, Burdock *Arctium minus* and Red Clover *Trifolium pratense*. This field is occasionally sheep-grazed with a sward height of 20-30cm.
- 4.4.3 Field **F3**, immediately south of **F2**, comprises sheep-grazed pasture with a sward height of 2-5cm. Species present included Perennial Rye-grass *Lolium perenne*, False Oat-grass *Arrhenatherum elatius*, Crested Dog's-tail *Cynosurus cristatus*, Yarrow *Achillea millefolium* and Red Clover.
- 4.4.4 Field **F4** which is the easternmost mostly comprises improved grassland with a sward height of 2-5cm, with smaller areas of longer rough grassland to the south. The field is dominated by Perennial Rye-grass, with Red Clover and Creeping Thistle also present. Rough grassland tends to scrub along the southern field boundary, where a higher proportion of False Oat-grass is present amongst the scrub (see 4.5).

Evaluation

- 4.4.5 Overall, the grassland fields support a low diversity of common and widespread species. These habitats are considered to be of low ecological value and do not form important ecological features.

4.5 Scrub

Description and Evaluation

- 4.5.1 Areas of dense and scattered scrub are present within the site as shown on Plan 6322/ECO3.
- 4.5.2 Dense scrub is present beyond the northern boundary of field **F2** and also immediately south of field **F4** and beside the entrance road to the site. Scattered scrub is intermittently present throughout the site. Patches of dense scrub are also present beside hedgerow **H3** between fields **F2** and **F4**.
- 4.5.3 Scrub comprises common and widespread species of limited botanical interest including Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Bramble *Rubus fruticosus* agg., Dogwood *Cornus sanguinea*, Hazel *Corylus avellana*, Silver Birch *Betula pendula*, Elder *Sambucus nigra*, Gorse *Ulex europaeus* and Ash *Fraxinus excelsior*.
- 4.5.4 The areas of scrub within the site are composed of common and widespread species of low botanical interest. These habitats are not important ecological features and their loss would be of minor significance.

4.6 Tall Ruderal Vegetation

Description and Evaluation

- 4.6.1 Several small areas of tall ruderal vegetation were recorded, typically in association with field boundaries and hedges (see Plan 6322/ECO3).
- 4.6.2 Tall ruderal vegetation was dominated by Common Nettle, Dock, Hogweed, Creeping Thistle, Mugwort *Artemisia vulgaris*, and Redshank *Persicaria maculosa*. These are common and widespread species of limited botanical interest which readily colonise field margins and disturbed ground. Tall ruderal vegetation does not constitute an important ecological feature and its loss would be of negligible ecological significance.

4.7 Hard Standing

Description and Evaluation

- 4.7.1 Tracks within the site, associated with field boundaries and access to an off-site bird hide, comprise areas of hard standing. These areas are largely devoid of vegetation and of negligible ecological value.

4.8 Hedgerows and Tree Lines

Description

- 4.8.1 Several short lengths of hedgerow and a single tree line are present within the site. These features are described in Table 4.2 below.

Table 4.2. Hedgerow descriptions.

Ref	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Likely to qualify#
H1	4m	2-3m	<u>Hawthorn</u> (D)	1	Bramble	Continuous	N
H2	2-4m	2-3m	<u>Hawthorn</u> , <u>Blackthorn</u> , <u>Elder</u> , <u>Hazel</u>	2-3	Bramble, Dog Rose	Continuous, no gaps. Outgrown within adjacent scrub	N
H3	4m	3m	<u>Hawthorn</u> (D), <u>Elder</u>	2	Bramble	Few gaps, tall ruderals adjacent and throughout	N
TL1			<u>Oak</u> , Sycamore	<2	Common Nettle	<10% gaps	N

Woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) and woodland ground flora species (as listed under Schedule 2 of the Hedgerows Regulations 1997) underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway, (D) = dominant species

* estimated average number of woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) in any one 30m stretch

likely to qualify – as 'important' under the wildlife and landscape criteria of the Hedgerows Regulations 1997

Evaluation

- 4.8.2 Hedges **H1-H3** are not species-rich¹⁴ and none are likely to qualify as *Important* under the Hedgerows Regulations 1997, based on the number of woody species and other associated features present.

¹⁴ Five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual

- 4.8.3 Hedgerows **H1-H3** are, however, likely to qualify as a Priority Habitat based on the standard definition¹⁵, which includes all hedgerows (>20m long and <5m wide) consisting predominantly ($\geq 80\%$) of at least one native woody species. It has been estimated that approximately 84% of countryside hedgerows in Great Britain qualify as Priority Habitat under this definition.¹⁵ On this basis, hedgerows constitute important ecological features, although given their relative isolation from the wider network are only considered to be of importance at the local level.
- 4.8.4 Tree line **TL1** contains mature native trees within formal lines which are likely to provide some cover for use by wildlife. This tree line is therefore considered to be an important ecological feature at the local level.

4.9 Habitat Evaluation Summary

- 4.9.1 On the basis of the above, the following habitats within and adjacent to the site are considered to form important ecological features:

Table 4.3. Evaluation summary of habitats forming important ecological features.

Habitat	Level of Importance
Hedgerow and Tree Line	Local

- 4.9.2 Other habitats present within the site include rough, pasture and improved grassland, scrub tall ruderal vegetation and hardstanding. However, these habitats do not form important ecological features.

¹⁵ Biodiversity Reporting and Information Group (2011) 'UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions', ed. Ant Maddock

5 Faunal Use of the Site

5.1 Overview

- 5.1.1 During the survey work, general observations were made of faunal use of the site with particular attention paid to the potential presence of protected or notable species. Specific surveys and assessments were undertaken in respect of Badgers, bats, Otter and Water Vole as described below.
- 5.1.2 Surveys for birds and reptiles have also been undertaken at the site and these are documented in separate reports.

5.2 Priority Species

- 5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.
- 5.2.2 During the survey work undertaken, no Priority Species were recorded within the site. This is discussed further below.

5.3 Bats

- 5.3.1 **Legislation.** All British bats are listed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 6322/3 for detailed provisions). If works are likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also S41 Priority Species.
- 5.3.2 **Background Records.** No records of bats from within or adjacent to the site were returned from the data search. Data from within 2km of the site included records of Pipistrelle *Pipistrellus* sp., Daubenton's Bat *Myotis daubentonii*, and Whiskered Bat *Myotis mystacinus*.

5.3.3 Survey Results and Evaluation

Roosting

Trees

- 5.3.4 No trees are present within the site that contain potential bat roosting features or have the potential to support roosting bats.

Foraging / Commuting

- 5.3.5 The habitats present on site include rough grassland and scrub that may potentially be used by foraging bats, although connectivity with suitable areas of habitat off-site is limited. It is possible that the adjacent railway corridor may offer some connectivity and foraging

potential for bats, as might the River Dee corridor, although as it comprises a large open estuarine area any bat activity is likely to be limited. Lighting from the power station and the town of Connah's Quay is anticipated to further limit the suitability of the area to provide important features used by bats.

5.4 Badger

5.4.1 Legislation. Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 6322/3 for detailed provisions), and as such should be assessed as an important ecological feature. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status; Badger is common throughout most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance.^{16, 17}

5.4.3 Background Records. Records for Badger were returned from within 2km of the site, although precise locations are unspecified.

5.4.4 Survey Results and Evaluation. Initial surveys of the site noted the presence of habitats and features suitable for use by Badger for foraging and sett building including areas of scrub, tall ruderal vegetation and grassland. Consequently, targeted surveys for Badger were undertaken at the site in August 2021 and again in April 2023.

5.4.5 No setts were recorded within the site. The fields contained several areas where evidence of Badger foraging was noted as well as badger paths. These were particularly apparent in field **F1**, north of field **F2** and outside the site. It is concluded that Badger are present in the wider area, potentially with setts on higher, well drained land such as that associated with the railway corridor, and use the site for foraging.

5.5 Dormouse

5.5.1 Legislation. Dormouse is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Dormouse is also a S41 Priority Species. On this basis, Dormouse is considered to form an important ecological feature.

5.5.2 Background Records. No records of Dormouse were returned from the local record centre from within 2km of the site.

5.5.3 Survey Results and Evaluation. The site is close to the limits of the known UK distribution of this species. Habitats present provide very limited opportunities for Dormouse, restricted to scrub but this habitat lacks the structure and preferred species such as Hazel *Corylus avellana* and Honeysuckle *Lonicera periclymenum*. The site also lacks connectivity with offsite habitats, being isolated by the River Dee to the north and east, and development to the west and south.

¹⁶ English Nature (2002) 'Badgers and Development'

¹⁷ Natural England (2011) 'Badgers and Development: A Guide to Best Practice and Licensing', Interim Guidance Document

5.5.4 The lack of connectivity and limited suitability, combined with the lack of local records and the UK location of the site, indicates that Dormouse is likely to be absent from the site.

5.6 Otter and Water Vole

5.6.1 **Legislation.** Otter is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Otter is also a S41 Priority Species. On this basis, Otter is considered to represent an important ecological feature.

5.6.2 Water Vole is also fully protected under the Wildlife and Countryside Act 1981 (as amended). Water Vole is also a S41 Priority Species. As such, this species is considered to represent an important ecological feature. The legislation affords protection to individuals of the species and their breeding sites and places of shelter (see Appendix 6322/3 for detailed provisions).

5.6.3 If, despite all reasonable efforts, properly authorised development will adversely affect Water Vole and there are no alternative habitats nearby, Natural England may issue a licence to displace or trap and translocate Water Vole for the purpose of development. To issue such a licence, Natural England would need to be assured there is no reasonable alternative to the development and that there are no other practical solutions that would allow Water Vole to be retained at the same location. Natural England would also require no net loss of Water Vole habitat resulting from the works.

5.6.4 **Background Records.** Several records of Otter and Water Vole were returned from within 2km of the site. Two records of Water Vole originated from a site North of the River Dee and three records of Otter were associated with the River Dee itself.

5.6.5 **Survey Results and Evaluation.** The habitats within the site itself are unsuitable for Otter and Water Vole, however the offsite adjacent River Dee Estuary provides highly suitable foraging and commuting habitat for Otter with potential for resting sites. These potential resting sites are relatively distant from the site itself.

5.6.6 The River Dee Estuary does not provide suitable habitat for Water Vole which favours smaller, more densely vegetated watercourses.

5.6.7 Targeted surveys for evidence of Otter and Water Vole were undertaken at the site in August 2021 and again in April 2023. No evidence of Otter or Water Vole was found during any of the surveys undertaken and it is concluded that neither species currently makes use of habitats within the site. Nevertheless, it is highly likely that Otter make use of the corridor of the River Dee and its fringing habitats outside the site boundary.

5.7 Other Mammals

5.7.1 **Legislation.** Other native UK mammals receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). Additionally, some are S41 Priority Species and should therefore be assessed as important ecological features.

5.7.2 **Background Records.** Records of Hedgehog *Erinaceus europaeus* (Priority Species), Stoat *Mustela erminea* and Brown Hare *Lepus europaeus* were returned from within 2km of the site.

5.7.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to make use of the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species would be of negligible significance.

5.7.4 The data search returned background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit one that remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of areas of scrub, tall ruderal vegetation and grassland, and therefore it is likely that Hedgehog uses the site, and as such is assessed as of importance at the site level.

5.8 Amphibians

5.8.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 6322/3 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.

5.8.2 **Background Records.** No specific records of amphibians from within or adjacent to the site were returned by the data search. Three records of Smooth Newt *Lissotriton vulgaris* were returned from within 2km of the site.

5.8.3 **Survey Results and Evaluation.** Three ponds are present within field F1 outside the site, two of which contained water at the time of the survey. These ponds are all heavily used by waterfowl and are highly unlikely to support breeding Great Crested Newt given this and the lack of connectivity with off-site ponds. Additionally, one other pond and a number of drainage ditches are present within 250m of the site boundary, although these are separated from site by the railway line.

5.8.4 The Dee Estuary SAC/SPA/Ramsar site lists a breeding population of Natterjack Toad *Epidalea calamita* as a qualifying species. However, this is a reintroduced population that is restricted to the Gronant Dunes and Talacre Warren SSSI, located 19.5km north-west of the site. As such, given the distance from the known population and the lack of suitable Natterjack Toad habitat present within the site, Natterjack Toad is considered to be absent from the site.

5.8.5 A single Common Toad *Bufo bufo* was recorded at one survey location during the reptile surveys.

5.9 Invertebrates

5.9.1 **Legislation.** Several invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ramshorn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); see Appendix 6322/3 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.9.2 **Background Records.** No records of invertebrates were returned from within or adjacent to the site. A number of records of Wall *Lasiommata megera*, Small Heath *Coenonympha pamphilus*, Autumnal Rustic *Eugnorisma glareosa*, Garden Dart *Euxoa nigricans*, White-line Dart *Euxoa tritici*, Oak Hook-tip *Watsonalla binaria*, White Ermine *Spilosoma lubricipeda*, Buff Ermine *Spilosoma lutea*, Blood-vein *Timandra comae* and Cinnabar *Tyria jacobaeae* (Priority Species) were returned from Cofnod from within 2km of the site.

5.9.3 **Survey Results and Evaluation.** No evidence of the presence of any protected, rare or notable invertebrate species was recorded within the site. The site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates¹⁸, such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that significant protected, rare or notable invertebrate populations are present, and the site is unlikely to support an important invertebrate assemblage.

5.10 Summary

5.10.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.1: Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the site	Level of Importance
Badger	Foraging on site	Site
Otter	Likely commuting habitat offsite	Negligible
Hedgehog	Local records of presence; suitable habitat on site	Site

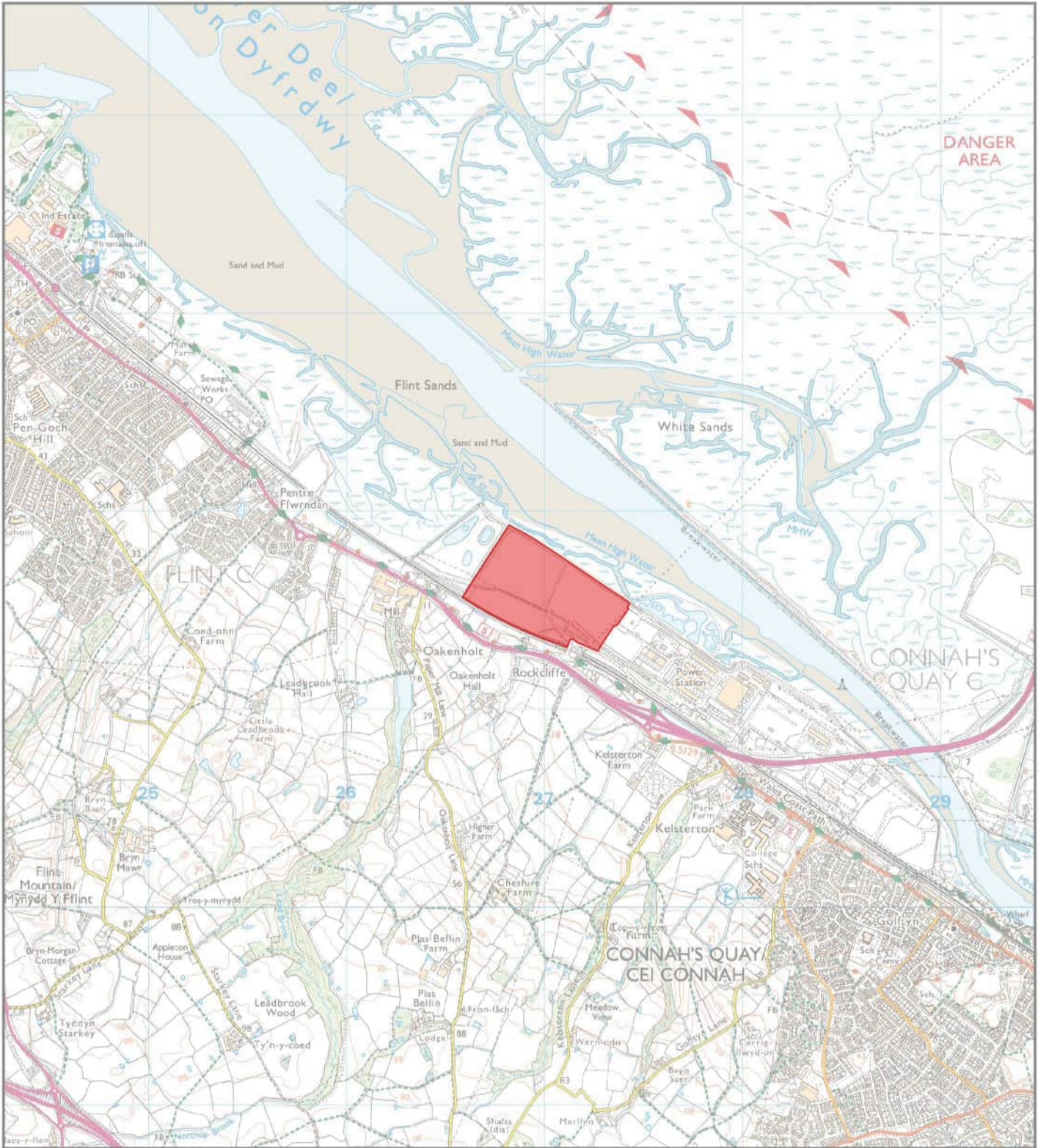
¹⁸ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

6 Conclusions

- 6.1.1 Aspect Ecology has carried out baseline ecological surveys at the Connah's Quay Power Station Northern Land Parcel, based on the results of a desk study and ecological surveys of the site.
- 6.1.2 The available information confirms that a statutory nature conservation designation is present immediately adjacent to the site in the form of the Dee Estuary SPA/Ramsar/SAC.
- 6.1.3 The surveys undertaken have shown that the site is dominated by habitats of low ecological importance. Hedgerows are of higher importance and are likely to qualify as Priority Habitat.
- 6.1.4 Evidence of Badger foraging activity was found during the surveys undertaken, although no badger setts were present. No evidence of the presence of any other protected species was found during the surveys. Some features within the site have potential to support roosting bats, Badger and Hedgehog.
- 6.1.5 Studies undertaken at the site in respect of reptiles and birds are reported separately.

Plan 6322/ECO1:

Site Location



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Key:

Site Location



Aspect Ecology Limited West Court Hardwick Business Park
 Noral Way Banbury Oxfordshire OX16 2AF
 01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Connah's Quay (North)

Site Location

6322/ECO1

B/JP

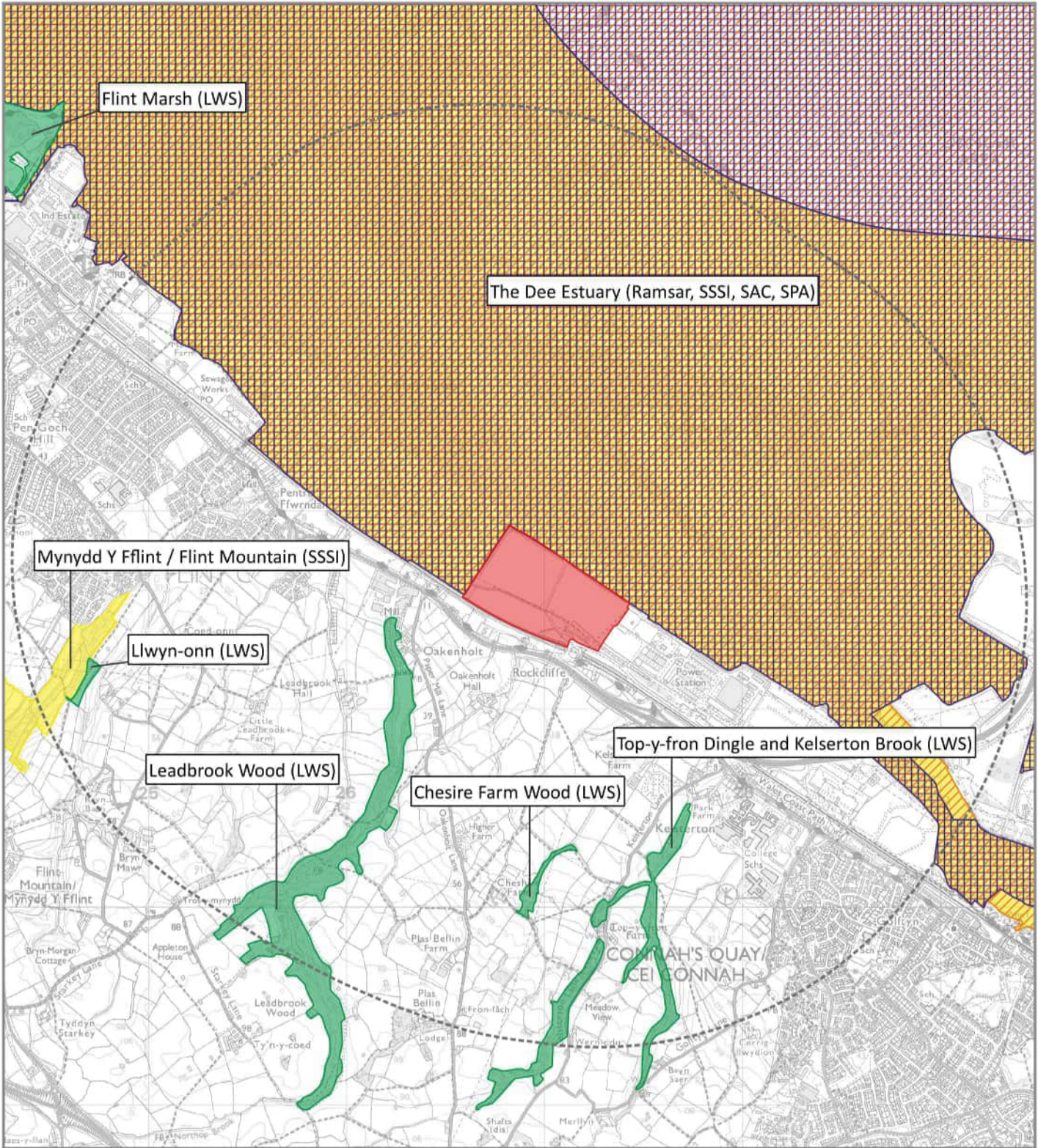
September 2023



PROJECT	
TITLE	
DRAWING NO.	
REV	
DATE	

Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Local Wildlife Site (LWS)

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Connah's Quay (North)

Ecological Designations

6322/ECO2

B/JP

September 2023



PROJECT
TITLE
DRAWING NO.
REV
DATE

Plan 6322/ECO3:

Habitats and Ecological Features



- Key:**
- Site Boundary
 - Rough Grassland
 - Improved Grassland
 - Pasture
 - Marshy Grassland
 - Tall Ruderal Vegetation
 - Scattered Scrub
 - Dense Scrub
 - Pond
 - Reed Bed/Rush
 - Hedgerow
 - Tree Line
 - Hardstanding



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Connah's Quay (North)

Habitats and Ecological Features

6322/ECO3

B/JP

September 2023



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Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:

The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit <i>Limosa lapponica</i>	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern <i>Sterna hirundo</i>	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern <i>Sterna albifrons</i>	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern <i>Sterna sandvicensis</i>	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	Count and Season	Period	% of population
Redshank <i>Tringa totanus</i>	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck <i>Tadorna tadorna</i>	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal <i>Anas crecca</i>	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail <i>Anas acuta</i>	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher <i>Haematopus ostralegus</i>	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover <i>Pluvialis squatarola</i>	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot <i>Calidris canutus islandica</i>	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin <i>Calidris alpina</i>	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit <i>Limosa limosa islandica</i>	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew <i>Numenius arquata</i>	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank <i>Tringa totanus</i>	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification

The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:

The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011



With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

- A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
 - A052 *Anas crecca*; Eurasian teal (Non-breeding)
 - A054 *Anas acuta*; Northern pintail (Non-breeding)
 - A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
 - A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
 - A143 *Calidris canutus*; Red knot (Non-breeding)
 - A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
 - A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
 - A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
 - A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
 - A162 *Tringa totanus*; Common redshank (Non-breeding)
 - A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
 - A193 *Sterna hirundo*; Common tern (Breeding)
 - A195 *Sterna albifrons*; Little tern (Breeding)
- Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of [Natural Resources Wales](#) should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via [GOV.UK](#).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.


These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.



 Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Region, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)



Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
Species occurrence description not yet available.
- **1310 Salicornia and other annuals colonizing mud and sand**

The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**

The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- 1130 Estuaries
- 1210 Annual vegetation of drift lines
- 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts
- 2110 Embryonic shifting dunes
- 2120 "Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")"
- 2130 "Fixed coastal dunes with herbaceous vegetation ("grey dunes")" * Priority feature
- 2190 Humid dune slacks

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- 1095 Sea lamprey *Petromyzon marinus*
- 1099 River lamprey *Lampetra fluviatilis*
- 1395 Petalwort *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	River Dee and Bala Lake
Unitary Authority/County:	Cheshire, Denbighshire, Flintshire, Gwynedd, Shropshire, Wrexham
SAC status:	English part designated on 1 April 2005 Welsh part designated on 13 December 2004
Grid reference:	SJ422503
SAC EU code:	UK0030252
Area (ha):	1308.93
Component SSSI:	Afon Dyfrdwy (River Dee) SSSI, Llyn Tegid SSSI, River Dee (England) SSSI

Site description:

The River Dee has its source in Snowdonia at the outflow of Llyn Tegid and it includes the Ceiriog, Meloch, Tryweryn and Mynach tributaries. Its catchment contains a wide spectrum of landscape from high mountains around Bala, rugged peaks near Llangollen, steep sided wooded valleys, and the plains of Cheshire, Flintshire, north Shropshire and Wrexham. There is a tidal influence as far upstream as Farndon and high tides regularly exceed the Chester weir crest level.

The aquatic plant community includes Wirtgen's water-crowfoot *Ranunculus x bachii* and pond water-crowfoot *R. peltatus*, and also floating water-plantain *Luronium natans*. Water-crowfoot forms extensive beds along the whole length of the Dee where flow conditions are suitable. Other aquatic plants which occur within the site include intermediate water-starwort *Callitriche hamulata*, alternate-flowered water-milfoil *Myriophyllum alterniflorum* and bryophytes including *Rhynchostegium riparoides* and *Fontinalis antipyretica*. Marginal vegetation consists mainly of reed canary-grass *Phalaris arundinacea* with occasional branched bur-reed *Sparganium erectum*.

There is good tree cover along the banks of the River Dee and the tributaries, with the Ceiriog being tree lined on both banks along much of its length. The dominant species are alder *Alnus glutinosa* and willow *Salix* spp., with occasional ash *Fraxinus excelsior* and oak *Quercus* spp. Where sections of the riverbank have been fenced off the vegetation tends to be dominated by bramble *Rubus fruticosus* agg., nettles *Urtica dioica* and other tall ruderals.

The River Dee is recognised as one of North Wales' premier rivers for Atlantic salmon *Salmo salar*. The Mynach, Meloch and Ceiriog tributaries are the most important salmon spawning tributaries in the Dee catchment. Other migratory fish utilising the river system include river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus*. The Dee also supports important populations of non-migratory fish including bullhead *Cottus gobio* and brook lamprey *Lampetra planeri*. The otter *Lutra lutra* is well established throughout the river system, especially where appropriate bank side cover exists.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation. (Rivers with floating vegetation often dominated by water-crowfoot)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Atlantic salmon *Salmo salar*
- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*
- Floating water-plantain *Luronium natans*
- Otter *Lutra lutra*
- River lamprey *Lampetra fluviatilis*
- Sea lamprey *Petromyzon marinus*

This citation relates to a site entered in the Register of European Sites for Great Britain.
Register reference number: UK0030252
Date of registration: 14 June 2005

Signed: 

On behalf of the Secretary of State for Environment,
Food and Rural Affairs

The site is also entered in the Register of European sites for Wales, maintained by the National Assembly for Wales.

**European Site Conservation Objectives for
River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid
Special Area of Conservation
Site code: UK0030252**



With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- **The extent and distribution of qualifying natural habitats and habitats of qualifying species**
- **The structure and function (including typical species) of qualifying natural habitats**
- **The structure and function of the habitats of qualifying species**
- **The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely**
- **The populations of qualifying species, and,**
- **The distribution of qualifying species within the site.**

This document should be read in conjunction with the accompanying Supplementary Advice document (where available), which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H3260. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot

S1095. *Petromyzon marinus*; Sea lamprey

S1096. *Lampetra planeri*; Brook lamprey

S1099. *Lampetra fluviatilis*; River lamprey

S1106. *Salmo salar*; Atlantic salmon

S1163. *Cottus gobio*; Bullhead

S1355. *Lutra lutra*; Otter

S1831. *Luronium natans*; Floating water-plantain

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of [Natural Resources Wales](#) should therefore be sought separately.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 as amended from time to time (the “Habitats Regulations”). They must be considered when a competent authority is required to make a ‘Habitats Regulations Assessment’, including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features.

These Conservation Objectives are set for each habitat or species of a [Special Area of Conservation \(SAC\)](#). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term ‘favourable conservation status’ is defined in regulation 3 of the Habitats Regulations.

Publication date: 27 November 2018 (version 4). This document updates and replaces an earlier version dated 5 February June 2016 to reflect the consolidation of the Habitats Regulations in 2017.

**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE

MYNYDD Y FFLINT/FLINT MOUNTAIN

<u>Date of Notification:</u>	19 May 2011
<u>National Grid Reference:</u>	SJ 243709
<u>OS Maps:</u>	1:50,000 Sheet number: 116 1:10,000 Sheet number: SJ27SW
<u>Site Area:</u>	25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamium galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustre*. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

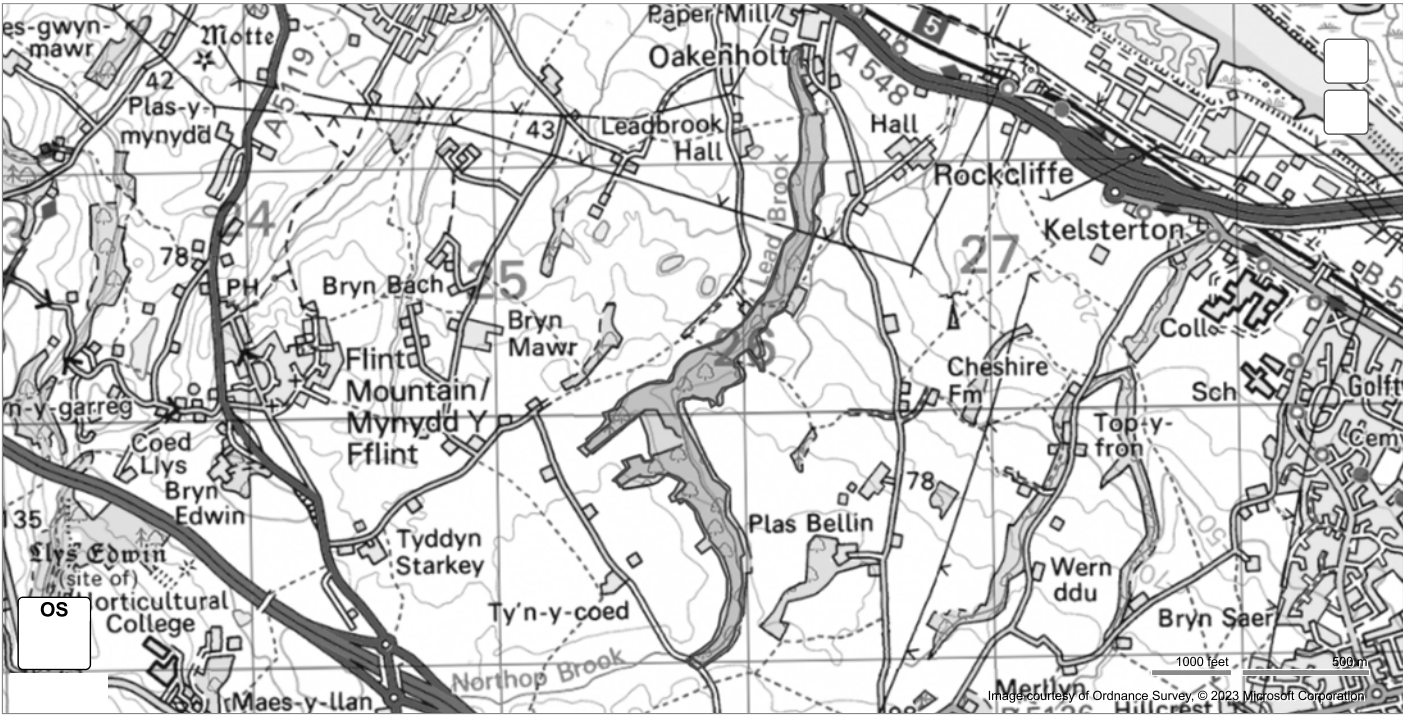
The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

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26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub





A Local Sites System for Wales

26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelserton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelserton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelserton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelserton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub





A Local Sites System for Wales

27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Southern Land Parcel

Phase 1 Habitat and Faunal Survey

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Southern Land Parcel
Report Title:	Phase 1 Habitat and Faunal Survey
Project Number:	ECO-6322
File Reference:	6322 EcoAp P1 South 2023 dv3 /ADB
Date:	10/07/2023

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Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.
- ii) **Survey.** The site was surveyed in August 2021 and April 2023 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger and Otter.
- iii) **Ecological Designations.** No part of the site is designated for its ecological importance. The nearest statutory designation to the site is the Dee Estuary (SPA, Ramsar and SAC). This is a vast site which extends substantially beyond the site's north-western boundary. The nearest non-statutory designation is Top-y-fron Dingle and Kelserton Brook (LWS) located approximately 380m south of the site, separated from it by industrial development, roads and the railway. Ecological designations in the surrounding area are physically separated from the site and are unlikely to be adversely affected by works at the site.
- iv) **Habitats.** The site comprises areas of cleared ground, scrub, tall ruderal vegetation, and hardstanding.
- v) **Protected Species.** The site generally offers few opportunities for protected species although evidence of badger foraging activity was recorded during the survey work. Although no trees or buildings are present that might be used by bats as roosting sites it is likely that bats forage and commute along linear habitats around the site perimeter. Otter are highly likely to make use of habitat outside the site boundary associated with the Dee Estuary, but are unlikely to make use of the site itself.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 288 703 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north and east by the River Dee. Connah's Quay Power Station is located immediately adjacent to the site's western boundary and a railway line defines the site's southern site boundary. The town of Connah's Quay extends to the south. The Deeside Industrial Park is present to the north and east across the River Dee.

1.2.2 The site itself comprises hard standing and disturbed land which has been recently cleared of scrub, grassland, and small patches of scrub and tall ruderal vegetation.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study and baseline ecology surveys undertaken. The importance of the habitats and species present is evaluated.

2 Methodology

2.1 Data Search

- 2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.
- 2.1.2 Information on statutory designations was obtained from the MAGIC database¹, which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.
- 2.1.3 In addition, the Woodland Trust database² was searched for records of ancient, veteran or notable trees within or in proximity to the site.

2.2 Habitat Survey

- 2.2.1 The site was surveyed in August 2021 and April 2023 to assess the general ecological value of the land and to identify the main habitats and ecological features present. Vegetation clearance has taken place at the site since 2021. The habitats described in this report are those present during the most recent survey. Habitats present are shown on Plan 6322/ECO3.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology³, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal⁴ to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 The nomenclature used for plant species within this report is based on that of the Botanical Society for the British Isles (BSBI) Checklist and Stace (2019)⁵.

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded during all surveys. Attention was paid to the potential presence of protected, rare or notable species as described below.

¹ Multi-Agency Geographic Information for the Countryside (MAGIC), <https://magic.defra.gov.uk/>

² Woodland Trust Ancient Tree Inventory, <https://ati.woodlandtrust.org.uk/>, consulted March 2022.

³ Joint Nature Conservation Committee (2010, as amended) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'

⁴ Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) 'Guidelines for Preliminary Ecological Appraisal.'

⁵ Stace, C (2019) 'New Flora of the British Isles (4th Edition)' C & M Floristics

Bats⁶

Visual Inspection Surveys

2.3.2 **Trees.** Trees were assessed for their suitability to support roosting bats based on the presence of potential roosting features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁷ as:

- Negligible;
- Low;
- Moderate; or
- High.

2.3.3 Where possible, potential roost features identified were inspected for signs indicating possible use by bats, including staining, scratch marks or bat droppings.

Badger (*Meles meles*)

2.3.4 A Badger survey was carried out in August 2021 and again in April 2023. The survey, undertaken in accordance with standard methods⁸, comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The survey set out to record the following information, where present:

- Number and location of well used / active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;
- Number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance; and
- Number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3.5 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

Otter (*Lutra lutra*)

2.3.6 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Otter⁹ in August 2021 and again in April 2023. Such signs include holts (underground chambers used for lying up), spraints, prints, paths and slides. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

⁶ English Nature (2004) '*Bat Mitigation Guidelines*'

⁷ Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*.' Bat Conservation Trust

⁸ Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

⁹ Life in UK Rivers (2003) '*Monitoring the Otter - Conserving Natura 2000 Rivers*'. Monitoring Series No. 10

Water Vole (*Arvicola amphibius*)

- 2.3.7 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Water Vole¹⁰ in August 2021 and again in April 2023. Such signs include latrines, tunnels, lawns (small areas of vegetation grazed by Water Vole) and footprints. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

2.4 Survey Constraints and Limitations

- 2.4.1 All of the species that occur in each habitat are not necessarily detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat surveys were undertaken within the optimal season and during different months, thereby allowing a robust and thorough assessment of habitats and botanical interest across the site.
- 2.4.2 All parts of the site were accessed at the time of both surveys.
- 2.4.3 The presence of invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was noted. However, the detectability of such species varies according to time of year, management regime and other factors and this report should not be taken as definitive regarding the presence or absence of such species at the site.
- 2.4.4 Densely vegetated habitats and areas that have limited access such as steep river banks may reduce the detectability of field signs of species such as Badger, Otter and Water Vole. Whilst some areas of dense vegetation are present within the site, these were searched as thoroughly as practicable and hence it is considered that the survey results provide a sufficiently accurate baseline to assess the potential impacts of the proposals on all species assessed.

2.5 Ecological Evaluation Methodology

- 2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)¹¹, which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.6 National Policy Approach to Biodiversity in the Planning System

- 2.6.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)¹². This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

¹⁰ Surveys based on: Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) 'Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

¹¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

¹² Llywodraeth Cymru/Welsh Government (2021). 'Planning Policy Wales', Edition 11, February 2021.

2.6.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

- *improving the resilience of ecosystems and ecological networks;*
- *halting and reversing the loss of biodiversity;*
- *maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;* amongst other measures.

2.6.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.6.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

- *support the conservation of biodiversity, in particular the conservation of wildlife and habitats;*
- *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;*
- *ensure statutorily and non-statutorily designated sites are properly protected and managed;*
- *safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*
- *secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'*

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.6.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'...development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'...planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.6.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019¹³, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.7 Local Policy

2.7.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.7.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

- a. *Create new green infrastructure linkages from the proposed development to the existing local network;*
- b. *Fill in gaps in the existing network to improve connectivity.*

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.7.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

- a. *It can be demonstrated a coastal location is essential;*

¹³ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

- b. It conserves and enhances the open character of the coast;*
- c. It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*
- d. It would not harm existing or proposed recreational or active travel routes;*
- e. Extensive coastal protection measures are not required; and*
- f. It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.7.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

- a. it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*
- b. it can be demonstrated that the development cannot reasonably be located elsewhere; and*
- c. any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.7.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

- a. the development maximises their retention through sensitive design*
- b. measures; and*
- c. where the removal of trees is considered necessary, suitable replacements*
- d. shall be provided elsewhere within the site; and*
- e. it results in a net benefit in biodiversity."*

2.7.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

“Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area’s special characteristics, and pay particular regard to:

- a. important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*
- b. the retention of historically significant boundaries or other elements that contribute to the established form of development;*
- c. the relationship to existing buildings and spaces, and pattern of development;*
- d. scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials.”*

3 Ecological Designations

3.1 Statutory Designations

Description

- 3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 6322/ECO2.
- 3.1.2 The Dee Estuary Special Protection Area (SPA), Ramsar site, Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), all of which designations cover the same area, lie immediately adjacent to the site beyond its north-eastern boundary. The Dee Estuary is designated as a SPA and Ramsar site on the basis of its breeding and winter waterbird populations and assemblages. It is designated as a SAC on the basis of its mudflats and sandflats, annual colonising mud and sand and Atlantic salt meadow habitats (see Appendix 6322/1 for citation sheets).
- 3.1.3 The next closest statutory designation to the site is the River Dee and Bala Lake Special Area of Conservation (SAC) is located approximately 1.4km east of the site at its closest point. This is an extensive site covering over 1200ha extending through North Wales along the River Dee to Bala Lake. The SAC is designated for Atlantic Salmon *Salmo salar*, Floating Water-plantain *Luronium natans*, and for comprising a watercourse of plain to montane level with *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation characterised by an abundance of Water-crowfoot *Ranunculus* spp.
- 3.1.4 Other statutory designations in the wider area include Deeside and Buckley Newt Sites SAC, the closest component part of which is Connah's Quay Ponds and Woodland SSSI approximately 2.0km south of the site, Mynydd y Fflint/Flint Mountain SSSI approximately 3.0km to the west and Halkyn Mountain SAC over 5km to the west.

Evaluation

- 3.1.5 No statutory designation is likely to be at risk of adverse effects as a result of works at the site.

3.2 Non-statutory Designations

Description

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 6322/ECO2. The nearest non-statutory designation is Top-y-fron Dingle and Kelserton Brook LWS approximately 380m south-west of the site, separated from it by industrial development, roads and the railway. This LWS is designated because it is an area of semi-natural broad-leaved woodland occupying a deeply wooded valley in which the Kelsterton Brook flows (see Appendix 6322/1 for citation).
- 3.2.2 The next nearest non-statutory designation is Cheshire Farm Wood (LWS), a small area of semi-natural broadleaved woodland following the course of a small stream 950m south-west of the site. Leadbrook Wood Local Wildlife Site (LWS), another wooded valley site, is located approximately 1.6km west of the site.
- 3.2.3 All non-statutory designations are separated from the site by intervening development and road and rail infrastructure and are not likely to be at risk of adverse effects resulting from works undertaken at the site.

Evaluation

- 3.2.4 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are sufficiently distant from the site and separated by other land uses that they are unlikely to be affected by activities at the site.

3.3 Priority Habitats, Ancient Woodland and Notable Trees

Description

- 3.3.1 No Priority habitats are located within the site, however, the Priority Habitat Saltmarsh is present outside the site immediately adjacent to the northern and western site boundaries, within the River Dee Estuary.
- 3.3.2 There are no areas of ancient woodland within the site or its wider area.
- 3.3.3 There are no records of any notable or veteran trees within or adjacent to the site.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 Data supplied by Cofnod from the last 10 years within 2km of the site included records of the Flintshire Rare plant species (occurring in no more than three 2km tetrads within the vice-county) Rock Samphire *Crithmum maritimum*, Caper Spurge *Euphorbia lathyris*, Narrow-leaved Pepperwort *Lepidium ruderale*, Sweet Briar *Rosa rubiginosa*, Annual Pearlwort *Sagina apetala* subsp. *apetala*, Long-spiked Glasswort *Salicornia dolichostachya*, Wild Clary *Salvia verbenaca*, Knotted Hedge-parsley *Torilis nodosa* and Navelwort *Umbilicus rupestris*.

4.1.2 Records were also returned of the Flintshire Scarce species (occurring in 4-8 2km tetrads) Red Goosefoot *Chenopodium rubrum*, Perennial Wall-rocket *Diploxys tenuifolia*, Wood Spurge *Euphorbia amygdaloides*, Small-flowered Crane's-bill *Geranium pusillum*, Stinking Iris *Iris foetidissima*, Prickly Lettuce *Lactuca serriola*, Narrow-leaved Meadow-grass *Poa angustifolia* and Reflexed Saltmarsh-grass *Puccinellia distans*.

4.1.3 Records were also returned of numerous invasive species including Japanese Knotweed *Fallopia japonica*, Himalayan Balsam *Impatiens glandulifera*, Cherry Laurel *Prunus laurocerasus* and *Cotoneaster* sp.

4.1.4 No evidence of the presence of any of these species within the site was recorded during any of the surveys undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The likely effects of potential works on these habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats and ecological features were identified within the site:

- Rough Grassland;
- Scrub;
- Tall Ruderal Vegetation; and
- Cleared Ground and Hardstanding.

4.2.3 These habitats and features are shown on Plan 6322/ECO3 and described below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the site, none are likely to qualify as Priority Habitat.

4.4 Rough Grassland

Description

4.4.1 The eastern section of the site largely comprises open rough grassland, dominated by common and widespread species including Perennial Rye-grass *Lolium perenne*, Creeping Bent *Agrostis stolonifera*, Red Fescue *Festuca rubra*, Yorkshire-fog *Holcus lanatus* and Cock's-foot *Dactylis glomerata*. Herbs include Creeping Thistle *Cirsium arvense*, Ragwort *Senecio jacobaea*, Nettle *Urtica dioica*, Dock *Rumex* sp., Hogweed *Heracleum sphondylium* and Burdock *Arctium minus*. Areas of bare ground are present in patches where scrub had been cleared.

Evaluation

4.4.2 Overall, the grassland supports a low diversity of common and widespread species, and is considered to be of low ecological value. This grassland does not form an important ecological feature.

4.5 Scrub

Description and Evaluation

4.5.1 Areas of dense and scattered scrub are present around the boundaries of the site as shown on Plan 6322/ECO3.

4.5.2 Dense scrub is present beside the southern site boundary in a thin strip, becoming denser to the west. Scattered scrub is present in isolated locations distributed around the site. Previously, scrub was present in greater density but has been recently cleared across the majority of the site.

4.5.3 Scrub comprises common and widespread species of limited botanical interest including Silver Birch *Betula pendula*, Butterfly-bush *Buddleia davidii*, Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Bramble *Rubus fruticosus* agg. and Elder *Sambucus nigra*.

4.5.4 The areas of scrub within the site comprise common and widespread species of low botanical interest. These habitats are not important ecological features and their loss would be of minor significance.

4.6 Tall Ruderal Vegetation

Description and Evaluation

4.6.1 Several small areas of tall ruderal vegetation were recorded in association with areas of scrub (see Plan 6322/ECO3).

4.6.2 Tall ruderal vegetation was dominated by Common Nettle, Hogweed, Mugwort *Artemisia vulgaris*, and Redshank *Persicaria maculosa*. These are common and widespread species of limited botanical interest which readily colonise field margins and disturbed ground. Tall ruderal vegetation does not constitute an important ecological feature and its loss would be of negligible ecological significance.

4.7 Cleared Ground and Hard Standing

Description and Evaluation

- 4.7.1 Tracks within the site, and areas of exposed clinker/gravel substrate are abundant throughout the site, particularly since scrub clearance has been undertaken. These areas are largely devoid of vegetation except for patches of naturally colonising species, notably ruderals, and are of negligible ecological value.

4.8 Habitat Evaluation Summary

- 4.8.1 On the basis of the above, none of the habitats within the site are considered to form important ecological features.

5 Faunal Use of the Site

5.1 Overview

- 5.1.1 During the survey work, general observations were made of faunal use of the site with particular attention paid to the potential presence of protected or notable species. Specific surveys and assessments were undertaken in respect of Badgers, bats, Otter and Water Vole as described below.
- 5.1.2 Surveys for birds and reptiles have also been undertaken at the site and these are documented in separate reports.

5.2 Priority Species

- 5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.
- 5.2.2 During the survey work undertaken, no Priority Species were recorded within the site. This is discussed further below.

5.3 Bats

- 5.3.1 **Legislation.** All British bats are listed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 6322/3 for detailed provisions). If works are likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also S41 Priority Species.
- 5.3.2 **Background Records.** No records of bats from within or adjacent to the site were returned from the desk study. Data from within 2km of the site included records of Pipistrelle *Pipistrellus* sp., Daubenton's Bat *Myotis daubentonii*, and Whiskered Bat *Myotis mystacinus*.
- 5.3.3 **Survey Results and Evaluation**

Roosting

Trees

- 5.3.4 All trees within the site were assessed for their suitability to support roosting bats. The only trees with potential to support roosting bats were those within tree line **TL1**, assessed as of low potential on the basis of the trees being of a size and age suitable to contain potential roosting features.

- 5.3.5 Bats are dynamic animals that can readily colonise new sites where potential exists. Natural England guidance in respect of European Protected Species¹⁴ such as bats advises that, even where proposals are reasonably unlikely to result in any offence, such that licensing is not required, reasonable precautions should be taken to minimise the risk to protected species in the unlikely event that they should be found during the course of activities that may disturb roosts.

Foraging / Commuting

- 5.3.6 The habitats present on site include a mixture of rough grassland, scrub, hedgerows, ponds and a tree line that may potentially be used by foraging bats, although connectivity with suitable areas of habitat off-site is limited. It is possible that the adjacent railway corridor may offer some connectivity and foraging potential for bats, as might the River Dee corridor, although as it comprises a large open estuarine area any bat activity is likely to be limited. Lighting from the power station and the town of Connah's Quay is anticipated to further limit the suitability of the area to provide important features used by bats.

5.4 Badger

- 5.4.1 **Legislation.** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 6322/3 for detailed provisions), and as such should be assessed as an important ecological feature. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status; Badger is common throughout most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.
- 5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance.^{15, 16}
- 5.4.3 **Background Records.** Records for Badger were returned from within 2km of the site, although precise locations are unspecified.
- 5.4.4 **Survey Results and Evaluation.** Initial surveys of the site noted the presence of habitats and features suitable for use by Badger for foraging and sett building including areas of scrub, tall ruderal vegetation and grassland. Consequently, targeted surveys for Badger were undertaken at the site in August 2021 and again in April 2023.
- 5.4.5 No setts were recorded within the site. Animal burrows were identified in several locations which were identified as rabbit warrens. No evidence of Badger was present at any of these locations. However, several badger paths were noted as well as evidence of foraging at the edge of grassland/disturbed ground close to the southern site boundary. It is concluded that Badger are present in the wider area, potentially with setts on higher, well drained land such as that associated with the railway corridor, and use the site for foraging.

5.5 Dormouse

- 5.5.1 **Legislation.** Dormouse is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals

¹⁴ Natural England (2013) 'European Protected Species: Mitigation Licensing - How to get a licence (WML-G12)'

¹⁵ English Nature (2002) 'Badgers and Development'

¹⁶ Natural England (2011) 'Badgers and Development: A Guide to Best Practice and Licensing', Interim Guidance Document

of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Dormouse is also a S41 Priority Species. On this basis, Dormouse is considered to form an important ecological feature.

5.5.2 **Background Records.** No records of Dormouse were returned from the local record centre from within 2km of the site.

5.5.3 **Survey Results and Evaluation.** The site is close to the limits of the known UK distribution of this species. Habitats present provide very limited opportunities for Dormouse, restricted to scrub but this habitat lacks the structure and preferred species such as Hazel *Corylus avellana* and Honeysuckle *Lonicera periclymenum*. The site also lacks connectivity with offsite habitats, being isolated by the River Dee to the north and east, and development to the west and south.

5.5.4 The lack of connectivity and limited suitability, combined with the lack of local records and the UK location of the site, indicates that Dormouse is likely to be absent from the site.

5.6 Otter and Water Vole

5.6.1 **Legislation.** Otter is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Otter is also a S41 Priority Species. On this basis, Otter is considered to represent an important ecological feature.

5.6.2 Water Vole is also fully protected under the Wildlife and Countryside Act 1981 (as amended). Water Vole is also a S41 Priority Species. As such, this species is considered to represent an important ecological feature. The legislation affords protection to individuals of the species and their breeding sites and places of shelter (see Appendix 6322/3 for detailed provisions).

5.6.3 If, despite all reasonable efforts, properly authorised development will adversely affect Water Vole and there are no alternative habitats nearby, Natural England may issue a licence to displace or trap and translocate Water Vole for the purpose of development. To issue such a licence, Natural England would need to be assured there is no reasonable alternative to the development and that there are no other practical solutions that would allow Water Vole to be retained at the same location. Natural England would also require no net loss of Water Vole habitat resulting from the works.

5.6.4 **Background Records.** Several records of Otter and Water Vole were returned from within 2km of the site. Two records of Water Vole originated from a site North of the River Dee and three records of Otter were associated with the River Dee itself.

5.6.5 **Survey Results and Evaluation.** The habitats within the site itself are generally unsuitable for Otter and Water Vole, however the offsite adjacent River Dee Estuary provides highly suitable foraging and commuting habitat for Otter with potential for resting sites, including along the sea wall adjacent to (outside) the northern boundary of the site.

5.6.6 The River Dee Estuary does not provide suitable habitat for Water Vole which favours smaller, more densely vegetated watercourses.

5.6.7 Targeted surveys for evidence of Otter and Water Vole were undertaken at the site in August 2021 and again in April 2023. No evidence of Otter or Water Vole was found during

any of the surveys undertaken and it is concluded that neither species currently makes use of habitats within the site. Nevertheless, it is highly likely that Otter make use of the corridor of the River Dee and its fringing habitats outside the site boundary, notably areas of saltmarsh in which dee channels have been cut within the mud. Otter may therefore be present within the site irregularly.

5.7 Other Mammals

5.7.1 Legislation. Other native UK mammals receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). Additionally, some are S41 Priority Species and should therefore be assessed as important ecological features.

5.7.2 Background Records. Records of Hedgehog *Erinaceus europaeus* (Priority Species), Stoat *Mustela erminea* and Brown Hare *Lepus europaeus* were returned from within 2km of the site.

5.7.3 Survey Results and Evaluation. No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to make use of the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species would be of negligible significance.

5.7.4 The data search returned background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit one that remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of areas of scrub, tall ruderal vegetation and grassland, and therefore it is likely that Hedgehog uses the site, and as such is assessed as of importance at the site level.

5.8 Amphibians

5.8.1 Legislation. All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 6322/3 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.

5.8.2 Background Records. No specific records of amphibians from within or adjacent to the site were returned by the data search. Three records of Smooth Newt *Lissotriton vulgaris* were returned from within 2km of the site.

5.8.3 Survey Results and Evaluation. No water bodies are present on site. Three ponds and a number of drainage ditches are present within 250m of the site boundary, although these are separated from site by the railway line, roads and developed land.

5.8.4 The Dee Estuary SAC/SPA/Ramsar site lists a breeding population of Natterjack Toad *Epidalea calamita* as a qualifying species. However, this is a reintroduced population that is restricted to the Gronant Dunes and Talacre Warren SSSI, located 19.5km north-west of the site. As such, given the distance from the known population and the lack of suitable Natterjack Toad habitat present within the site, Natterjack Toad is considered to be absent from the site.

5.9 Invertebrates

5.9.1 Legislation. Several invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ramshorn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); see Appendix 6322/3 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.9.2 Background Records. No records of invertebrates were returned from within or adjacent to the site. A number of records of Wall *Lasiommata megera*, Small Heath *Coenonympha pamphilus*, Autumnal Rustic *Eugnorisma glareosa*, Garden Dart *Euxoa nigricans*, White-line Dart *Euxoa tritici*, Oak Hook-tip *Watsonalla binaria*, White Ermine *Spilosoma lubricipeda*, Buff Ermine *Spilosoma lutea*, Blood-vein *Timandra comae* and Cinnabar *Tyria jacobaeae* (Priority Species) were returned from Cofnod from within 2km of the site.

5.9.3 Survey Results and Evaluation. No evidence of the presence of any protected, rare or notable invertebrate species was recorded within the site. The site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates¹⁷, such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that significant protected, rare or notable invertebrate populations are present, and the site is unlikely to support an important invertebrate assemblage.

5.10 Summary

5.10.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.1. Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the site	Level of Importance
Bats – Roosting	Potential habitat in the form of trees	Local
Badger	Potential habitat on site	Site
Otter	Likely commuting habitat offsite; potential for occasional presence within the site	Negligible
Hedgehog	Local records of presence; suitable habitat on site	Site

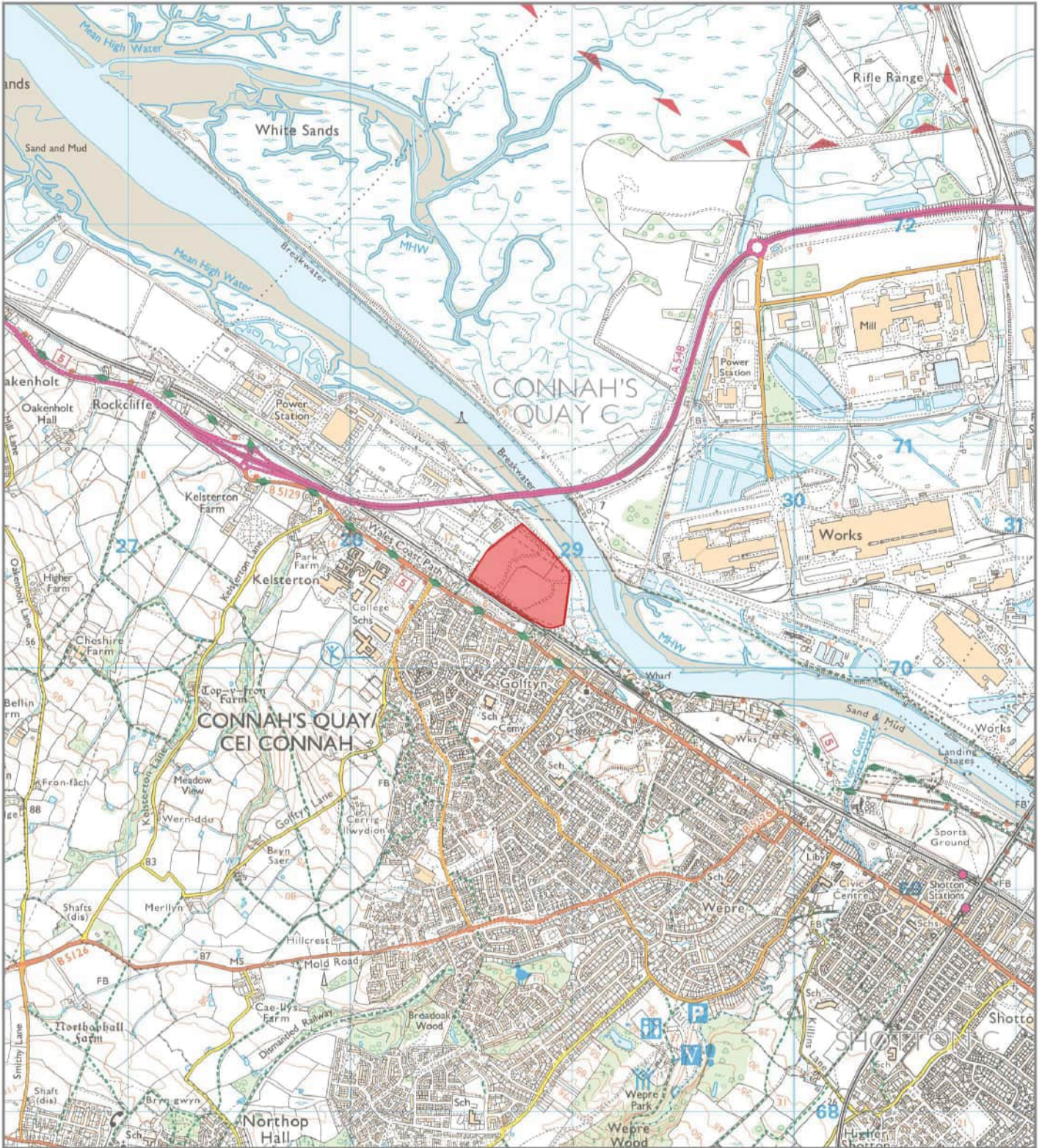
¹⁷ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

6 Conclusions

- 6.1.1 Aspect Ecology has carried out baseline ecological surveys at the Connah's Quay Power Station Southern Land Parcel, based on the results of a desk study and ecological surveys of the site.
- 6.1.2 No statutory or non-statutory nature conservation designations are present within the site although the Dee Estuary SPA/Ramsar/SAC is present in close proximity.
- 6.1.3 The surveys undertaken have shown that the site is dominated by habitats of low ecological importance, none of which are likely to qualify as Priority Habitat.
- 6.1.4 Evidence of Badger foraging activity was found during the surveys undertaken, although no badger setts were present. No evidence of the presence of any other protected species was found during the surveys. Some features within the site have potential to support Badger and Hedgehog.
- 6.1.5 Studies undertaken at the site in respect of reptiles and birds are reported separately.

Plan 6322/ECO1:

Site Location



Key:

 Site Location



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 01295 279721 · info@aspect-ecology.com · www.aspect-ecology.com

Connah's Quay (South)

Site Location

6322/ECO1

A/BG

April 2023

PROJECT

TITLE

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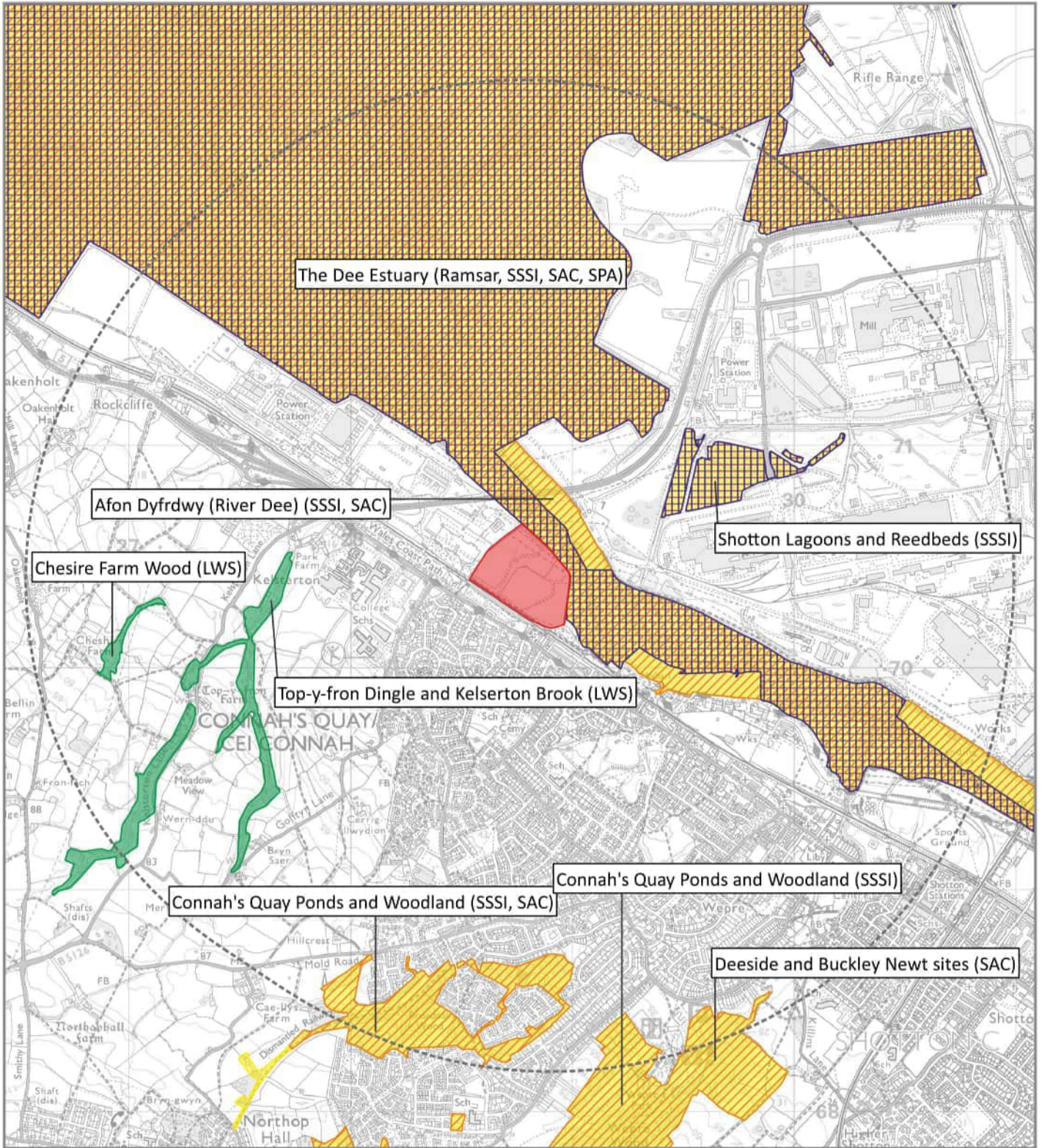
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Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)



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Connah's Quay (South)

Ecological Designations

6322/ECO2

A/BG

April 2023













PROJECT
 TITLE
 DRAWING NO.
 REV
 DATE

Plan 6322/ECO3:

Habitats and Ecological Features



- Key:
-  Site Boundary
 -  Bare Ground/Recolonising
 -  Bracken
 -  Building
 -  Dense Scrub
 -  Hardstanding
 -  Rough Grassland
 -  Tall Ruderal
 -  Scattered Scrub
 -  Tree



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Connah's Quay (South)		PROJECT
Habitats and Ecological Features		TITLE
6322/ECO3		DRAWING NO.
A/BG		REV
April 2023		DATE



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Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:

The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit <i>Limosa lapponica</i>	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern <i>Sterna hirundo</i>	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern <i>Sterna albifrons</i>	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern <i>Sterna sandvicensis</i>	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	Count and Season	Period	% of population
Redshank <i>Tringa totanus</i>	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck <i>Tadorna tadorna</i>	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal <i>Anas crecca</i>	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail <i>Anas acuta</i>	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher <i>Haematopus ostralegus</i>	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover <i>Pluvialis squatarola</i>	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot <i>Calidris canutus islandica</i>	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin <i>Calidris alpina</i>	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit <i>Limosa limosa islandica</i>	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew <i>Numenius arquata</i>	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank <i>Tringa totanus</i>	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification

The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:

The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011



With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

- A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
 - A052 *Anas crecca*; Eurasian teal (Non-breeding)
 - A054 *Anas acuta*; Northern pintail (Non-breeding)
 - A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
 - A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
 - A143 *Calidris canutus*; Red knot (Non-breeding)
 - A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
 - A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
 - A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
 - A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
 - A162 *Tringa totanus*; Common redshank (Non-breeding)
 - A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
 - A193 *Sterna hirundo*; Common tern (Breeding)
 - A195 *Sterna albifrons*; Little tern (Breeding)
- Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of [Natural Resources Wales](#) should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via [GOV.UK](#).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.


These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.



 Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Region, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)



Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
Species occurrence description not yet available.
- **1310 Salicornia and other annuals colonizing mud and sand**

The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**

The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- 1130 Estuaries
- 1210 Annual vegetation of drift lines
- 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts
- 2110 Embryonic shifting dunes
- 2120 "Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")"
- 2130 "Fixed coastal dunes with herbaceous vegetation ("grey dunes")" * Priority feature
- 2190 Humid dune slacks

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- 1095 Sea lamprey *Petromyzon marinus*
- 1099 River lamprey *Lampetra fluviatilis*
- 1395 Petalwort *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	River Dee and Bala Lake
Unitary Authority/County:	Cheshire, Denbighshire, Flintshire, Gwynedd, Shropshire, Wrexham
SAC status:	English part designated on 1 April 2005 Welsh part designated on 13 December 2004
Grid reference:	SJ422503
SAC EU code:	UK0030252
Area (ha):	1308.93
Component SSSI:	Afon Dyfrdwy (River Dee) SSSI, Llyn Tegid SSSI, River Dee (England) SSSI

Site description:

The River Dee has its source in Snowdonia at the outflow of Llyn Tegid and it includes the Ceiriog, Meloch, Tryweryn and Mynach tributaries. Its catchment contains a wide spectrum of landscape from high mountains around Bala, rugged peaks near Llangollen, steep sided wooded valleys, and the plains of Cheshire, Flintshire, north Shropshire and Wrexham. There is a tidal influence as far upstream as Farndon and high tides regularly exceed the Chester weir crest level.

The aquatic plant community includes Wirtgen's water-crowfoot *Ranunculus x bachii* and pond water-crowfoot *R. peltatus*, and also floating water-plantain *Luronium natans*. Water-crowfoot forms extensive beds along the whole length of the Dee where flow conditions are suitable. Other aquatic plants which occur within the site include intermediate water-starwort *Callitriche hamulata*, alternate-flowered water-milfoil *Myriophyllum alterniflorum* and bryophytes including *Rhynchostegium riparoides* and *Fontinalis antipyretica*. Marginal vegetation consists mainly of reed canary-grass *Phalaris arundinacea* with occasional branched bur-reed *Sparganium erectum*.

There is good tree cover along the banks of the River Dee and the tributaries, with the Ceiriog being tree lined on both banks along much of its length. The dominant species are alder *Alnus glutinosa* and willow *Salix* spp., with occasional ash *Fraxinus excelsior* and oak *Quercus* spp. Where sections of the riverbank have been fenced off the vegetation tends to be dominated by bramble *Rubus fruticosus* agg., nettles *Urtica dioica* and other tall ruderals.

The River Dee is recognised as one of North Wales' premier rivers for Atlantic salmon *Salmo salar*. The Mynach, Meloch and Ceiriog tributaries are the most important salmon spawning tributaries in the Dee catchment. Other migratory fish utilising the river system include river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus*. The Dee also supports important populations of non-migratory fish including bullhead *Cottus gobio* and brook lamprey *Lampetra planeri*. The otter *Lutra lutra* is well established throughout the river system, especially where appropriate bank side cover exists.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation. (Rivers with floating vegetation often dominated by water-crowfoot)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Atlantic salmon *Salmo salar*
- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*
- Floating water-plantain *Luronium natans*
- Otter *Lutra lutra*
- River lamprey *Lampetra fluviatilis*
- Sea lamprey *Petromyzon marinus*

This citation relates to a site entered in the Register of European Sites for Great Britain.
Register reference number: UK0030252
Date of registration: 14 June 2005

Signed: 

On behalf of the Secretary of State for Environment,
Food and Rural Affairs

The site is also entered in the Register of European sites for Wales, maintained by the National Assembly for Wales.

**European Site Conservation Objectives for
River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid
Special Area of Conservation
Site code: UK0030252**



With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- **The extent and distribution of qualifying natural habitats and habitats of qualifying species**
- **The structure and function (including typical species) of qualifying natural habitats**
- **The structure and function of the habitats of qualifying species**
- **The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely**
- **The populations of qualifying species, and,**
- **The distribution of qualifying species within the site.**

This document should be read in conjunction with the accompanying Supplementary Advice document (where available), which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H3260. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot

S1095. *Petromyzon marinus*; Sea lamprey

S1096. *Lampetra planeri*; Brook lamprey

S1099. *Lampetra fluviatilis*; River lamprey

S1106. *Salmo salar*; Atlantic salmon

S1163. *Cottus gobio*; Bullhead

S1355. *Lutra lutra*; Otter

S1831. *Luronium natans*; Floating water-plantain

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of [Natural Resources Wales](#) should therefore be sought separately.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 as amended from time to time (the “Habitats Regulations”). They must be considered when a competent authority is required to make a ‘Habitats Regulations Assessment’, including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features.

These Conservation Objectives are set for each habitat or species of a [Special Area of Conservation \(SAC\)](#). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term ‘favourable conservation status’ is defined in regulation 3 of the Habitats Regulations.

Publication date: 27 November 2018 (version 4). This document updates and replaces an earlier version dated 5 February June 2016 to reflect the consolidation of the Habitats Regulations in 2017.

**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE

MYNYDD Y FFLINT/FLINT MOUNTAIN

<u>Date of Notification:</u>	19 May 2011
<u>National Grid Reference:</u>	SJ 243709
<u>OS Maps:</u>	1:50,000 Sheet number: 116 1:10,000 Sheet number: SJ27SW
<u>Site Area:</u>	25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamium galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustre*. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

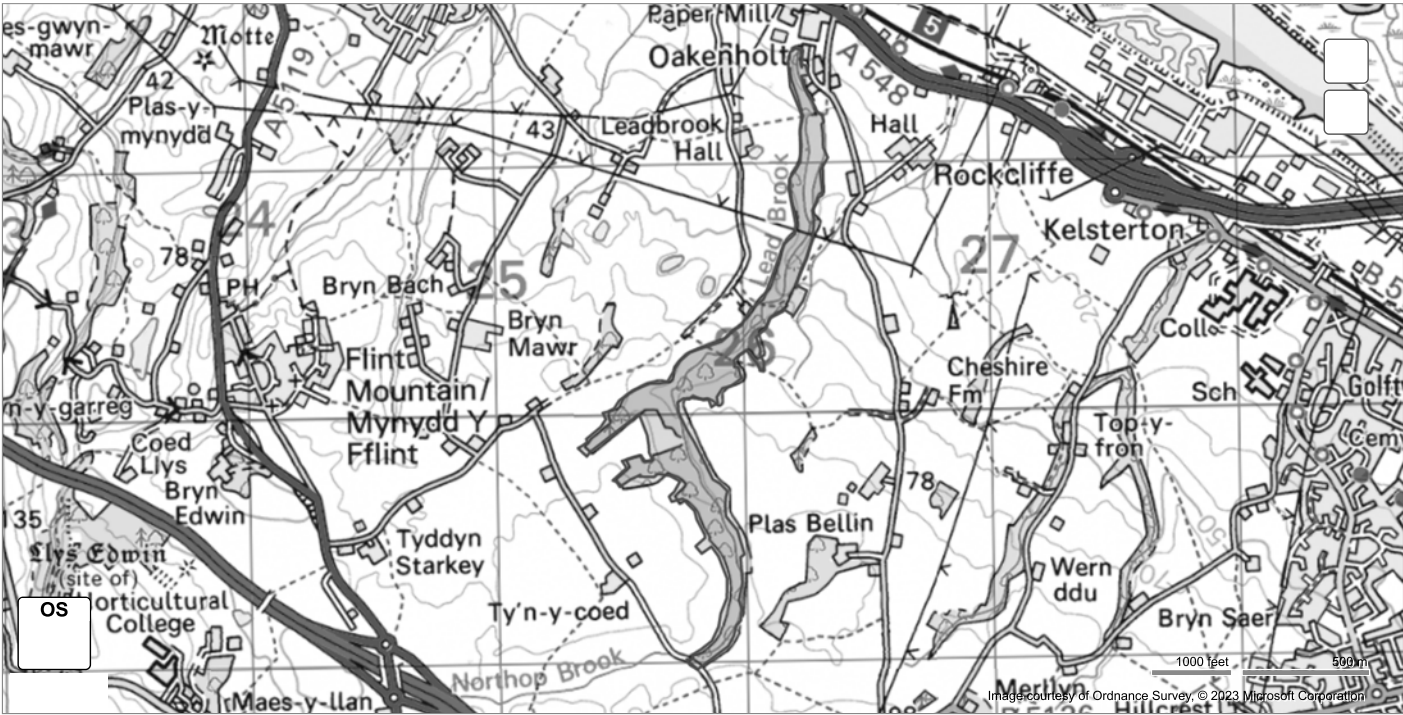
The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

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26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub

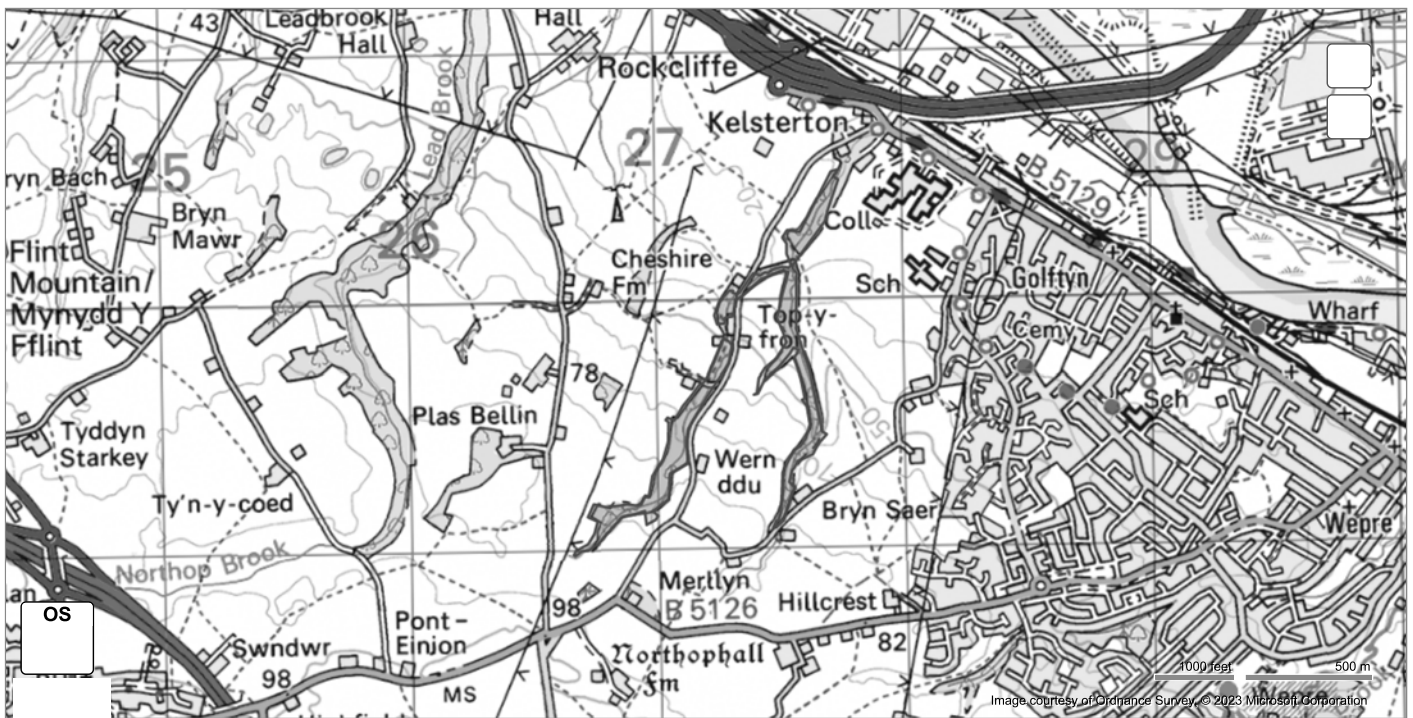




A Local Sites System for Wales

26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelserton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelserton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelserton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelserton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub



27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Northern Land Parcel

**Breeding, Passage and
Wintering Bird Surveys**

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Northern Land Parcel
Report Title:	Breeding, Passage and Wintering Bird Surveys
Project Number:	ECO-6322
File Reference:	6322 Birds North 2023 dv3 /ADB
Date:	10/07/2023

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This report may contain sensitive information relating to protected species. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Appendix 6322/3	Legislation Summary

Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.
- ii) **Survey.** Breeding, wintering and passage bird surveys were undertaken at the site from April 2022 to February 2023.
- iii) **Ecological Designations.** The site lies adjacent to the statutory designation River Dee Estuary (SPA, Ramsar and SAC). This is a vast site designated for its wintering and passage birds which extends substantially from the site's northern and western boundaries. Outside the site boundary, field F1 which falls within the SAC is described as a "nature reserve". This area contains several ponds that support wetland birds.
- iv) **Habitats.** The site comprises areas of rough pasture and improved grassland, scrub, ponds, tall ruderal vegetation, hardstanding, hedgerows and tree lines.
- v) **Survey Findings.** Two of the four Annex 1 species relevant to the SPA/Ramsar site were recorded in significant numbers in the estuary adjacent to the site. Of the qualifying migratory species, seven were recorded in the estuary in significant numbers: Redshank, Shelduck, Teal, Pintail, Oystercatcher, Dunlin and Black-tailed Godwit. Curlew, Knot and Grey Plover were present in relatively low numbers. All of these species were typically observed widespread within the estuary and none were recorded within the site. Teal, Pintail and Black-tailed Godwit were recorded within the nature reserve outside the site in significant numbers, all during the autumn.

The most significant breeding birds observed close to the site were a nesting pair of Avocet (nationally rare, Schedule 1) on the island in the largest water body within the nature reserve. Cetti's Warbler (Schedule 1) was also recorded breeding in this area. Other common wetland breeding birds were also present.

Species breeding in terrestrial habitats within the site and adjacent areas all remain common and widespread in both a local and national context.

1 Introduction

1.1 Background and Proposals

- 1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake a desk study and baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 270 716 (see Plan 6322/ECO1), hereafter referred to as 'the site'.
- 1.1.2 Breeding, Wintering and Passage bird surveys were undertaken at the site from April 2022 to February 2023.

1.2 Site Overview

- 1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north-east by the River Dee, beyond which extend large areas of open wetland associated with the River Dee Estuary. Connah's Quay Power Station is located immediately adjacent to the site's south-eastern boundary and a railway line and industrial development, with associated planting, forms the site's southern boundary.
- 1.2.2 The site itself comprises grassland fields with roads, treelines, hedgerows, along with areas of scrub and tall ruderal vegetation. Beyond the site, an adjacent field (**F1**) contains three ponds.
- 1.2.3 The site is located immediately south of the River Dee estuary where saltmarsh and grazing marsh extends to the north and east within the River Dee Special Protection Area (SPA) and Ramsar site.

1.3 Purpose of the Report

- 1.3.1 This report documents the methods and findings of the desk study and surveys of breeding, passage and wintering birds undertaken. The importance of the habitats and bird species present is evaluated.

2 Methodology

2.1 Data Search

2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.

2.1.2 Information on statutory designations was obtained from the MAGIC database¹, which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.

2.2 Bird Surveys

2.2.1 Monthly surveys were carried out from April 2022 until February 2023 in order to assess breeding bird activity (April to July), passage activity (April, May and July to November) and winter activity (November to February) at the site and adjacent areas. The times, tide state and weather conditions during all surveys are shown in Table 2.1 below.

Table 2.1. Tide and weather conditions during the bird surveys.

Survey Date	Time of Survey	Tide and Weather Conditions					
		High Tide (time, ht)	Tide State	Wind (direction, speed BF)	Temp (°C)	Cloud Cover (/8)	Rain
25/04/2022	05:00-09:00	07:28 (3.1m)	High	NE, 1	4	1/8	Dry
20/05/2022	09:30-15:20	15:16 (4.1m)	Rising/high	S, 2	15	7-8/8	Dry
12/06/2022	10:20-14:50	10:04 (4.1m)	High/Falling	SW, 3	16	6/8	Dry
25/07/2022	08:45-13:10	10:03 (3.1m)	High/Falling	SW, 3	16	8/8	Drizzle
15/08/2022	10:15-15:40	14:32 (4.5m)	Rising/high	SW, 1	18	8/8	Showers
06/09/2022	12:20-16:50	08:08 (3.0m)	Low	S, 3	21	3/8	Showers
10/10/2022	09:15-15:30	12:22 (4.7m)	High/Falling	NW, 4	13	4/8	Dry
07/11/2022	08:00-12:50	10:23 (4.4m)	High	SW, 3	12	8/8	Dry
15/12/2022	10:35-15:35	15:37 (3.2m)	Rising/high	N, 1	-2	0/8	Dry
24/01/2023	11:00-15:25	13:01 (5.1m)	High	No wind	2	8/8	Dry
21/02/2023	13:45-18:00	11:57 (5.2m)	Low	W, 3	10	6/8	Dry

BF = Beaufort Force: BFO = calm, BF12 = hurricane force

2.2.2 On each survey an experienced ornithologist walked a circuitous route around the site boundary recording the locations, numbers and activity of all birds present in (and around) the areas during this time.

¹ Multi-Agency Geographic Information for the Countryside (MAGIC), <https://magic.defra.gov.uk/>

- 2.2.3 Surveys revealed large numbers of birds using the River Dee estuary, with thousands of birds visible as far as the eye could see, as well as on saltmarsh on the far (north) side. Therefore, in order to make the surveys manageable and relevant to the sites, counts were limited to an area extending into this area to approximately 400-800m from the site boundary as shown on Plan 6322/ECO5. This area extended up to approximately 800m from the site boundary, but did not include the far bank of the River Dee. Counts of birds on the estuary and River Dee were primarily made from the hide at the north end of the site.
- 2.2.4 This methodology ensures that the vast majority of species that use the site would have been recorded over the course of the surveys, although some species that may use the site as part of a larger territory may potentially be overlooked, particularly nocturnal species such as owls.
- 2.2.5 To determine the breeding status of birds using the site, the following criteria were applied following the methodology used in the 'Atlas' surveys of 1988-1991 (Gibbons et al, 1993). This method accepts the following activities as denoting breeding (including those probably breeding although definite proof was lacking):
- Bird apparently holding territory, including courtship and display;
 - Nest-building (including excavating nest-hole);
 - Distraction display or feigning injury;
 - Adult carrying faecal sac or food;
 - Adult entering or leaving apparently occupied nest site;
 - Nest with eggs or eggshells found, or bird sitting but not disturbed; and
 - Nest with young; or downy/recently fledged young.
- 2.2.6 In order to ensure that robust data relating to the site and the River Dee estuary was obtained, most surveys were timed to coincide with high tide (to enable observation of high tide roosts of species using the SPA/Ramsar site when feeding areas are covered by water). During the course of all surveys, all states of tide were surveyed.

2.3 Ecological Evaluation Methodology

- 2.3.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)², which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

² CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

2.4 National Policy Approach to Biodiversity in the Planning System

2.4.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)³. This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.4.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

- *improving the resilience of ecosystems and ecological networks;*
- *halting and reversing the loss of biodiversity;*
- *maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;* amongst other measures.

2.4.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.4.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

- *support the conservation of biodiversity, in particular the conservation of wildlife and habitats;*
- *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;*
- *ensure statutorily and non-statutorily designated sites are properly protected and managed;*
- *safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*

³ Llywodraeth Cymru/Welsh Government (2021). 'Planning Policy Wales', Edition 11, February 2021.

- *secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'*

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.4.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'...development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'...planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.4.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019⁴, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.4.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.5 Local Policy

2.5.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.5.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

- a. Create new green infrastructure linkages from the proposed development to the existing local network;*

⁴ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

- b. *Fill in gaps in the existing network to improve connectivity.*

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.5.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

- a. *It can be demonstrated a coastal location is essential;*
- b. *It conserves and enhances the open character of the coast;*
- c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*
- d. *It would not harm existing or proposed recreational or active travel routes;*
- e. *Extensive coastal protection measures are not required; and*
- f. *It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.5.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

- a. *it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*
- b. *it can be demonstrated that the development cannot reasonably be located elsewhere; and*
- c. *any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.5.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

- a. *the development maximises their retention through sensitive design*
- b. *measures; and*
- c. *where the removal of trees is considered necessary, suitable replacements*
- d. *shall be provided elsewhere within the site; and*
- e. *it results in a net benefit in biodiversity.”*

2.5.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

“Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area’s special characteristics, and pay particular regard to:

- a. *important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*
- b. *the retention of historically significant boundaries or other elements that contribute to the established form of development;*
- c. *the relationship to existing buildings and spaces, and pattern of development;*
- d. *scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials.”*

3 The River Dee Estuary SPA/Ramsar Site

3.1.1 The Dee Estuary is “a large funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish swamp vegetation on the upper shore.”

3.1.2 The estuary “is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats, including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders” and in summer it “supports nationally important breeding colonies of two species of tern” and “is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.”

3.1.3 The SPA qualifies under article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the GB populations of the species listed in Annex 1 (see Table 3.1):

Table 3.1. SPA qualifying bird species (Article 4.1).

Annex 1 Species	Count and Season	% of GB Population
Bar-tailed godwit <i>Limosa lapponica</i>	1,150 individuals – wintering	2.2%
Common tern <i>Sterna hirundo</i>	392 pairs – breeding	3.2%
Little tern <i>Sternula albifrons</i>	69 pairs – breeding	2.9%
Sandwich tern <i>Thalassia sandvicensis</i>	957 individuals – autumn passage	2.3%

3.1.4 The SPA qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex 1) (see Table 3.2):

Table 3.2. SPA qualifying migratory bird species (Article 4.2).

Migratory Species	Count and Season	% of Population
Redshank <i>Tringa totanus</i>	8,795 individuals – passage	5.9% Eastern Atlantic (wintering)
Shelduck <i>Tadorna tadorna</i>	7,725 individuals – wintering	2.6% Northwestern Europe
Teal <i>Anas crecca</i>	5,251 individuals – wintering	1.3% Northwestern Europe
Pintail <i>Anas acuta</i>	5,407 individuals – wintering	9.0% Northwestern Europe
Oystercatcher <i>Haematopus ostralegus</i>	22,677 individuals – wintering	2.5% Europe & N/W Africa (wintering)
Grey plover <i>Pluvialis squatarola</i>	1,643 individuals – wintering	1.1% Eastern Atlantic (wintering)
Knot <i>Calidris canutus</i>	12,394 individuals – wintering	3.5% NE Can/Grl/Iceland/NW Eur
Dunlin <i>Calidris alpina</i>	27,769 individuals – wintering	2.0% N Siberia/Europe/W Africa
Black-tailed godwit <i>Limosa limosa islandica</i>	1,747 individuals – wintering	2.5% Iceland (breeding)
Curlew <i>Numenius arquata</i>	3,899 individuals – wintering	1.1% Europe (breeding)
Redshank <i>Tringa totanus</i>	5,293 individuals – wintering	3.5% Eastern Atlantic (wintering)

Assemblage Qualification

- 3.1.5 In addition, The Dee Estuary Ramsar site qualifies under article 4.2 of the Directive (79/409/EEC) as it is “used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season.”

4 Results

4.1 Legislation

4.1.1 All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 6322/3 for detailed provisions).

4.2 Conservation Status

4.2.1 The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status⁵. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

4.3 Survey Results

4.3.1 A total of 111 bird species were recorded during the surveys. The results are divided into "waterbirds" (54) and "landbirds" (57) in the tables that follow. "Waterbirds" include all species that are specifically associated with the estuary habitats, including all waterfowl, waders, gulls and terns. "Landbirds" include all species that are associated with terrestrial habitats.

4.3.2 The numbers of waterbirds recorded during each survey are shown in Table 4.1 below. These are subdivided into those present within the nature reserve and adjacent fields and those observed within the River Dee estuary. Habitats within the site itself are not suitable to support wetland birds.

Table 4.1: Numbers of each species of waterbird recorded during each survey. SPA/Ramsar qualifying species are shown in bold.

Species (and BTO species code)	RSPB listed	Nature Reserve											Dee Estuary SPA/Ramsar											
		A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F	
Canada goose (CG) <i>Branta canadensis</i>	Feral	17	62	60	20	100	62						318		90	270	26	300	68	210	1	2000	18	46
Greylag goose (GJ) <i>Anser anser</i>	Feral			2									5							3		6		1
Pink-footed goose (PG) <i>Anser brachyrhynchus</i>	Amber												1							102		600	150	
Mute swan (MS) <i>Cygnus olor</i>		3														1								13
Egyptian goose (EG) <i>Anser aegyptiaca</i>	Feral																			1		1		
Shelduck (SU) <i>Tadorna tadorna</i>	Amber	9	28	9										15	26	220	20	200	16	53	5	11	20	38

⁵ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) 'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man' British Birds 108, pp.708-746

Species (and BTO species code)	RSPB listed	Nature Reserve												Dee Estuary SPA/Ramsar											
		A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F		
Ruddy shelduck (UD) <i>Tadorna ferruginea</i>	Feral																			5					
Shoveler (SV) <i>Spatula clypeata</i>	Amber							1	3	200	15	4													
Gadwall (GA) <i>Mareca strepera</i>	Amber	14	2	3								2	7												
Wigeon (WN) <i>Mareca penelope</i>	Amber		2									7	4					7	13	1000	110	141			
Mallard (MA) <i>Anas platyrhynchos</i>	Amber	33	200	500	320	300	200	13	4			10	7		2	28	194	2	150		23	10	6	6	
Pintail (PT) <i>Anas acuta</i>	Amber						300														2			43	
Teal (T.) <i>Anas crecca</i>	Amber	3			6	100	100	2000	16	2	30	10	7				16	200	4000	900	1750	800	500		
Tufted duck (TU) <i>Aythya fuligula</i>		4	4	4	6		1		2		4	4													
Goosander (GD) <i>Mergus merganser</i>																							1	5	
Water rail (WA) <i>Rallus aquaticus</i>							1																		
Moorhen (MH) <i>Gallinula chloropus</i>	Amber	5	1	3	5	4	5	3	6	3	7	4													
Coot (CO) <i>Fulica atra</i>		8	11	16	50	10	3		2	13	12	7													
Little grebe (LG) <i>Tachybaptus ruficollis</i>		4	1	2	1	3	2				2	1	3												
Great crested grebe (GG) <i>Podiceps cristatus</i>														2				1	6	2	1	1			
Oystercatcher (OC) <i>Haematopus ostralegus</i>	Amber	2	2										1	5	80		14	500	13	350	170	4	500	10	
Avocet (AV) <i>Recurvirostra avosetta</i>	Sch.1	2	4													7							1		
Lapwing (L.) <i>Vanellus vanellus</i>	Red			1	26	15	170					2					42	25	33	40	1050	154	500		
Golden plover (GP) <i>Pluvialis apricaria</i>																					4				
Grey plover (GV) <i>Pluvialis squatarola</i>	Amber																				3	1			
Ringed plover (RP) <i>Charadrius hiaticula</i>	Red																		2						
Little ringed plover (LP) <i>Charadrius dubius</i>	Sch.1	2		1																					
Whimbrel (WM) <i>Numenius phaeopus</i>	Sch.1	1												1			1								
Curlew (CU) <i>Numenius arquata</i>	Red				17	2	15	18	13	4	42	24	4			17	5	100	26	9	10	20	12		
Bar-tailed godwit (BA) <i>Limosa lapponica</i>	Amber		1		1																			2	
Black-tailed godwit (BW) <i>Limosa limosa</i>	Sch.1		52	35	1000	500	400	4			2	15		110		172		200	500	213	2000	30	600	183	

Species (and BTO species code)	RSPB listed	Nature Reserve												Dee Estuary SPA/Ramsar											
		A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F		
Ruff (RU) <i>Calidris pugnax</i>	Sch.1						4																		
Knot (KN) <i>Calidris canutus</i>	Amber				2													12	18		50	51			
Dunlin (DN) <i>Calidris alpina</i>	Red				3					2						3	6	1050	2500	250	2000	800			
Curlew sandpiper (CV) <i>Calidris ferruginea</i>	Amber																	3							
Snipe (SN) <i>Gallinago gallinago</i>	Amber					2	2			1	2									4					
Common sandpiper (CS) <i>Actitis hypoleucos</i>	Amber	2																							
Redshank (RK) <i>Tringa totanus</i>	Amber									1	1			4		700	600	76	2500	33	10	10	58		
Spotted redshank (DR) <i>Tringa erythropus</i>	Amber						1											1	4	1					
Greenshank (GK) <i>Tringa nebularia</i>	Amber															1	2	3	1			1			
Black-headed gull (BH) <i>Chroicocephalus ridibundus</i>	Amber	150	150	140	20					120	30			200	50	100	200	300	125	17	27	100	100	105	
Little gull (LU) <i>Hydrocoleus minutus</i>	Sch.1	1																							
Common gull (CM) <i>Larus canus</i>	Amber									1	1									6	6	1	15		
Herring gull (HG) <i>Larus argentatus</i>	Red													1	6		6	100		67	12	100	2		
Great black-backed gull (GB) <i>Larus marinus</i>	Amber															2	7	3				3	2		
Lesser black-backed gull (LB) <i>Larus fuscus</i>	Amber													2	10	5	6	6	32	66	65	40	1	2	
Common tern (CN) <i>Sterna hirundo</i>	Amber														2	16	5	1							
Cormorant (CA) <i>Phalacrocorax carbo</i>																1	5	6	5	21	36	6	9	10	
Spoonbill (NB) <i>Platalea leucorodia</i>	Sch.1																	4							
Grey heron (H.) <i>Ardea cinerea</i>										6						2	5	3	2	4	2		3	1	
Little egret (ET) <i>Egretta garzetta</i>																1	26	18	1	11	6		1	5	
Great egret (HW) <i>Egretta alba</i>	Amber														1		2							1	
Kingfisher (KF) <i>Alcedo atthis</i>	Sch.1	1																		1	1				
Rock pipit (RC) <i>Anthus petrosus</i>																				1			2		

4.3.3 The survey results for landbirds are shown in Table 4.2 below. These include the estimated numbers of territories within the site, and the maxima for passage and winter periods. The distribution of breeding birds is shown in Plan 6322/ECO6.

Table 4.2: Systematic list of 'landbird' species recorded.

Species (and BTO species code)	RSPB listed	North site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Pheasant (PH) <i>Phasianus colchicus</i>	Feral	1		2	
Red-legged partridge (RL) <i>Alectopris rufa</i>	Feral		2		
Grey partridge (P.) <i>Perdix perdix</i>	Red		1		One in April.
Swift (SI) <i>Apus apus</i>	Red		20		Flying over.
Stock dove (SD) <i>Columba oenas</i>	Amber		8	2	
Wood Pigeon (WP) <i>Columba palumbus</i>	Amber	4	7	22	
Sparrowhawk (SH) <i>Accipiter nisus</i>	Amber		1	1	Flying over.
Marsh harrier (MR) <i>Circus aeruginosus</i>	Sch.1		1	2	
Buzzard (BZ) <i>Buteo buteo</i>			1	1	
Kestrel (K.) <i>Falco tinnunculus</i>	Amber		1		
Merlin (ML) <i>Falco columbarius</i>	Sch.1			1	One in December.
Peregrine (PE) <i>Falco peregrinus</i>	Sch.1			1	
Jay (J.) <i>Garrulus glandarius</i>			1		
Magpie (MG) <i>Pica pica</i>		2		30	
Jackdaw (JD) <i>Corvus monedula</i>			50	70	Foraging in fields.
Rook (RO) <i>Corvus frugilegus</i>	Amber		40	10	Foraging in fields.
Carrion crow (C.) <i>Corvus corone</i>		1		40	
Raven (RN) <i>Corvus corax</i>			2	2	
Coal tit (CT) <i>Periparus ater</i>		1			
Blue tit (BT) <i>Cyanistes caeruleus</i>		2		7	
Great tit (GT) <i>Parus major</i>		1		6	
Skylark (S.) <i>Alauda arvensis</i>	Red		1	8	Flying over.
Swallow (SL) <i>Hirundo rustica</i>	Amber		20		Flying over.
House martin (HM) <i>Delichon urbicum</i>	Amber		20		Flying over.
Cetti's warbler (CW) <i>Cettia cetti</i>	Sch.1	3		2	
Long-tailed tit (LT) <i>Aegithalos caudatus</i>			2	4	
Chiffchaff (CC) <i>Phylloscopus collybita</i>		5	4		
Willow warbler (WW) <i>Phylloscopus trochilus</i>	Amber	1			
Blackcap (BC) <i>Sylvia atricapilla</i>		2			

Species (and BTO species code)	RSPB listed	North site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Whitethroat (WH) <i>Curruca communis</i>	Amber	1			
Reed warbler (RW) <i>Acrocephalus scirpeus</i>		1+			In reedbeds.
Goldcrest (GC) <i>Regulus regulus</i>				1	
Wren (WR) <i>Troglodytes troglodytes</i>	Amber	4		3	
Starling (SG) <i>Sturnus vulgaris</i>	Red		150	1000	
Blackbird (B.) <i>Turdus merula</i>		5		13	
Song thrush (ST) <i>Turdus philomelos</i>	Amber	1		15	
Redwing (RE) <i>Turdus iliacus</i>	Sch.1			24	
Fieldfare (FF) <i>Turdus pilaris</i>	Sch.1			6	
Mistle thrush (M.) <i>Turdus viscivorus</i>	Red			1	
Robin (R.) <i>Erithacus rubecula</i>		6		11	
Stonechat (SC) <i>Saxicola rubicola</i>				1	
Whinchat (WC) <i>Saxicola rubetra</i>	Red		1		
Wheatear (W.) <i>Oenanthe oenanthe</i>	Amber		1		
Dunnock (D.) <i>Prunella modularis</i>	Amber	3		5	
Pied wagtail (PW) <i>Motacilla alba</i>			8	1	
Meadow pipit (MP) <i>Anthus pratensis</i>	Amber	1	6	1	
Chaffinch (CH) <i>Fringilla coelebs</i>				29	
Bullfinch (BF) <i>Pyrrhula pyrrhula</i>	Amber	1		3	
Greenfinch (GR) <i>Chloris chloris</i>	Red	2	6	2	
Linnet (LI) <i>Linaria cannabina</i>	Red	1	36	70	
Lesser redpoll (LR) <i>Acanthis cabaret</i>	Red		1		
Goldfinch (GO) <i>Carduelis carduelis</i>		3	43	2	
Siskin (SK) <i>Spinus spinus</i>			2		
Corn bunting (CB) <i>Emberiza calandra</i>	Red		1		One in May.
Reed bunting (RB) <i>E. schoeniclus</i>	Amber	1	4	2	

4.4 Evaluation

4.4.1 The surveys revealed very large numbers of birds using the Dee Estuary, with hundreds or indeed thousands of Canada Goose, Pink-footed Goose, Shelduck, Wigeon, Mallard, Teal, Oystercatcher, Lapwing, Black-tailed Godwit, Dunlin, Redshank and Black-headed Gull

recorded (and much greater numbers of many of these species beyond the limit of the survey area).

4.4.2 At low tide birds are spread out throughout all areas of intertidal mud, saltmarsh and grazing marsh. As the tide rises, it pushes the birds from the lower reaches towards the higher areas, where they can rest at sites known as 'high tide roosts'. This means large numbers of birds were observed moving downriver (east to west) past the site on the rising tide to roost in the grazing marsh further north-west or even further afield, notably on the highest tides.

4.4.3 Good numbers of birds also use the large pond within the nature reserve (including its island and shores), including hundreds (or thousands) of Canada Goose, Mallard, Teal, Pintail and Black-tailed Godwit, with numbers augmented at high tide by birds arriving from the estuary. Being freshwater, the lake attracts a variety of species that do not frequent the estuary, including Shoveler, Gadwall, Tufted Duck, Moorhen, Coot, Little Grebe and a range of migrant wader species.

4.4.4 Only relatively small numbers of birds from the estuary were recorded within grassland areas, with up to 170 Lapwing, 42 Curlew, 15 Black-tailed Godwit and a single Whimbrel.

Annex 1 Species

4.4.5 With no records of Little Tern or Sandwich Tern, only two of the four species listed in the SPA citation were recorded during the surveys. Single Bar-tailed Godwits were recorded amongst Black-tailed Godwits on the larger water body within the nature reserve in May and July, and two were recorded on the adjacent grazing marsh in February. Low numbers of Common Terns were observed flying up and downriver during the spring and summer. None of these Annex 1 species make use of the site itself.

Qualifying Migrant species

4.4.6 Of the ten species listed, seven were recorded in the estuary in significant numbers: Redshank, Shelduck, Teal, Pintail, Oystercatcher, Dunlin and Black-tailed Godwit. The remaining three species were recorded only in relatively small numbers: Curlew, Knot and Grey Plover. All of these species were typically spread throughout the estuary, and only three were recorded within the nature reserve in significant numbers, all during the autumn: Teal, Pintail and Black-tailed Godwit. None of these species make use of the site itself.

Nature Reserve

4.4.7 The largest pond within the nature reserve was found to support significant numbers of birds, including Teal, Black-tailed Godwit and, less regularly, Pintail (all recorded in the autumn), all of which are SPA/Ramsar qualifying species.

4.4.8 Low numbers of Curlew (up to 42) and Black-tailed Godwit (15) were present in the nature reserve and adjacent fields along with up to 170 Lapwing and a single Whimbrel.

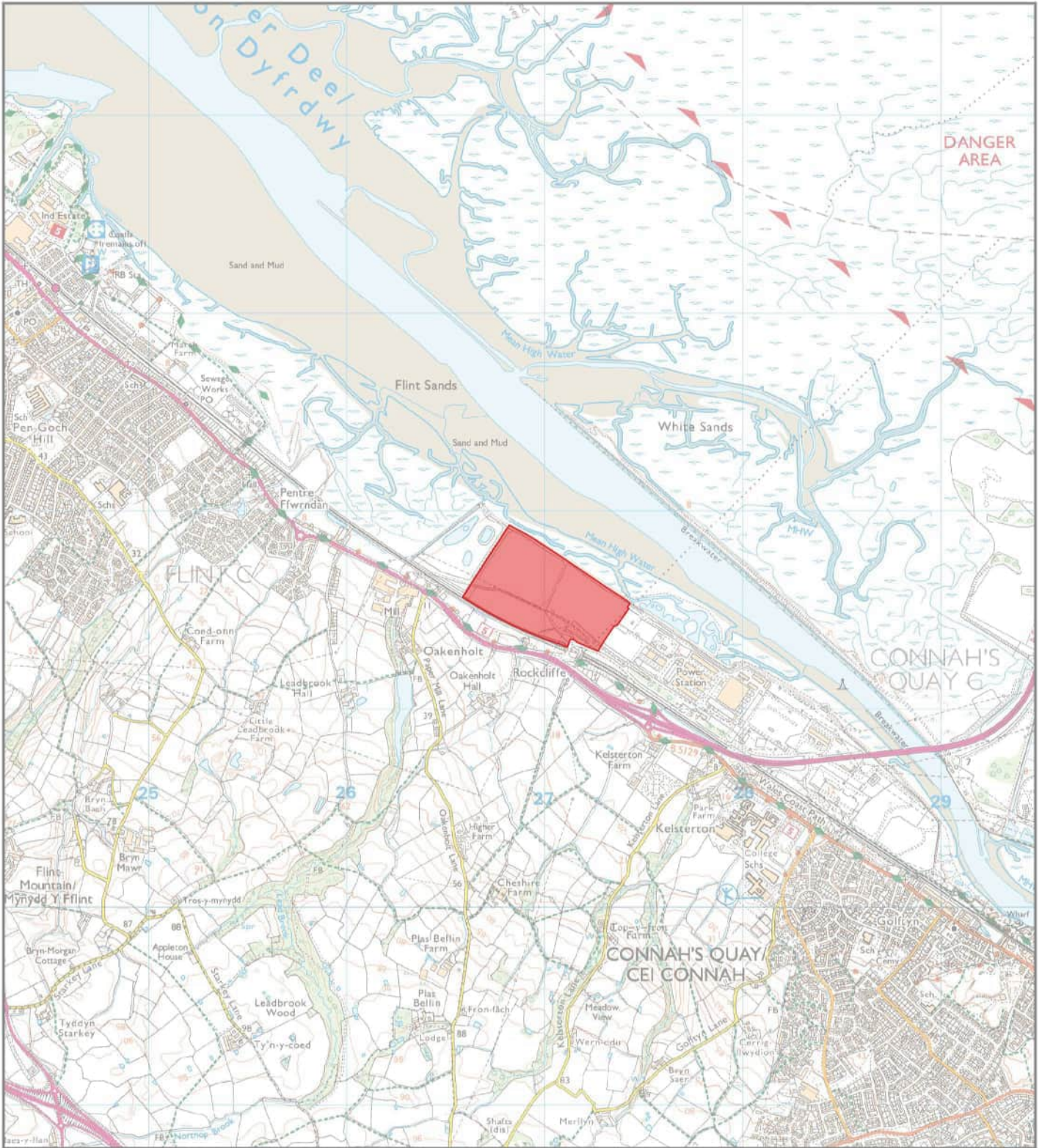
Breeding Birds

4.4.9 In terms of breeding species, most significant was a nesting pair of Avocet amongst the Black-headed Gull colony on the island in the largest water body within the nature reserve (see photos). Avocet is a nationally rare breeding species, protected under Schedule 1 of the 1981 Wildlife and Countryside Act.

- 4.4.10 Cetti's Warbler was also recorded breeding within in the nature reserve. This is a Schedule 1 species, but is much more common and widespread.
- 4.4.11 Other wetland breeding species were generally more common in the nature reserve, including Tufted Duck, Moorhen, Coot, Reed Warbler, Reed Bunting and possibly Little Grebe.
- 4.4.12 Species breeding in terrestrial habitats within the site included Wood Pigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock, Meadow Pipit, Bullfinch, Greenfinch and Linnet. All these species are included in the RSPB Red or Amber List having undergone major or moderate declines in their UK populations over 25 years. Nevertheless, they all remain common and widespread in both a local and national context, as are all remaining species breeding within the site.

Plan 6322/ECO1:

Site Location



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Key:

Site Location



Aspect Ecology Limited West Court Hardwick Business Park
 Noral Way Banbury Oxfordshire OX16 2AF
 01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Connah's Quay (North)

Site Location

6322/ECO1

B/JP

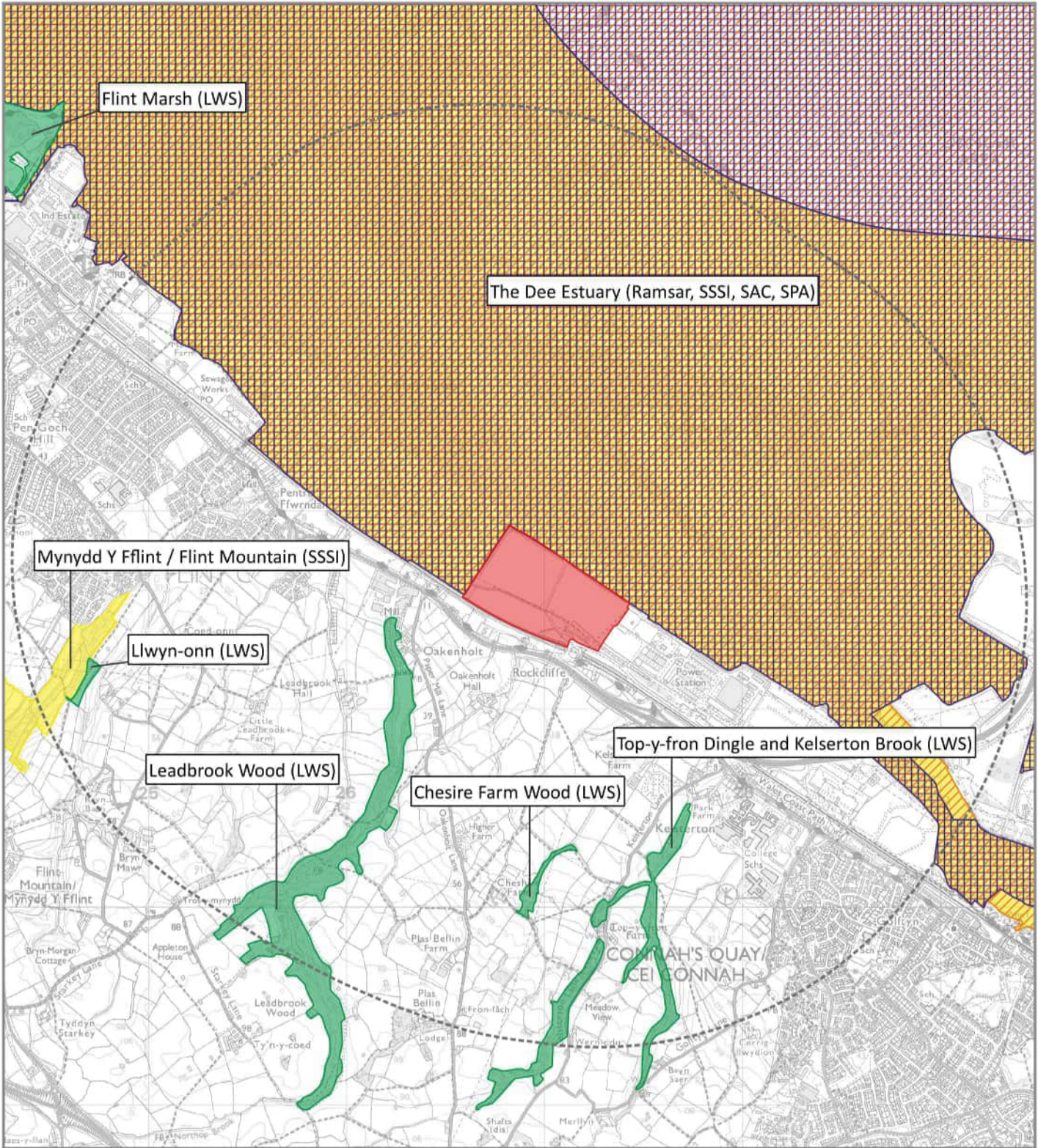
September 2023










PROJECT	Connah's Quay (North)
TITLE	Site Location
DRAWING NO.	6322/ECO1
REV	B/JP
DATE	September 2023

Plan 6322/ECO2:

Ecological Designations



Key:

-  Site Location
-  2km Study Area
-  Ramsar Site
-  Site of Special Scientific Interest (SSSI)
-  Special Area of Conservation (SAC)
-  Special Protection Area (SPA)
-  Local Wildlife Site (LWS)

aspect ecology

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Connah's Quay (North)

Ecological Designations

6322/ECO2

B/JP

September 2023



PROJECT	Connah's Quay (North)
TITLE	Ecological Designations
DRAWING NO.	6322/ECO2
REV	B/JP
DATE	September 2023

Plan 6322/ECO5:

Wintering and Passage Bird Surveys



Key:

- Site Boundary
- Survey Area



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Connah's Quay (North)

Extent of Wintering and
 Passage Bird Surveys

6322/EC05

B/JP

September 2023



PROJECT

TITLE

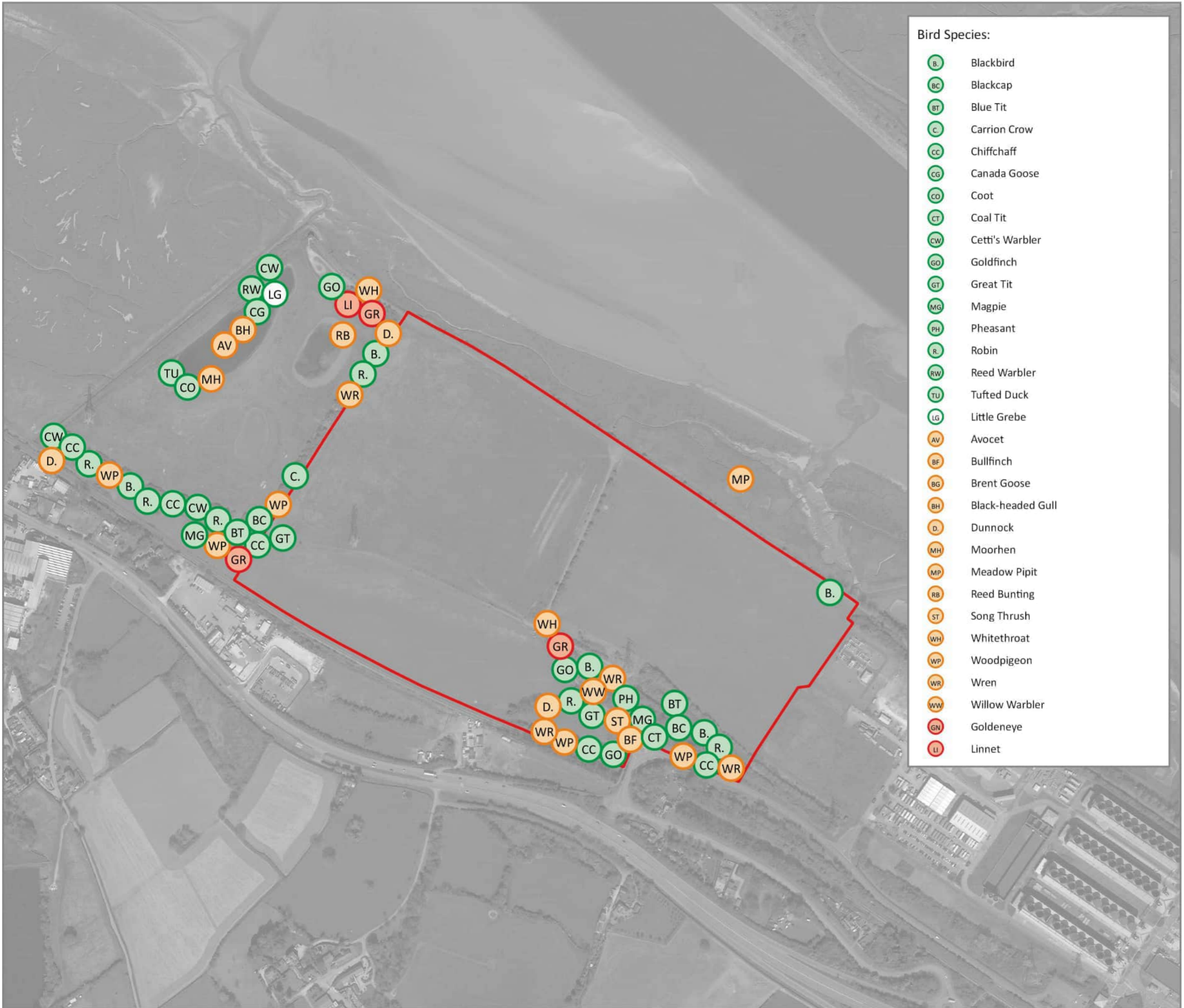
DRAWING
 NO.

REV

DATE

Plan 6322/ECO6:

Breeding Bird Surveys



Bird Species:

● B.	Blackbird
● BC	Blackcap
● BT	Blue Tit
● C.	Carrion Crow
● CC	Chiffchaff
● CG	Canada Goose
● CO	Coot
● CT	Coal Tit
● CW	Cetti's Warbler
● GO	Goldfinch
● GT	Great Tit
● MG	Magpie
● PH	Pheasant
● R.	Robin
● RW	Reed Warbler
● TU	Tufted Duck
● LG	Little Grebe
● AV	Avocet
● BF	Bullfinch
● BG	Brent Goose
● BH	Black-headed Gull
● D.	Dunnock
● MH	Moorhen
● MP	Meadow Pipit
● RB	Reed Bunting
● ST	Song Thrush
● WH	Whitethroat
● WP	Woodpigeon
● WR	Wren
● WW	Willow Warbler
● GN	Goldeneye
● LI	Linnet

Key:

□	Site Boundary
● (Red)	Breeding / Probable Breeding (BOCC Red List)
○ (Red)	Possible Breeding (BOCC Red List)
● (Orange)	Breeding / Probable Breeding (BOCC Amber List Species)
○ (Orange)	Possible Breeding (BOCC Amber List Species)
● (Green)	Breeding / Probable Breeding (BOCC Green List - Not Threatened)
○ (Green)	Possible Breeding (BOCC Green List - Not Threatened)

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Connah's Quay (North)	PROJECT
Breeding Bird Survey Results	TITLE
6322/ECO6	DRAWING NO.
B/BG	REV
September 2023	DATE



Photographs



Avocets (male, left, female on nest, right) with black-headed gulls in the nature reserve at Connah's Quay. Also, gadwall and little grebe in front and shelducks behind, 25th April 2022.



Adult avocet guarding two recently hatched chicks, Connah's Quay nature reserve, 20th May 2022.

Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:

The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit <i>Limosa lapponica</i>	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern <i>Sterna hirundo</i>	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern <i>Sterna albifrons</i>	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern <i>Sterna sandvicensis</i>	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	Count and Season	Period	% of population
Redshank <i>Tringa totanus</i>	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck <i>Tadorna tadorna</i>	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal <i>Anas crecca</i>	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail <i>Anas acuta</i>	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher <i>Haematopus ostralegus</i>	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover <i>Pluvialis squatarola</i>	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot <i>Calidris canutus islandica</i>	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin <i>Calidris alpina</i>	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit <i>Limosa limosa islandica</i>	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew <i>Numenius arquata</i>	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank <i>Tringa totanus</i>	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification

The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:

The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011



With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

- A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
 - A052 *Anas crecca*; Eurasian teal (Non-breeding)
 - A054 *Anas acuta*; Northern pintail (Non-breeding)
 - A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
 - A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
 - A143 *Calidris canutus*; Red knot (Non-breeding)
 - A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
 - A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
 - A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
 - A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
 - A162 *Tringa totanus*; Common redshank (Non-breeding)
 - A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
 - A193 *Sterna hirundo*; Common tern (Breeding)
 - A195 *Sterna albifrons*; Little tern (Breeding)
- Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of [Natural Resources Wales](#) should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via [GOV.UK](#).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.


These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.



 Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Region, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)



Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
Species occurrence description not yet available.
- **1310 Salicornia and other annuals colonizing mud and sand**

The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**

The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- 1130 Estuaries
- 1210 Annual vegetation of drift lines
- 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts
- 2110 Embryonic shifting dunes
- 2120 "Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")"
- 2130 "Fixed coastal dunes with herbaceous vegetation ("grey dunes")" * Priority feature
- 2190 Humid dune slacks

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- 1095 Sea lamprey *Petromyzon marinus*
- 1099 River lamprey *Lampetra fluviatilis*
- 1395 Petalwort *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE

MYNYDD Y FFLINT/FLINT MOUNTAIN

<u>Date of Notification:</u>	19 May 2011
<u>National Grid Reference:</u>	SJ 243709
<u>OS Maps:</u>	1:50,000 Sheet number: 116 1:10,000 Sheet number: SJ27SW
<u>Site Area:</u>	25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamiastrum galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustre*. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

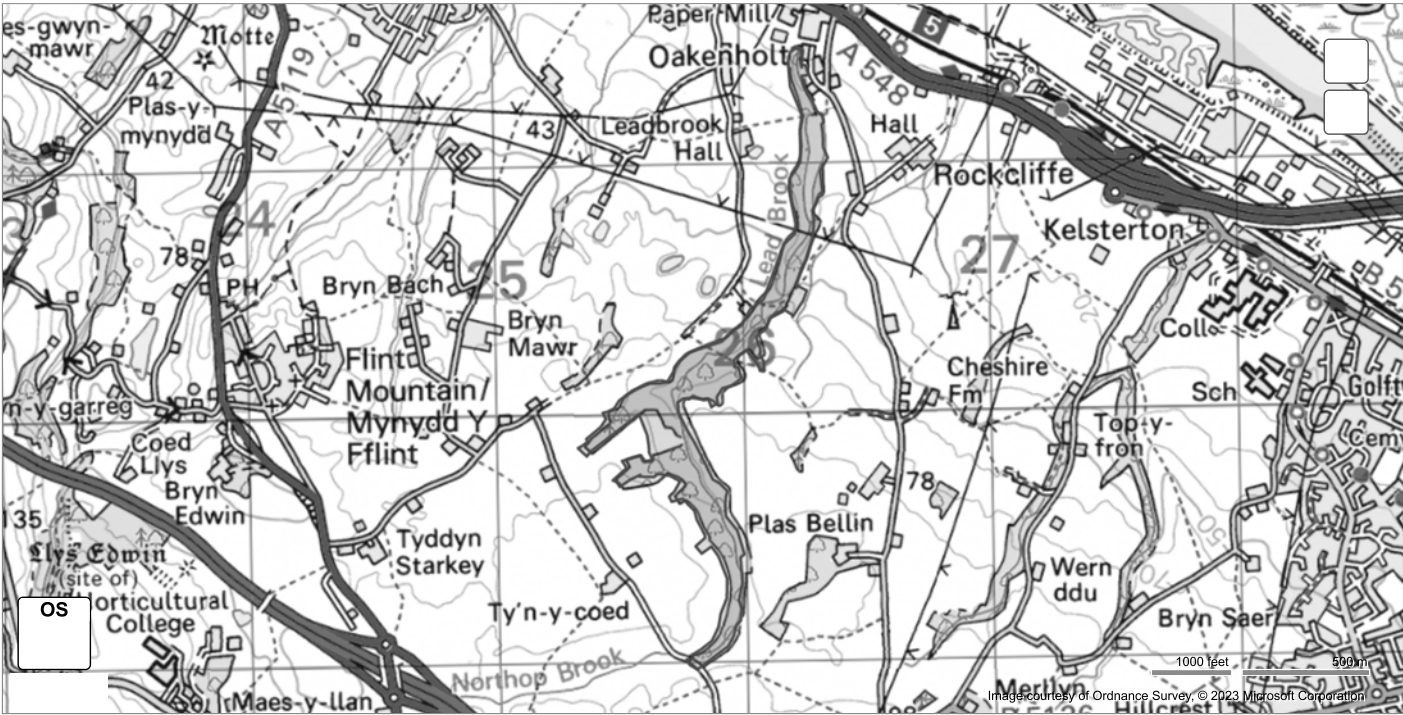
The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

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26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub



26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelserton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelserton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelserton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelserton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub





A Local Sites System for Wales

27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Southern Land Parcel

**Breeding, Passage and
Wintering Bird Surveys**

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Southern Land Parcel
Report Title:	Breeding, Passage and Wintering Bird Surveys
Project Number:	ECO-6322
File Reference:	6322 Birds South 2023 dv2 /ADB
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Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.
- ii) **Survey.** Breeding, wintering and passage bird surveys were undertaken at the site from April 2022 to February 2023.
- iii) **Ecological Designations.** The site lies immediately adjacent to the statutory designation Dee Estuary (SPA, Ramsar and SAC). This is a vast site designated for its wintering and passage birds which extends substantially from the site's northern and eastern boundaries.
- iv) **Habitats.** The site comprises areas of rough pasture, bare ground and scrub which provide suitable habitat for a range of breeding bird species. There are no habitats within the site that are suitable to support wetland bird species.
- v) **Survey Findings.** None of the Annex 1 species relevant to the SPA/Ramsar site were recorded during surveys of the estuary adjacent to the site. Of the qualifying migratory species, Redshank was the only one recorded in the estuary in significant numbers. Shelduck, Teal, Oystercatcher, Curlew and Dunlin were present in relatively low numbers. All of these species were typically observed widespread within the estuary and none were recorded within the site, which is unsuitable to support wetland bird species.

The site itself supports no habitats suitable for wetland species. Even habitat for terrestrial species is limited, with breeding species including very low numbers of Woodpigeon, Wren, Dunnock, Greenfinch and possibly Willow Warbler, all Red or Amber List species that remain very common and widespread both locally and nationally.

In early 2023 the site was largely cleared of scrub and trees. As a result, very little suitable breeding bird habitat remains present within this area.

1 Introduction

1.1 Background and Proposals

- 1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake a desk study and baseline ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 288 703 (see Plan 6322/ECO1), hereafter referred to as 'the site'.
- 1.1.2 Breeding, Wintering and Passage bird surveys were undertaken at the site from April 2022 to February 2023.

1.2 Site Overview

- 1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north and east by the River Dee. Connah's Quay Power Station is located immediately adjacent to the site's western boundary and a railway line defines the site's southern site boundary. The town of Connah's Quay extends to the south. The Deeside Industrial Park is present to the north and east across the River Dee.
- 1.2.2 The site itself comprises hard standing and disturbed land which has been recently cleared of scrub, grassland, and small patches of scrub and tall ruderal vegetation.
- 1.2.3 The site is located immediately south and east of the River Dee estuary where saltmarsh and grazing marsh extends to the north and west around industrial development within the River Dee Special Protection Area (SPA) and Ramsar site.

1.3 Purpose of the Report

- 1.3.1 This report documents the methods and findings of the desk study and surveys of breeding, passage and wintering birds undertaken. The importance of the habitats and bird species present is evaluated.

2 Methodology

2.1 Data Search

2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.

2.1.2 Information on statutory designations was obtained from the MAGIC database¹, which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.

2.2 Bird Surveys

2.2.1 Monthly surveys were carried out from April 2022 until February 2023 in order to assess breeding bird activity (April to July), passage activity (April, May and July to November) and winter activity (November to February) at the site and adjacent areas. The times, tide state and weather conditions during all surveys are shown in Table 2.1 below.

Table 2.1. Tide and weather conditions during the bird surveys.

Survey Date	Time of Survey	Tide and Weather Conditions					
		High Tide (time, ht)	Tide State	Wind (direction, speed BF)	Temp (°C)	Cloud Cover (/8)	Rain
25/04/2022	05:00-09:00	07:28 (3.1m)	High	NE, 1	4	1/8	Dry
20/05/2022	09:30-15:20	15:16 (4.1m)	Rising/high	S, 2	15	7-8/8	Dry
12/06/2022	10:20-14:50	10:04 (4.1m)	High/Falling	SW, 3	16	6/8	Dry
25/07/2022	08:45-13:10	10:03 (3.1m)	High/Falling	SW, 3	16	8/8	Drizzle
15/08/2022	10:15-15:40	14:32 (4.5m)	Rising/high	SW, 1	18	8/8	Showers
06/09/2022	12:20-16:50	08:08 (3.0m)	Low	S, 3	21	3/8	Showers
10/10/2022	09:15-15:30	12:22 (4.7m)	High/Falling	NW, 4	13	4/8	Dry
07/11/2022	08:00-12:50	10:23 (4.4m)	High	SW, 3	12	8/8	Dry
15/12/2022	10:35-15:35	15:37 (3.2m)	Rising/high	N, 1	-2	0/8	Dry
24/01/2023	11:00-15:25	13:01 (5.1m)	High	No wind	2	8/8	Dry
21/02/2023	13:45-18:00	11:57 (5.2m)	Low	W, 3	10	6/8	Dry

BF = Beaufort Force: BFO = calm, BF12 = hurricane force

2.2.2 On each survey an experienced ornithologist walked a circuitous route around the site boundary recording the locations, numbers and activity of all birds present in (and around) the areas during this time.

¹ Multi-Agency Geographic Information for the Countryside (MAGIC), <https://magic.defra.gov.uk/>

- 2.2.3 Surveys revealed large numbers of birds using the River Dee estuary, predominately at distance from the site. Therefore, in order to make the surveys manageable and relevant to the sites, counts were limited to an area extending into this area to approximately 500m from the site boundary as shown on Plan 6322/ECO5. This area did not include the far bank of the River Dee. Counts of birds on the estuary and River Dee were primarily made from a viewpoint south of the site.
- 2.2.4 This methodology ensures that the vast majority of species that use the site would have been recorded over the course of the surveys, although some species that may use the site as part of a larger territory may potentially be overlooked, particularly nocturnal species such as owls.
- 2.2.5 To determine the breeding status of birds using the site, the following criteria were applied following the methodology used in the 'Atlas' surveys of 1988-1991 (Gibbons et al, 1993). This method accepts the following activities as denoting breeding (including those probably breeding although definite proof was lacking):
- Bird apparently holding territory, including courtship and display;
 - Nest-building (including excavating nest-hole);
 - Distraction display or feigning injury;
 - Adult carrying faecal sac or food;
 - Adult entering or leaving apparently occupied nest site;
 - Nest with eggs or eggshells found, or bird sitting but not disturbed; and
 - Nest with young; or downy/recently fledged young.
- 2.2.6 In order to ensure that robust data relating to the site and the River Dee estuary was obtained, most surveys were timed to coincide with high tide (to enable observation of high tide roosts of species using the SPA/Ramsar site when feeding areas are covered by water). During the course of all surveys, all states of tide were surveyed.

2.3 Ecological Evaluation Methodology

- 2.3.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)², which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.4 National Policy Approach to Biodiversity in the Planning System

- 2.4.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)³. This describes policies designed to maximise environmental protection and limit environmental impact

² CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

³ Llywodraeth Cymru/Welsh Government (2021). 'Planning Policy Wales', Edition 11, February 2021.

including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.4.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

- *improving the resilience of ecosystems and ecological networks;*
- *halting and reversing the loss of biodiversity;*
- *maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;* amongst other measures.

2.4.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.4.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

- *support the conservation of biodiversity, in particular the conservation of wildlife and habitats;*
- *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;*
- *ensure statutorily and non-statutorily designated sites are properly protected and managed;*
- *safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*
- *secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'*

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.4.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'...development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'...planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.4.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019⁴, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.4.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.5 Local Policy

2.5.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.5.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

- a. *Create new green infrastructure linkages from the proposed development to the existing local network;*
- b. *Fill in gaps in the existing network to improve connectivity.*

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.5.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

⁴ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

- a. *It can be demonstrated a coastal location is essential;*
- b. *It conserves and enhances the open character of the coast;*
- c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*
- d. *It would not harm existing or proposed recreational or active travel routes;*
- e. *Extensive coastal protection measures are not required; and*
- f. *It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.5.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

- a. *it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*
- b. *it can be demonstrated that the development cannot reasonably be located elsewhere; and*
- c. *any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.5.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

- a. *the development maximises their retention through sensitive design*
- b. *measures; and*
- c. *where the removal of trees is considered necessary, suitable replacements*
- d. *shall be provided elsewhere within the site; and*

- e. *it results in a net benefit in biodiversity.”*

2.5.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

“Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area’s special characteristics, and pay particular regard to:

- a. *important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*
- b. *the retention of historically significant boundaries or other elements that contribute to the established form of development;*
- c. *the relationship to existing buildings and spaces, and pattern of development;*
- d. *scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials.”*

3 The River Dee Estuary SPA/Ramsar Site

- 3.1.1 The Dee Estuary is “a large funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish swamp vegetation on the upper shore.”
- 3.1.2 The estuary “is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats, including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders” and in summer it “supports nationally important breeding colonies of two species of tern” and “is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.”
- 3.1.3 The SPA qualifies under article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the GB populations of the species listed in Annex 1 (see Table 3.1):

Table 3.1. SPA qualifying bird species (Article 4.1).

Annex 1 Species	Count and Season	% of GB Population
Bar-tailed godwit <i>Limosa lapponica</i>	1,150 individuals – wintering	2.2%
Common tern <i>Sterna hirundo</i>	392 pairs – breeding	3.2%
Little tern <i>Sternula albifrons</i>	69 pairs – breeding	2.9%
Sandwich tern <i>Thalassia sandvicensis</i>	957 individuals – autumn passage	2.3%

- 3.1.4 The SPA qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex 1) (see Table 3.2):

Table 3.2. SPA qualifying migratory bird species (Article 4.2).

Migratory Species	Count and Season	% of Population
Redshank <i>Tringa totanus</i>	8,795 individuals – passage	5.9% Eastern Atlantic (wintering)
Shelduck <i>Tadorna tadorna</i>	7,725 individuals – wintering	2.6% Northwestern Europe
Teal <i>Anas crecca</i>	5,251 individuals – wintering	1.3% Northwestern Europe
Pintail <i>Anas acuta</i>	5,407 individuals – wintering	9.0% Northwestern Europe
Oystercatcher <i>Haematopus ostralegus</i>	22,677 individuals – wintering	2.5% Europe & N/W Africa (wintering)
Grey plover <i>Pluvialis squatarola</i>	1,643 individuals – wintering	1.1% Eastern Atlantic (wintering)
Knot <i>Calidris canutus</i>	12,394 individuals – wintering	3.5% NE Can/Grl/Iceland/NW Eur
Dunlin <i>Calidris alpina</i>	27,769 individuals – wintering	2.0% N Siberia/Europe/W Africa
Black-tailed godwit <i>Limosa limosa islandica</i>	1,747 individuals – wintering	2.5% Iceland (breeding)
Curlew <i>Numenius arquata</i>	3,899 individuals – wintering	1.1% Europe (breeding)
Redshank <i>Tringa totanus</i>	5,293 individuals – wintering	3.5% Eastern Atlantic (wintering)

Assemblage Qualification

- 3.1.5 In addition, The Dee Estuary Ramsar site qualifies under article 4.2 of the Directive (79/409/EEC) as it is “used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season.”

4 Results

4.1 Legislation

4.1.1 All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 6322/3 for detailed provisions).

4.2 Conservation Status

4.2.1 The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status⁵. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

4.3 Survey Results

4.3.1 A total of 56 bird species were recorded during the surveys. The results are divided into "waterbirds" (27) and "landbirds" (29) in the tables that follow. "Waterbirds" include all species that are specifically associated with the estuary habitats, including all waterfowl, waders, gulls and terns. "Landbirds" include all species that are associated with terrestrial habitats.

4.3.2 The numbers of waterbirds recorded during each survey are shown in Table 4.1 below. These are limited to those observed within the River Dee estuary. The site itself contains no habitat to support any waterbird species.

Table 4.1: Numbers of each species of waterbird recorded during each survey. SPA/Ramsar qualifying species are shown in bold.

Species (and BTO species code)	RSPB listed	River Dee adjacent to the site											
		A	M	J	J	A	S	O	N	D	J	F	
Canada goose (CG) <i>Branta canadensis</i>	Feral		2	30		6	1	89		46		9	
Greylag goose (GJ) <i>Anser anser</i>	Feral							1					
Shelduck (SU) <i>Tadorna tadorna</i>	Amber	3	2										
Gadwall (GA) <i>Mareca strepera</i>	Amber	2											
Wigeon (WN) <i>Mareca penelope</i>	Amber	1											
Mallard (MA) <i>Anas platyrhynchos</i>	Amber	4	1			3	2	23	43	45	10	11	
Teal (T.) <i>Anas crecca</i>	Amber					3		8		27	5	4	
Goosander (GD) # <i>Mergus merganser</i>										2		1	

⁵ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) 'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man' British Birds 108, pp.708-746

Species (and BTO species code)	RSPB listed	River Dee adjacent to the site											
		A	M	J	J	A	S	O	N	D	J	F	
Little grebe (LG) <i>Tachybaptus ruficollis</i>								2		4	2		
Oystercatcher (OC) <i>Haematopus ostralegus</i>	Amber	2	10	1	1							1	
Lapwing (L.) <i>Vanellus vanellus</i>	Red			2	11	2	25			15			
Curlew (CU) <i>Numenius arquata</i>	Red							1					
Dunlin (DN) <i>Calidris alpina</i>	Red					4	2			4			
Common sandpiper (CS) <i>Actitis hypoleucos</i>	Amber					2		1	4			1	
Redshank (RK) <i>Tringa totanus</i>	Amber				26	700	18	5	1	12	5	10	
Greenshank (GK) <i>Tringa nebularia</i>	Amber					1		1	1	1		1	
Black-headed gull (BH) <i>Chroicocephalus ridibundus</i>	Amber	42	15		30	50	26	13	42	80	54	67	
Mediterranean gull (MU) <i>Larus melanocephalus</i>	Amber	2											
Common gull (CM) <i>Larus canus</i>	Amber									10	2	3	
Herring gull (HG) <i>Larus argentatus</i>	Red	10	40	10	35	10	26		13	75	14	9	
Great black-backed gull (GB) <i>Larus marinus</i>	Amber					1	1	1	2	2		2	
Lesser black-backed gull (LB) <i>Larus fuscus</i>	Amber	4	2	6	6	2	10		4	15	1		
Common tern (CN) <i>Sterna hirundo</i>	Amber	1		1	1								
Cormorant (CA) <i>Phalacrocorax carbo</i>		1		2	4	3	1	4	32	16	1		
Grey heron (H.) <i>Ardea cinerea</i>						1		2	1	1	3		
Little egret (ET) <i>Egretta garzetta</i>			1		12	11	7	3	3	1	2	1	
Great egret (HW) <i>Egretta alba</i>	Amber										1		

4.3.3 The survey results for landbirds are shown in Table 4.2 below. These include the estimated numbers of territories within the site, and the maxima for passage and winter periods. The distribution of breeding birds is shown in Plan 6322/ECO6.

Table 4.2: Systematic list of 'landbird' species recorded.

Species (and BTO species code)	RSPB listed	South site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Woodpigeon (WP) <i>Columba palumbus</i>	Amber	1		2	
Collared dove (CD) <i>Streptopelia decaocto</i>			2	2	
Sparrowhawk (SH) <i>Accipiter nisus</i>	Amber		1		Flying over.
Magpie (MG) <i>Pica pica</i>		1		6	
Carrion crow (C.) <i>Corvus corone</i>		1		4	

Species (and BTO species code)	RSPB listed	South site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Blue tit (BT) <i>Cyanistes caeruleus</i>				8	
Great tit (GT) <i>Parus major</i>				5	
House martin (HM) <i>Delichon urbicum</i>	Amber		1		Flying over.
Long-tailed tit (LT) <i>Aegithalos caudatus</i>				7	
Chiffchaff (CC) <i>Phylloscopus collybita</i>		1			
Willow warbler (WW) <i>Phylloscopus trochilus</i>	Amber	0-1			
Blackcap (BC) <i>Sylvia atricapilla</i>		1			
Goldcrest (GC) <i>Regulus regulus</i>				1	
Wren (WR) <i>Troglodytes troglodytes</i>	Amber	2		2	
Starling (SG) <i>Sturnus vulgaris</i>	Red		40	40	
Blackbird (B.) <i>Turdus merula</i>		2		5	
Song thrush (ST) <i>Turdus philomelos</i>	Amber			8	
Redwing (RE) <i>Turdus iliacus</i>	Sch.1			7	
Fieldfare (FF) <i>Turdus pilaris</i>	Sch.1			4	
Mistle thrush (M.) <i>Turdus viscivorus</i>	Red		3	1	
Robin (R.) <i>Erithacus rubecula</i>		3		5	
House sparrow (HS) <i>Passer domesticus</i>	Red			20	From housing.
Dunnock (D.) <i>Prunella modularis</i>	Amber	3		1	
Pied wagtail (PW) <i>Motacilla alba</i>			1	1	
Meadow pipit (MP) <i>Anthus pratensis</i>	Amber			11	
Chaffinch (CH) <i>Fringilla coelebs</i>				100	
Greenfinch (GR) <i>Chloris chloris</i>	Red	1		1	
Goldfinch (GO) <i>Carduelis carduelis</i>		4		4	
Reed bunting (RB) <i>Emberiza schoeniclus</i>	Amber			1	

4.4 Evaluation

- 4.4.1 The surveys revealed relatively few numbers of birds using the Dee Estuary adjacent to the site, although there is a regular gathering of ducks, waders and gulls on the far bank, which occasionally holds higher numbers at high tide (for example, 700 Redshank in August). Significantly larger numbers of bird occur beyond the limit of the survey area.

4.4.2 At low tide birds are widely spread out throughout all areas of intertidal mud, saltmarsh and grazing marsh. As the tide rises, it pushes the birds from the lower reaches towards the higher areas, where they can rest at sites known as 'high tide roosts'. This means that birds were observed moving downriver (east to west) past the site on the rising tide to roost in the grazing marsh further north-west or even further afield, notably on the highest tides.

4.4.3 There are no habitats suitable for any of these wetland species within the site itself.

Annex 1 Species

4.4.4 None of the four species listed in the SPA citation were recorded during the surveys. Low numbers of Common Terns were observed flying up and downriver during the spring and summer. In summary, no Annex 1 species make significant use of the site.

Qualifying Migrant species

4.4.5 Of the ten species listed, Redshank was the only one recorded in the estuary in significant numbers. Shelduck, Teal, Oystercatcher, Curlew and Dunlin were recorded only in relatively small numbers. All of these species were typically observed widespread within the estuary and none were recorded within the sit, which is unsuitable to support wetland bird species.

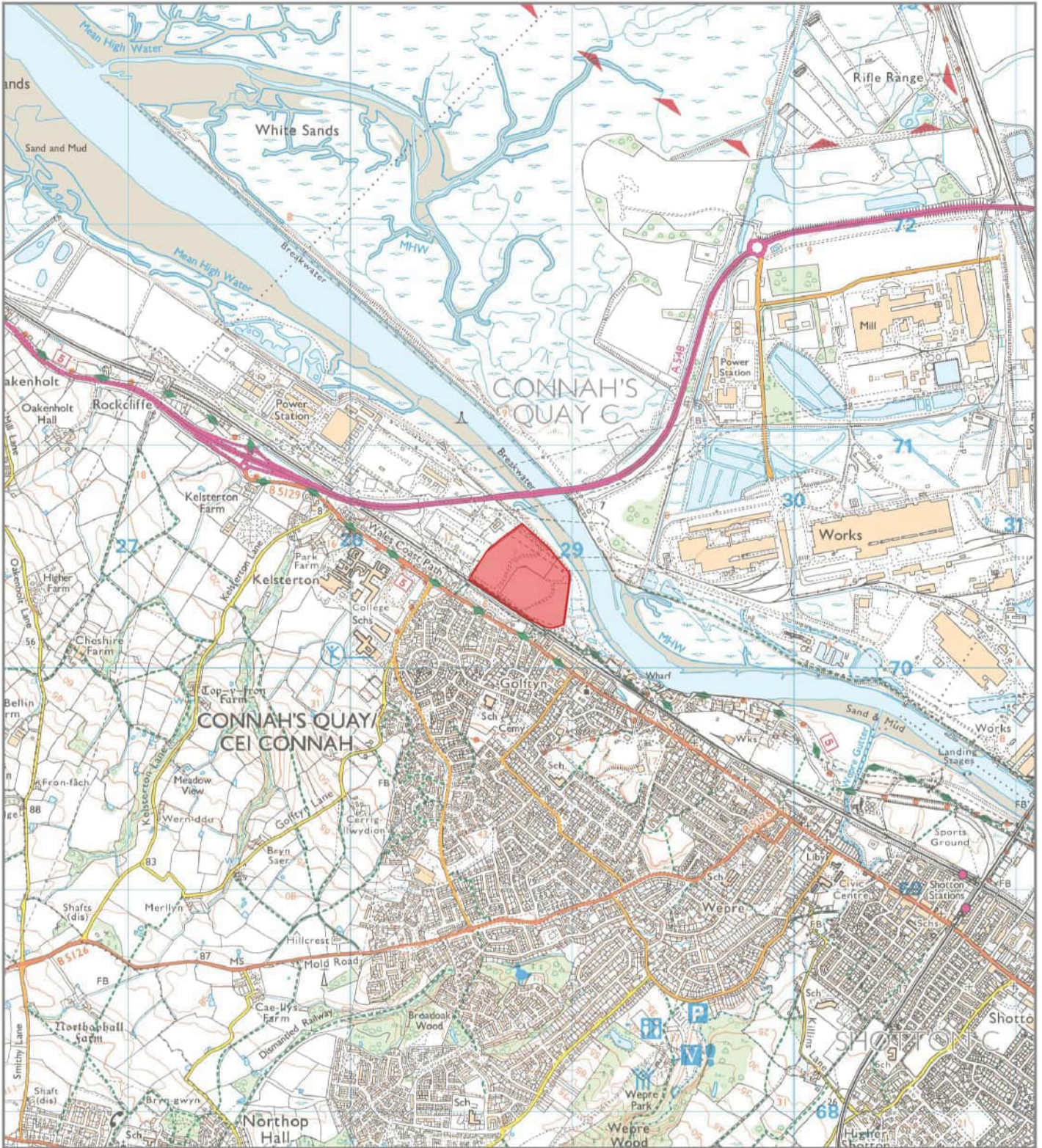
The Site

4.4.6 The site itself supports no habitats suitable for wetland species. Even habitat for terrestrial species is limited, with breeding species including very low numbers of Woodpigeon, Wren, Dunnock, Greenfinch and possibly Willow Warbler, all Red or Amber List species that remain very common and widespread both locally and nationally.

4.4.7 In early 2023 the site was largely cleared of scrub and trees. As a result, very little suitable breeding bird habitat remains present within this area.

Plan 6322/ECO1:

Site Location



Key:

 Site Location



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Connah's Quay (South)

Site Location

6322/ECO1

A/BG

April 2023

PROJECT

TITLE

DRAWING NO.

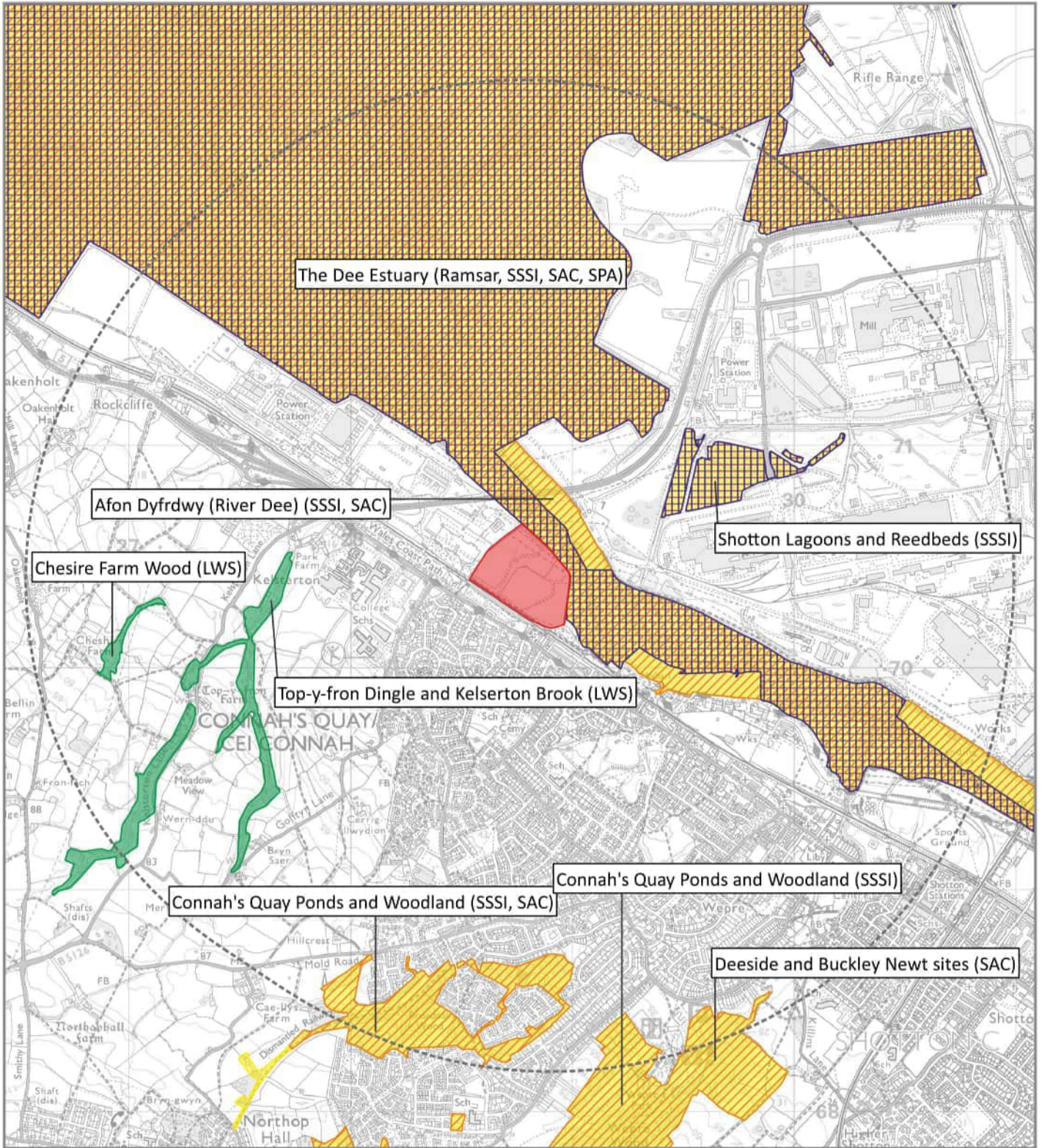
REV

DATE










Plan 6322/ECO2:

Ecological Designations



Key:

-  Site Location
-  2km Study Area
-  Ramsar Site
-  Special Protection Area (SPA)
-  Special Area of Conservation (SAC)
-  Site of Special Scientific Interest (SSSI)
-  Local Wildlife Site (LWS)



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Connah's Quay (South)

Ecological Designations

6322/ECO2

A/BG

April 2023



PROJECT
 TITLE
 DRAWING NO.
 REV
 DATE

Plan 6322/ECO5:

Wintering and Passage Bird Surveys



Key:

- Site Boundary
- Survey Area



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Connah's Quay (South)

Extent of Wintering and Passage Bird Surveys

6322/EC05

A/BG

April 2023



PROJECT
TITLE
DRAWING NO.
REV
DATE

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Plan 6322/ECO6:

Breeding Bird Surveys



- Bird Species:**
- B. Blackbird
 - BC Blackcap
 - C. Carrion Crow
 - CC Chiffchaff
 - GO Goldfinch
 - R. Robin
 - D. Dunnock
 - GA Gadwall
 - WN Whitethroat
 - WP Woodpigeon
 - WR Wren
 - WW Willow Warbler
 - GR Greenfinch

- Key:**
- Site Boundary
 - Breeding / Probable Breeding (BOCC Red List)
 - Possible Breeding (BOCC Red List)
 - Breeding / Probable Breeding (BOCC Amber List Species)
 - Possible Breeding (BOCC Amber List Species)
 - Breeding / Probable Breeding (BOCC Green List - Not Threatened)
 - Possible Breeding (BOCC Green List - Not Threatened)

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Connah's Quay (South)	PROJECT
Breeding Bird Survey	TITLE
6322/ECO6	DRAWING NO.
A/BG	REV
April 2023	DATE



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Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:

The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit <i>Limosa lapponica</i>	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern <i>Sterna hirundo</i>	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern <i>Sterna albifrons</i>	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern <i>Sterna sandvicensis</i>	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	Count and Season	Period	% of population
Redshank <i>Tringa totanus</i>	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck <i>Tadorna tadorna</i>	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal <i>Anas crecca</i>	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail <i>Anas acuta</i>	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher <i>Haematopus ostralegus</i>	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover <i>Pluvialis squatarola</i>	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot <i>Calidris canutus islandica</i>	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin <i>Calidris alpina</i>	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit <i>Limosa limosa islandica</i>	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew <i>Numenius arquata</i>	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank <i>Tringa totanus</i>	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification

The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:

The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011



With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

- A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
 - A052 *Anas crecca*; Eurasian teal (Non-breeding)
 - A054 *Anas acuta*; Northern pintail (Non-breeding)
 - A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
 - A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
 - A143 *Calidris canutus*; Red knot (Non-breeding)
 - A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
 - A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
 - A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
 - A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
 - A162 *Tringa totanus*; Common redshank (Non-breeding)
 - A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
 - A193 *Sterna hirundo*; Common tern (Breeding)
 - A195 *Sterna albifrons*; Little tern (Breeding)
- Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of [Natural Resources Wales](#) should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via [GOV.UK](#).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.



☰ Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

● Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Region, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)



Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
Species occurrence description not yet available.
- **1310 Salicornia and other annuals colonizing mud and sand**

The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**

The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- 1130 Estuaries
- 1210 Annual vegetation of drift lines
- 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts
- 2110 Embryonic shifting dunes
- 2120 "Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")"
- 2130 "Fixed coastal dunes with herbaceous vegetation ("grey dunes")" * Priority feature
- 2190 Humid dune slacks

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- 1095 Sea lamprey *Petromyzon marinus*
- 1099 River lamprey *Lampetra fluviatilis*
- 1395 Petalwort *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE

MYNYDD Y FFLINT/FLINT MOUNTAIN

<u>Date of Notification:</u>	19 May 2011
<u>National Grid Reference:</u>	SJ 243709
<u>OS Maps:</u>	1:50,000 Sheet number: 116 1:10,000 Sheet number: SJ27SW
<u>Site Area:</u>	25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamiastrum galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustre*. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

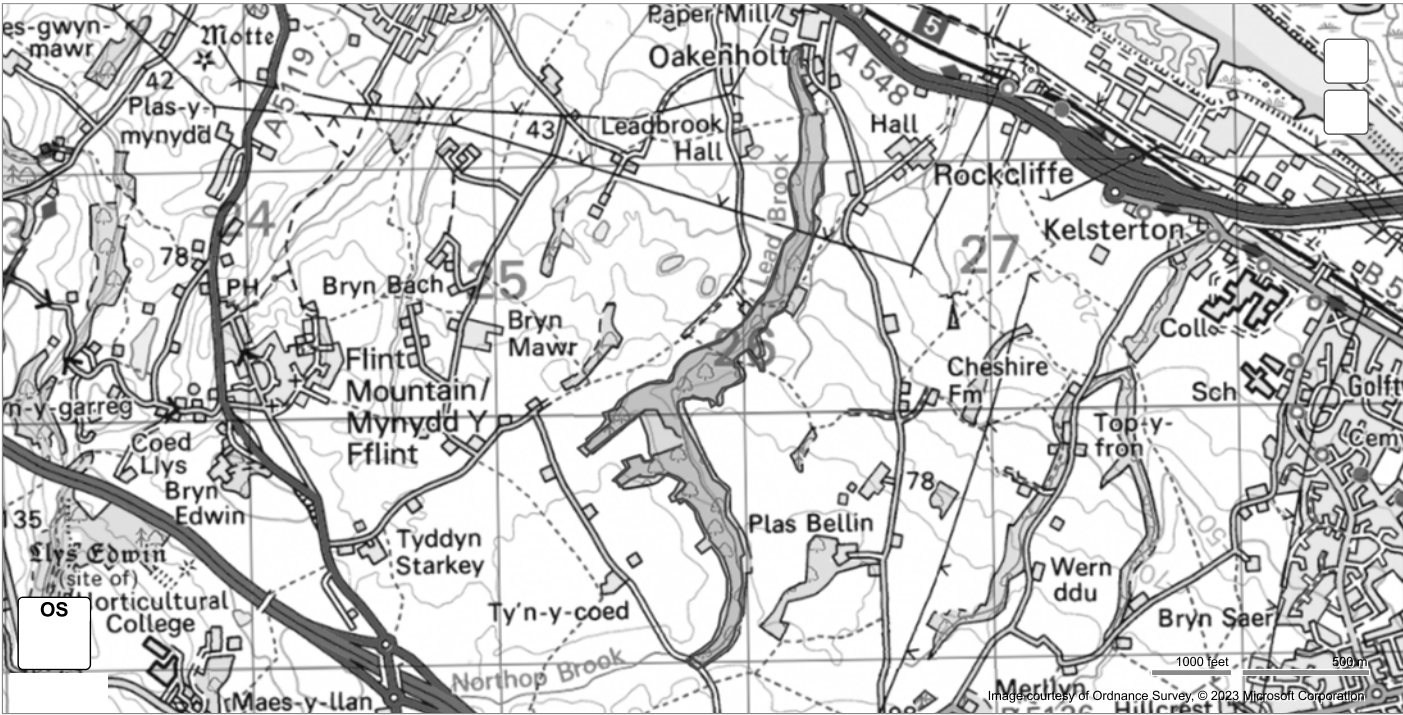
The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

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26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub

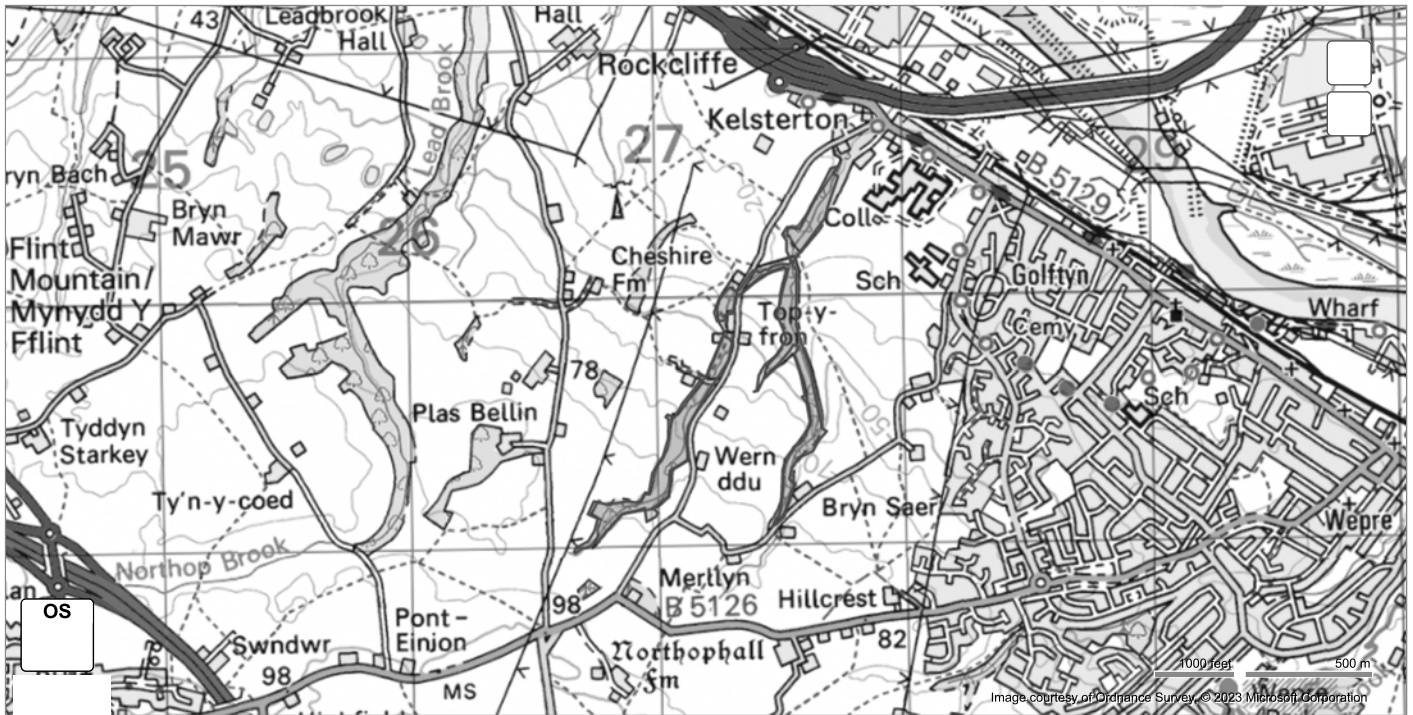




A Local Sites System for Wales

26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelserton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelserton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelserton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelserton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub



27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Northern Land Parcel

Reptile Surveys

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Northern Land Parcel
Report Title:	Reptile Surveys
Project Number:	ECO-6322
File Reference:	6322 Reptiles North 2023 dv3 /ADB
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This report may contain sensitive information relating to protected species. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.
- ii) **Survey.** A desk study was undertaken in August 2021 sourcing biological records from the area of the site, including records of reptiles. The site contains habitat with the potential to support reptiles. Reptile surveys were subsequently undertaken at the site in May 2022 in accordance with standard methodology.
- iii) **Desk Study.** The site lies adjacent to the statutory designation Dee Estuary (SPA, Ramsar and SAC). This is a vast site which extends substantially from the site's northern and western boundaries. Reptiles are not a reason for the designation of this site, nor are they mentioned in the citations of any other statutory or non-statutory ecological designations in the wider area of the site. The desk study returned a single record of one Common Lizard from within the 2km search area, dating from 2013.
- iv) **Survey Findings.** The surveys found no reptiles to be present within the site on any survey occasion. It is therefore concluded that reptiles are likely to be absent from the site.
- v) **Conclusions.** Reptiles are likely to be absent from the site. No further actions are required in respect of reptiles should works be undertaken at the site.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 270 716 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.1.2 Because of the presence of suitable habitat to support reptiles within the site, and the return of one record of reptiles from the desk study, reptile surveys were undertaken in May 2022.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north-east by the River Dee, beyond which extend large areas of open wetland associated with the River Dee Estuary. Connah's Quay Power Station is located immediately adjacent to the site's south-eastern boundary and a railway line and industrial development, with associated planting, forms the site's southern boundary.

1.2.2 The site itself comprises grassland fields with roads, treelines, hedgerows, along with areas of scrub and tall ruderal vegetation.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study in relation to reptiles, and the reptile surveys carried out. The importance of the site for reptiles is evaluated.

2 Methodology

2.1 Desktop Study

- 2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.
- 2.1.2 Information on statutory designations was obtained from the MAGIC database¹, which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is shown on Plan 6322/ECO2.

2.2 Reptile Surveys

Presence/Absence Survey

- 2.2.1 The site was surveyed in August 2021 to assess the general ecological value of the land and to identify the main habitats and ecological features present. Habitats present are shown on Plan 6322/ECO3.
- 2.2.2 Because of the presence of habitats suitable to support reptiles, a reptile survey was subsequently undertaken in May 2022. The survey set out to confirm whether or not reptiles were present at the site, and to estimate the sizes of any populations present.
- 2.2.3 The reptile survey was undertaken in accordance with standard guidance². A total of 125 50x50cm sheets of thick roofing felt were placed within areas of suitable habitat within the site to serve as artificial refugia (see Plan 6322/ECO4). This corresponds to an approximate density of 5.5 refugia per hectare of suitable habitats, which corresponds to the recommended five to ten refugia per hectare.
- 2.2.4 Refugia provide sheltering sites for reptiles that will tend to heat up more quickly than their surroundings in the morning and remain warmer than their surroundings into the late afternoon. Reptiles bask on and beneath refugia so as to raise their body temperature, enabling them to forage. The survey method is based on checking for the presence of reptiles on or beneath refugia in the morning or evening when basking reptiles are most likely to be observed.
- 2.2.5 The refugia were deployed and left undisturbed for 1-2 weeks prior to the first survey visit to allow reptiles to find and make use of them. Following this initial settling period, all refugia were checked for the presence of reptiles on seven occasions during optimal weather conditions (taken as not during continual heavy rain or strong winds, ambient temperature 9-18°C). Weather conditions during the survey visits are shown in Table 2.1 below.

¹ Multi-Agency Geographic Information for the Countryside (MAGIC), <https://magic.defra.gov.uk/>

² Froglife Advice Sheet 10 (1999) 'Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.'

Table 2.1. Reptile survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation
06/05/2022	3	16-17	0	Dry
09/05/2022	3	16	75	Dry
12/05/2022	3	14-16	65	Dry
16/05/2022	3	18-20	100	Light Rain
20/05/2022	2	14-16	10	Dry
23/05/2022	2	13-14	100	Showers
25/05/2022	3	17	100	Damp

BF = Beaufort Force: BF0 = calm, BF12 = hurricane force

2.3 Survey Constraints and Limitations

2.3.1 Conditions during the survey undertaken on 16th May 2022 were outside the optimum recommended survey conditions, with a recorded temperature of 18-20°C. However, as weather conditions were overcast with light rain, despite the high temperature the refugia did not heat up substantially. It is likely that conditions for reptiles at the refugia were therefore not substantially different to those during other surveys.

2.4 Ecological Evaluation Methodology

2.4.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)³, which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.5 National Policy Approach to Biodiversity in the Planning System

2.5.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)⁴. This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.5.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

- *improving the resilience of ecosystems and ecological networks;*
- *halting and reversing the loss of biodiversity;*
- *maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;* amongst other measures.

³ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

⁴ Llywodraeth Cymru/Welsh Government (2021). 'Planning Policy Wales', Edition 11, February 2021.

2.5.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.5.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;*
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;*
- ensure statutorily and non-statutorily designated sites are properly protected and managed;*
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'*

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.5.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'...development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'...planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.5.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019⁵, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.5.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.6 Local Policy

2.6.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.6.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

- a. *Create new green infrastructure linkages from the proposed development to the existing local network;*
- b. *Fill in gaps in the existing network to improve connectivity.*

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.6.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

- a. *It can be demonstrated a coastal location is essential;*
- b. *It conserves and enhances the open character of the coast;*
- c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*
- d. *It would not harm existing or proposed recreational or active travel routes;*
- e. *Extensive coastal protection measures are not required; and*

⁵ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

- f. It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.6.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

- a. it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*
- b. it can be demonstrated that the development cannot reasonably be located elsewhere; and*
- c. any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.6.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

- a. the development maximises their retention through sensitive design*
- b. measures; and*
- c. where the removal of trees is considered necessary, suitable replacements*
- d. shall be provided elsewhere within the site; and*
- e. it results in a net benefit in biodiversity."*

2.6.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

"Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

- a. *important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*
- b. *the retention of historically significant boundaries or other elements that contribute to the established form of development;*
- c. *the relationship to existing buildings and spaces, and pattern of development;*
- d. *scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials.”*

3 Reptiles

3.1 Legislation

- 3.1.1 All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended) (see Appendix 6322/2 for detailed provisions). All six reptile species are also S41 Priority Species.

3.2 Background Records

- 3.2.1 The desk study returned only one record of a reptile from within 2km of the site. This record, dating from 2013, was of a single Common Lizard *Zootoca vivipara* and was located at distance from the site.

3.3 Survey Results

- 3.3.1 No reptiles were recorded during any of the surveys undertaken at the site. It is therefore concluded that reptiles are likely to be absent from the site.
- 3.3.2 Survey forms recording each survey visit are provided in Appendix 6322/3.

3.4 Evaluation

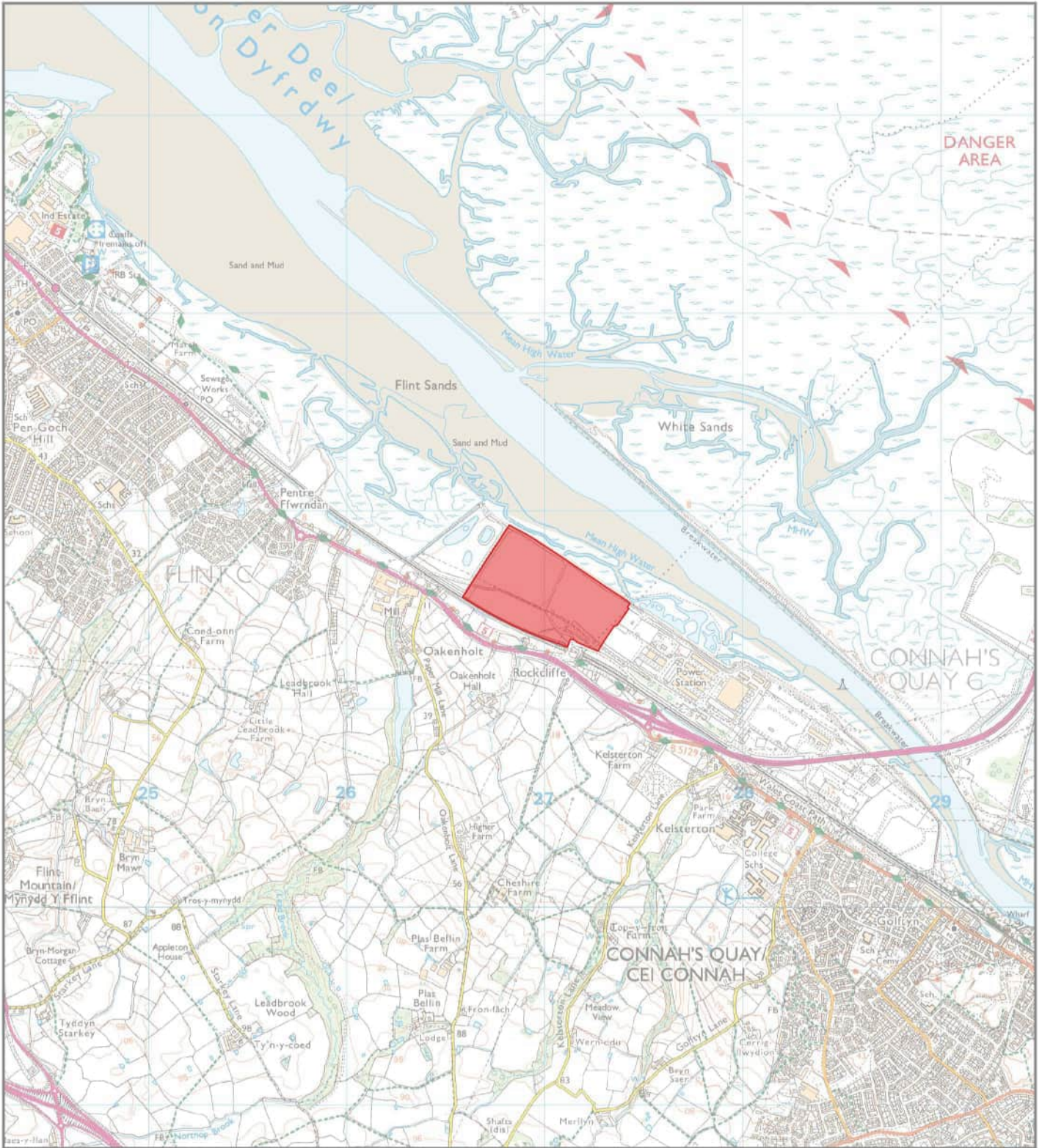
- 3.4.1 The data obtained from the desk study and surveys indicates that reptiles are likely to be absent from the site. No further consideration of reptiles is required in relation to potential works at the site.

4 Summary

- 4.1.1 A desk study, habitat survey and surveys for reptiles have been carried out at the site.
- 4.1.2 The desk study returned a single record of Common Lizard from within the 2km search area, and habitat with the potential to support reptiles was confirmed to be present within the site.
- 4.1.3 Surveys for reptiles undertaken in May 2022 found no reptiles to be present within the site.
- 4.1.4 It is concluded that reptiles are likely to be absent from the site. Reptiles are therefore not considered to be a constraint to any works that may be undertaken at the site.

Plan 6322/ECO1:

Site Location



Key:

 Site Location

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Connah's Quay (North)

Site Location

6322/ECO1

B/JP

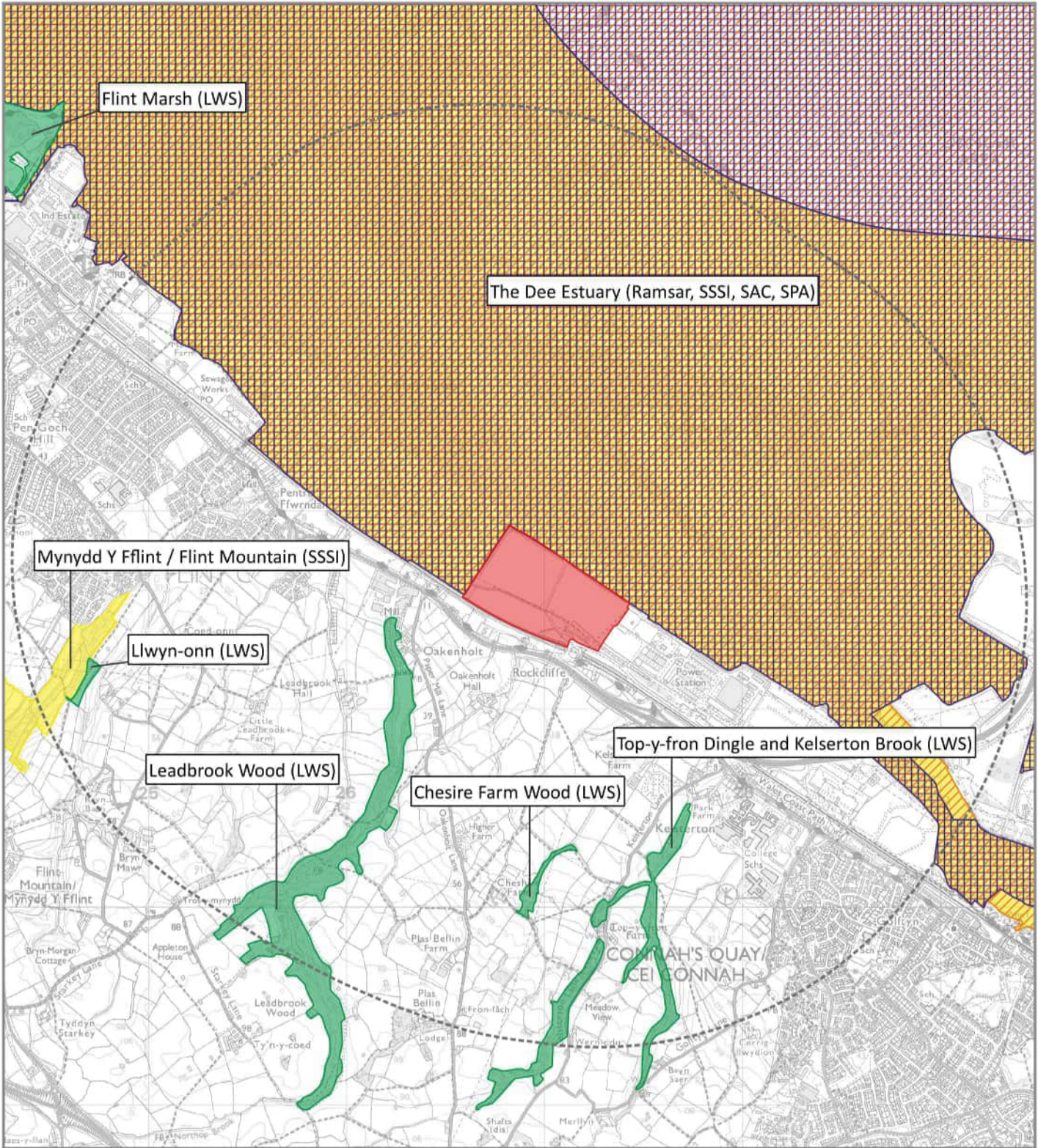
September 2023










PROJECT	
TITLE	
DRAWING NO.	
REV	
DATE	

Plan 6322/ECO2:

Ecological Designations



Key:

-  Site Location
-  2km Study Area
-  Ramsar Site
-  Site of Special Scientific Interest (SSSI)
-  Special Area of Conservation (SAC)
-  Special Protection Area (SPA)
-  Local Wildlife Site (LWS)

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Connah's Quay (North)

Ecological Designations

6322/ECO2

B/JP

September 2023



PROJECT	Connah's Quay (North)
TITLE	Ecological Designations
DRAWING NO.	6322/ECO2
REV	B/JP
DATE	September 2023

Plan 6322/ECO3:

Habitats and Ecological Features



- Key:
- Site Boundary
 - Rough Grassland
 - Improved Grassland
 - Pasture
 - Marshy Grassland
 - Tall Ruderal Vegetation
 - Scattered Scrub
 - Dense Scrub
 - Pond
 - Reed Bed/Rush
 - Hedgerow
 - Tree Line
 - Hardstanding

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Connah's Quay (North)		PROJECT
Habitats and Ecological Features		TITLE
6322/ECO3		DRAWING NO.
B/JP		REV
September 2023		DATE





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Plan 6322/ECO4:

Reptile Transect Locations



Key:
 Site Boundary
 Reptile Transect

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Connah's Quay (North)	PROJECT
Reptile Transect	TITLE
6322/ECO4	DRAWING NO.
B/JP	REV
September 2023	DATE



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Appendix 6322/1:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 6322/3:

Survey Data

ECO & Project	6322 CONNAN'S QUAY NORTH				Tin temperature relates to the warmth of the tins to touch - i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool - warm	
Date and Time	6/5/22 12:15					
Surveyors	AN + CW					
Tin Temperature(s)	Warm				Other info	
Weather and Other Info	Start Temp °C: 16	End Temp °C: 17	Cloud Cover %: 0%	Beaufort: 3	Rain: NONE	12 mph NE whds

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief?
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
M												
N												
O												
P												
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W												
X												
Y												
Z												
TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Cornish's Quay North					Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm Cool
Date and Time	9/5/22 11 am					
Surveyors	LP/AC					
Tin Temperature(s)						Other Info
Weather and Other Info	Start Temp °C:	End Temp °C:	Cloud Cover %:	Beaufort:	Rain:	
	16	16	75	3	Dry	

Nestling found

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief?	<input checked="" type="checkbox"/>
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile				
	Male	Female		Male	Female		Male	Female					
A	<input checked="" type="checkbox"/>												
B	<input checked="" type="checkbox"/>												
C	<input checked="" type="checkbox"/>												
D	<input checked="" type="checkbox"/>												
E	<input checked="" type="checkbox"/>												
F	<input checked="" type="checkbox"/>												
G	<input checked="" type="checkbox"/>												
H	<input checked="" type="checkbox"/>												
I	<input checked="" type="checkbox"/>												
J	<input checked="" type="checkbox"/>												
K	<input checked="" type="checkbox"/>												
L	<input checked="" type="checkbox"/>												
M	<input checked="" type="checkbox"/>												
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P													
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Z													
TOTAL													

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Cornish's Quay North					Tin temperature relates to the warmth of the lins to touch – i.e cold, cool, warm or hot. Note that some lins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	12/05/22 11.30					
Surveyors	MW + AN					Other info
Tin Temperature(s)						
Weather and Other Info	Start Temp °C: 14	End Temp °C: 16	Cloud Cover %: 65	Beaufort: 3	Rain: Dry	

Transect	Common Lizard				Slow Worm				Grass Snake				Other Reptiles	Other species	Have you read the H&S brief?	Yes
	Adults		Juvenile		Adults		Juvenile		Adults		Juvenile					
	Male	Female			Male	Female			Male	Female						
A ✓																
B ✓																
C ✓																
D ✓																
E ✓																
F ✓																
G ✓																
H ✓																
I ✓																
J ✓																
K ✓																
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Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Comual's Quay North					Tin temperature relates to the warmth of the lins to touch – i.e cold, cool, warm or hot. Note that some lins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	16/05/22 12.00 pm					
Surveyors	Adam Nixon, George Jasper					
Tin Temperature(s)	Warm					Other info
Weather and Other Info	Start Temp °C: 18	End Temp °C: 20	Cloud Cover %: 100	Beaufort: 3	Rain: Light rain	

Transect	Common Lizard				Slow Worm				Grass Snake				Other Reptiles	Other species	Have you read the H&S brief? <input checked="" type="checkbox"/>
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile						
	Male	Female		Male	Female		Male	Female							
✓A															
✓B															
✓C															
✓D															
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✓G															
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Z															
TOTAL															

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	CONNAM'S AWAY 6322 NORTH				Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	10 am 20/05/22				
Surveyors	MH				
Tin Temperature(s)	Cool – warm				Other info
Weather and Other Info	Start Temp °C: 14	End Temp °C: 16	Cloud Cover %: 10	Beaufort: 2	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief?	✓
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile				
	Male	Female		Male	Female		Male	Female					
X A													
X B													
X C													
X D													
X E													
X F													
X G													
X H													
X I													
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TOTAL													

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 - Connah's Quay Natl					Tin temperature relates to the warmth of the tins to touch - i.e. cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool - warm
Date and Time	11.30 23/05/22					
Surveyors	AN COB					Other info
Tin Temperature(s)						
Weather and Other Info	Start Temp °C: 13	End Temp °C: 14	Cloud Cover %: 100	Beaufort: 2	Rain: Showers	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief? Yes
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A											Common Toad	
B												
C												
D												
E												
F												
G												
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TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Connah's Quay North				Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	25/5/22 - 12.30				
Surveyors	Euan Rhianon				
Tin Temperature(s)	Lost				Other info
Weather and Other Info	Start Temp °C: 17	End Temp °C: 17	Cloud Cover %: 100	Beaufort: 3	Rain: Damp

Transect	Common Lizard			Slow Worm			Grass Snake				Other Reptiles	Other species	Have you read the H&S brief?	✓
	Male	Female	Juvenile	Male	Female	Juvenile	Male	Adults	Female	Juvenile				
A														
B														
C														
D														
E														
F														
G														
H														
I														
J														
K														
L														
M														
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P														
Q														
R														
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T														
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V														
W														
X														
Y														
Z														
TOTAL														

NO REPTILES FOUND

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

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Connah's Quay Power Station:
Southern Land Parcel

Reptile Surveys

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Southern Land Parcel
Report Title:	Reptile Surveys
Project Number:	ECO-6322
File Reference:	6322 Reptiles South 2023 dv3 /ADB
Date:	10/07/2023

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Confidentiality

This report may contain sensitive information relating to protected species. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Plan 6322/ECO2	Ecological Designations
Plan 6322/ECO3	Habitats and Ecological Features
Plan 6322/ECO4	Reptile Transect Locations

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Appendix 6322/1	Evaluation Methodology
Appendix 6322/2	Legislation Summary
Appendix 6322/3	Survey Data

Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.
- ii) **Survey.** A desk study was undertaken in August 2021 sourcing biological records from the area of the site, including records of reptiles. The site contains habitat with the potential to support reptiles. Reptile surveys were subsequently undertaken at the site from May to July 2022 in accordance with standard methodology.
- iii) **Desk Study.** The site itself is not subject to any statutory or non-statutory ecological designations, and none of the designations in the wider area of the site list reptiles as a reason for that designation or mention reptiles in their citations. The desk study returned a single record of one Common Lizard from within the 2km search area, dating from 2013.
- iv) **Survey Findings.** Surveys for reptiles undertaken in May 2022 confirmed the presence of a low population of Common Lizard at the site, with a peak count of one Common Lizard.
- v) **Conclusions.** The surveys confirmed that reptiles do occur at the site in very low numbers.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 288 703 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.1.2 Because of the presence of suitable habitat to support reptiles within the site, and the return of one record of reptiles from the desk study, reptile surveys were undertaken from May to July 2022.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north and east by the River Dee. Connah's Quay Power Station is located immediately adjacent to the site's western boundary and a railway line defines the site's southern site boundary. The town of Connah's Quay extends to the south. The Deeside Industrial Park is present to the north and east across the River Dee.

1.2.2 The site itself comprises hard standing and disturbed land which has been recently cleared of scrub, grassland, and small patches of scrub and tall ruderal vegetation.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study in relation to reptiles, and the reptile surveys carried out. The importance of the site for reptiles is evaluated.

2 Methodology

2.1 Desktop Study

- 2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.
- 2.1.2 Information on statutory designations was obtained from the MAGIC database¹, which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is shown on Plan 6322/ECO2.

2.2 Reptile Surveys

Presence/Absence Survey

- 2.2.1 The site was surveyed in August 2021 to assess the general ecological value of the land and to identify the main habitats and ecological features present. Habitats present are shown on Plan 6322/ECO3.
- 2.2.2 Because of the presence of habitats suitable to support reptiles, a reptile survey was subsequently undertaken from May to July 2022. The survey set out to confirm whether or not reptiles were present at the site, and to estimate the sizes of any populations present.
- 2.2.3 The reptile survey was undertaken in accordance with standard guidance². A total of 125 50x50cm sheets of thick roofing felt were placed within areas of suitable habitat within the site to serve as artificial refugia (see Plan 6322/ECO4). This corresponds to an approximate density of 9.5 refugia per hectare of suitable habitats, which corresponds to the recommended five to ten refugia per hectare.
- 2.2.4 Refugia provide sheltering sites for reptiles that will tend to heat up more quickly than their surroundings in the morning and remain warmer than their surroundings into the late afternoon. Reptiles bask on and beneath refugia so as to raise their body temperature, enabling them to forage. The survey method is based on checking for the presence of reptiles on or beneath refugia in the morning or evening when basking reptiles are most likely to be observed.
- 2.2.5 The refugia were deployed and left undisturbed for 1-2 weeks prior to the first survey visit to allow reptiles to find and make use of them. Following this initial settling period, all refugia were checked for the presence of reptiles on seven occasions during optimal weather conditions (taken as not during continual heavy rain or strong winds, ambient temperature 9-18°C). Weather conditions during the survey visits are shown in Table 2.1 below.

¹ Multi-Agency Geographic Information for the Countryside (MAGIC), <https://magic.defra.gov.uk/>

² Froglife Advice Sheet 10 (1999) 'Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.'

Table 2.1. Reptile survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation
06/05/2022	3	16-17	0	Dry
09/05/2022	3	16	75	Dry
12/05/2022	3	14-16	65	Dry
16/05/2022	3	18-20	100	Light Rain
20/05/2022	2	14-16	10	Dry
07/07/2022	4	16	100	Dry
27/07/2022	1	17-18	55	Dry

BF = Beaufort Force: BF0 = calm, BF12 = hurricane force

2.3 Survey Constraints and Limitations

2.3.1 Conditions during the survey undertaken on 16th May 2022 were outside the optimum recommended survey conditions, with a recorded temperature of 18-20°C. However, as weather conditions were overcast with light rain, despite the high temperature the refugia did not heat up substantially. It is likely that conditions for reptiles at the refugia were therefore not substantially different to those during other surveys. This is substantiated by the findings of the survey on this date reporting comparable results to those of 12 May and 20 May with a single common lizard observed at Transect S.

2.4 Ecological Evaluation Methodology

2.4.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)³, which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.5 National Policy Approach to Biodiversity in the Planning System

2.5.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)⁴. This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.5.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

- *improving the resilience of ecosystems and ecological networks;*
- *halting and reversing the loss of biodiversity;*

³ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

⁴ Llywodraeth Cymru/Welsh Government (2021). 'Planning Policy Wales', Edition 11, February 2021.

- *maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;* amongst other measures.

2.5.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.5.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

- *support the conservation of biodiversity, in particular the conservation of wildlife and habitats;*
- *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;*
- *ensure statutorily and non-statutorily designated sites are properly protected and managed;*
- *safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*
- *secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'*

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.5.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'...development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'...planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.5.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019⁵, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.5.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.6 Local Policy

2.6.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.6.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

- a. *Create new green infrastructure linkages from the proposed development to the existing local network;*
- b. *Fill in gaps in the existing network to improve connectivity.*

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.6.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

- a. *It can be demonstrated a coastal location is essential;*
- b. *It conserves and enhances the open character of the coast;*
- c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*
- d. *It would not harm existing or proposed recreational or active travel routes;*
- e. *Extensive coastal protection measures are not required; and*

⁵ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

- f. It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.6.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

- a. it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*
- b. it can be demonstrated that the development cannot reasonably be located elsewhere; and*
- c. any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.6.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

- a. the development maximises their retention through sensitive design*
- b. measures; and*
- c. where the removal of trees is considered necessary, suitable replacements*
- d. shall be provided elsewhere within the site; and*
- e. it results in a net benefit in biodiversity."*

2.6.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

"Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

- a. *important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*
- b. *the retention of historically significant boundaries or other elements that contribute to the established form of development;*
- c. *the relationship to existing buildings and spaces, and pattern of development;*
- d. *scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials.”*

3 Reptiles

3.1 Legislation

3.1.1 All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended) (see Appendix 6322/2 for detailed provisions). All six reptile species are also S41 Priority Species.

3.2 Background Records

3.2.1 The desk study returned only one record of a reptile from within 2km of the site. This record, dating from 2013, was of a single Common Lizard *Zootoca vivipara* and was located at distance from the site.

3.3 Survey Results

3.3.1 The results of the reptile surveys undertaken are summarised in Table 3.1 below and shown on Plan 6263/ECO4.

Table 2.1. Reptile survey findings.

Visit	Date	Common Lizard		Slow Worm		Grass Snake		Other Species
		Adult	Juv.	Adult	Juv.	Adult	Juv.	
1	06/05/2022	0	0	0	0	0	0	0
2	09/05/2022	0	0	0	0	0	0	0
3	12/05/2022	1	0	0	0	0	0	0
4	16/05/2022	1	0	0	0	0	0	0
5	20/05/2022	1	1	0	0	0	0	0
6	07/07/2022	0	0	0	0	0	0	0
7	27/07/2022	0	0	0	0	0	0	0
Peak Count		1		0		0		

3.3.2 A peak count of one Common Lizard was recorded during the survey work undertaken. A single juvenile Common Lizard was observed on one occasion. All adult lizards were observed at transect S in the north-east of the site (see Plan 6322/ECO4), while the juvenile Common Lizard was recorded at transect O, beside scrub to the south of the site entrance.

3.3.3 The area of suitable reptile habitat at the site (which comprises the entire site area) measures approximately 13.0ha and therefore the peak count corresponds to a population of less than one Common Lizard per hectare, which indicates a low population of Common Lizard to be present according to the standard guidance⁶. As such, it is considered that the population of reptiles supported by the study area is of importance at the site level only.

3.3.4 Data forms from the surveys undertaken are provided in Appendix 6322/3.

⁶ Herpetofauna Groups of Britain and Ireland (1998) 'Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards'

3.4 Evaluation

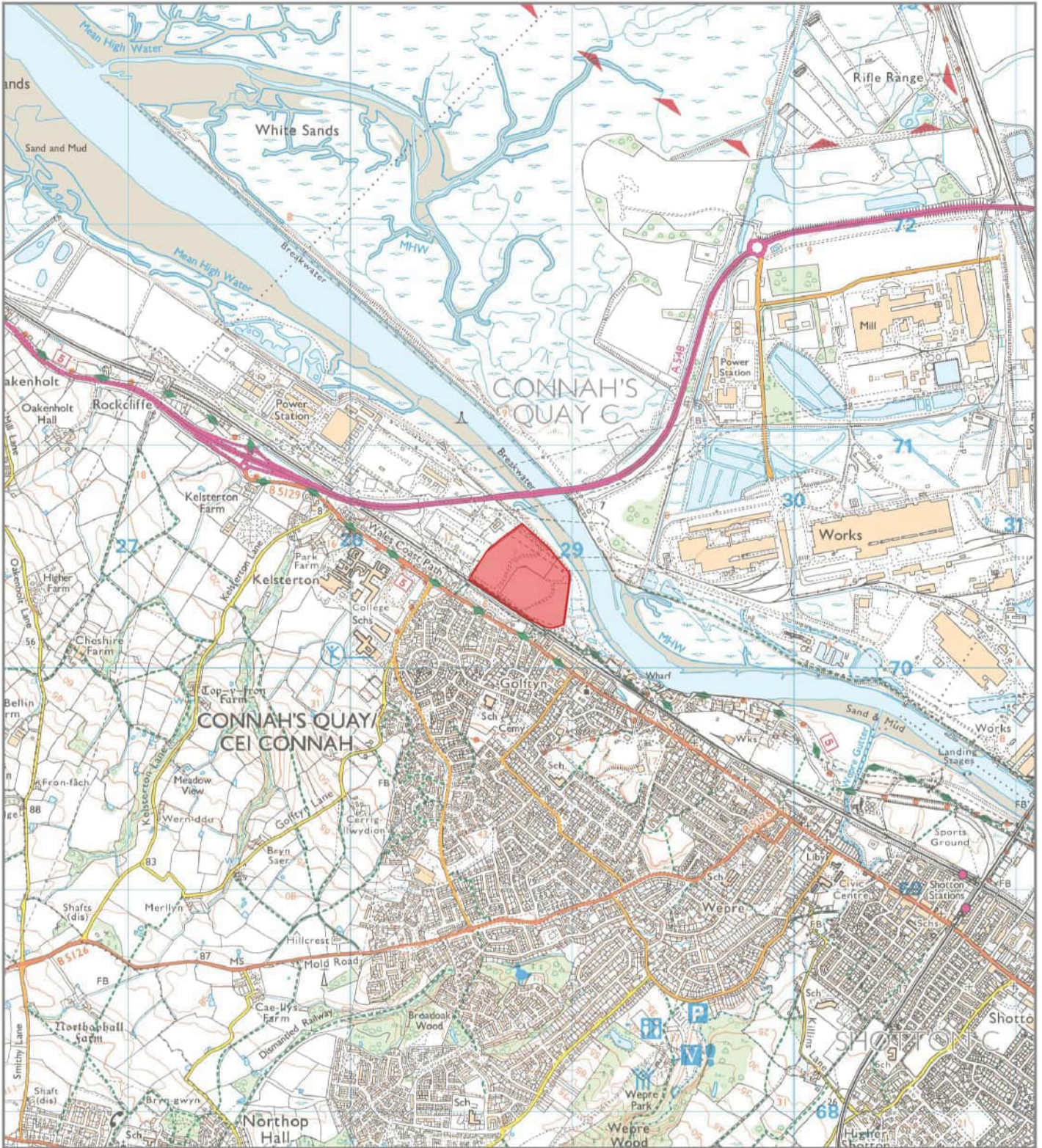
- 3.4.1 A small population of Common Lizard, evidenced by a peak count of one Common Lizard, was shown to be present within the site.

4 Summary

- 4.1.1 A desk study, habitat survey and surveys for reptiles have been carried out at the site.
- 4.1.2 The desk study returned a single record of Common Lizard from within the 2km search area, and habitat with the potential to support reptiles was confirmed to be present within the site.
- 4.1.3 Surveys for reptiles undertaken from May to July 2022 confirmed the presence of a low population of Common Lizard at the site, with a peak count of one Common Lizard.

Plan 6322/ECO1:

Site Location



Key:

 Site Location



Aspect Ecology Limited · West Court · Hardwick Business Park
 Noral Way Banbury Oxfordshire OX16 2AF
 01295 279721 · info@aspect-ecology.com · www.aspect-ecology.com

Connah's Quay (South)

Site Location

6322/ECO1

A/BG

April 2023

PROJECT

TITLE

DRAWING NO.

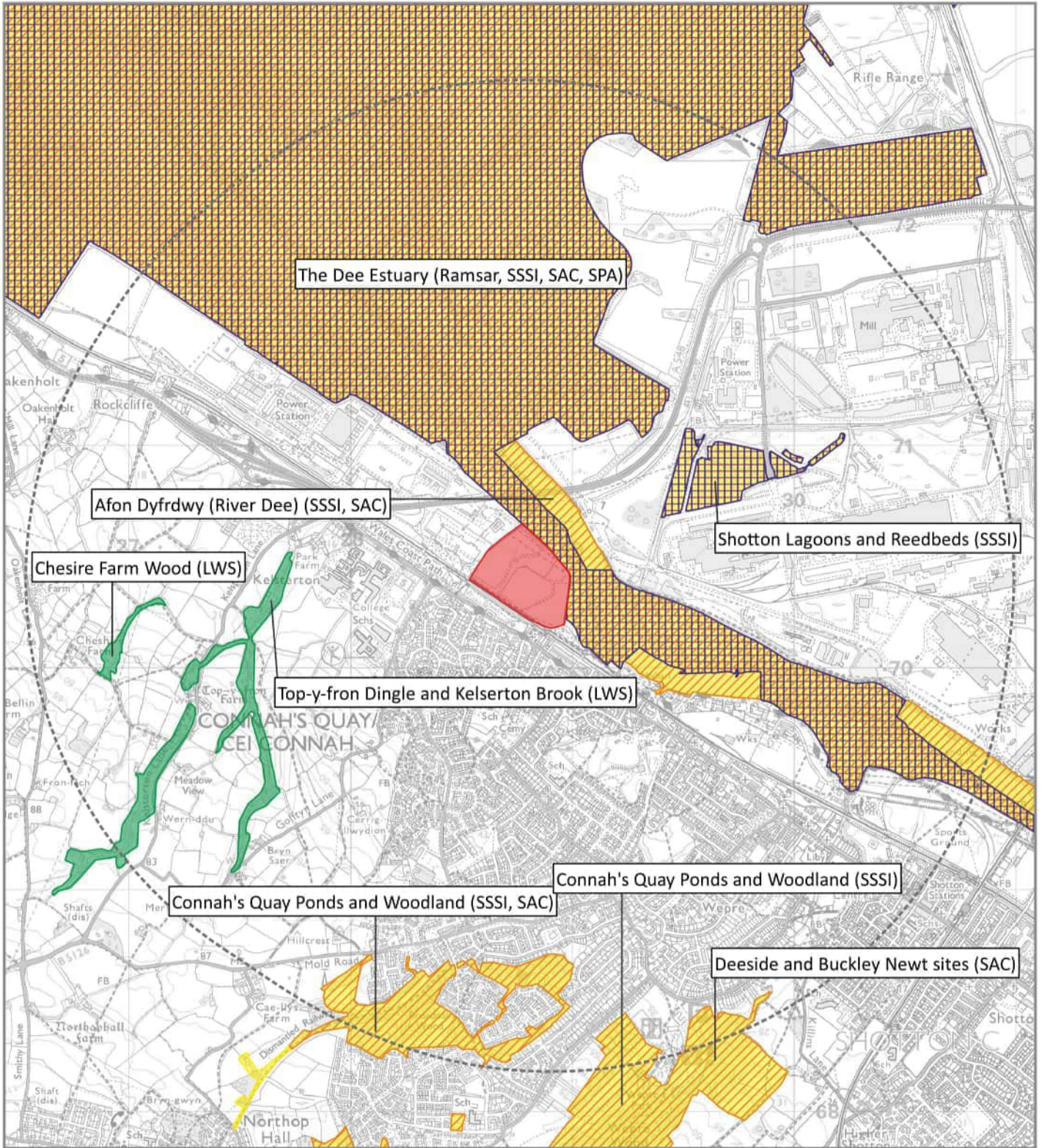
REV

DATE



Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)



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Connah's Quay (South)

Ecological Designations

6322/ECO2

A/BG

April 2023













PROJECT
TITLE
DRAWING NO.
REV
DATE

Plan 6322/ECO3:

Habitats and Ecological Features



- Key:
-  Site Boundary
 -  Bare Ground/Recolonising
 -  Bracken
 -  Building
 -  Dense Scrub
 -  Hardstanding
 -  Rough Grassland
 -  Tall Ruderal
 -  Scattered Scrub
 -  Tree



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Connah's Quay (South)		PROJECT
Habitats and Ecological Features		TITLE
6322/ECO3		DRAWING NO.
A/BG		REV
April 2023		DATE





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Plan 6322/ECO4:

Reptile Transect Locations



Key:
 Site Boundary
 Reptile Trnaset

aspect ecology
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 Noral Way - Banbury - Oxfordshire - OX16 2AF
 01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Connah's Quay (South)	PROJECT
Reptile Transect	TITLE
6322/ECO4	DRAWING NO.
A/BG	REV
April 2023	DATE



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Appendix 6322/1:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 6322/3:

Survey Data

ECO & Project	6322 CONNATI'S QUAY SOUTH					Tin temperature relates to the warmth of the tins to touch - i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool - warm
Date and Time	6/5/22 13:00					
Surveyors	AN + CW					
Tin Temperature(s)	Warm					Other info 12 mph NE whds
Weather and Other Info	Start Temp °C: 16	End Temp °C: 17	Cloud Cover %: 0	Beaufort: 3	Rain: NONE	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief?
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
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X												
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Z												
TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Connal's Quay South				Tin temperature relates to the warmth of the fins to touch - i.e. cold, cool, warm or hot. Note that some fins may be different temperatures to others so on the form you could record for example cool - warm
Date and Time	9/5/22				
Surveyors	UP/AC				
Tin Temperature(s)					Other info
Weather and Other Info	Start Temp °C:	End Temp °C:	Cloud Cover %:	Beaufort:	Rain:

cool

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief?
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
M												
N	✓										Rabbit, wood mouse	
O	✓										mats piled up, redeployed	
P	✓										mats piled up. Redeployed	
Q	✓										mats piled up, redeployed bushes	
R	✓											
S	✓											
T	✓											
U	✓										Mats missing only 3 left	
V	✓										Mats piled up, redeployed	
W	✓											
X												
Y												
Z												
TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Comal's Quay South					Tin temperature relates to the warmth of the lins to touch – i.e. cold, cool, warm or hot. Note that some lins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	12/05/22 12.15					
Surveyors	MW + AD					
Tin Temperature(s)						Other info
Weather and Other Info	Start Temp °C: 14	End Temp °C: 16	Cloud Cover %: 65	Beaufort: 3	Rain: Dry	

Transect	Common Lizard			Slow Worm			Grass Snake				Other Reptiles	Other species	Have you read the H&S brief?	Yes
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile					
	Male	Female		Male	Female		Male	Female						
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Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322, Canal's Quay South				Tin temperature relates to the warmth of the tins to touch – i.e. cold, cool, warm or hot. Note that some tins may be different temperatures to others so on this form you could record for example cool – warm
Date and Time	16/05/22 12.30 pm				
Surveyors	Adnan Nizar, George Jasper				
Tin Temperature(s)	None				Other info
Weather and Other Info	Start Temp °C: 18	End Temp °C: 20	Cloud Cover %: 100	Beaufort: 3	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief?	✓
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile				
	Male	Female		Male	Female		Male	Female					
A													
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Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	CONNAM'S QUAY 6322 SOUTH				Tin temperature relates to the warmth of the tins to touch – i.e. cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	10.30 am 20/05/22				
Surveyors	MT				
Tin Temperature(s)	Cool - warm				Other info
Weather and Other Info	Start Temp °C: 14	End Temp °C: 16	Cloud Cover %: 10	Beaufort: 2	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief? <input checked="" type="checkbox"/>
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
D												
E												
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G												
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R												
S	1											
T												
U												
V												
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X												
Y												
Z												
TOTAL	1			1								

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	Cannah's Quay - 6322 South				Tin temperature relates to the warmth of the tins to touch - i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool - warm
Date and Time	10 am 7/7/22				
Surveyors	LP/mw				
Tin Temperature(s)	Cool				Other info
Weather and Other Info	Start Temp °C: 16	End Temp °C: 16	Cloud Cover %: 100	Beaufort: 4	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief? <input checked="" type="checkbox"/>
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
M												
N											Mats thrown in bushes	
O												
P												
Q											5 mats piled up, 2 missing	
R												
S											Mats used for target practice	
T												
U												
V												
W												
X												
Y												
Z												
TOTAL												

20
10
10
10
10
13
25

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	Connah's Quay (6322) South					Tin temperature relates to the warmth of the tins to touch - i.e. cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool - warm
Date and Time	27-7-22 Han					
Surveyors	AC+AN					
Tin Temperature(s)						Cool - warm
Weather and Other Info	Start Temp °C: 17	End Temp °C: 18	Cloud Cover %: 55	Beaufort: 1	Rain: DRY	Other info: Nothing found

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S brief?	<input checked="" type="checkbox"/>
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile				
	Male	Female		Male	Female		Male	Female					
A													
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TOTAL													

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.
 Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

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Appendix C Gazetteer

Connah's Quay Low Carbon Power

Scoping Report Appendix C

Document Reference 60717119

Uniper

Quality information

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Prepared for:

Uniper

Prepared by:

AECOM Limited

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Appendix C Gazetteer

Table 1 1 km Study Area Gazetteer

Ref	Grid Reference	Period	Designation	Description
FL180	327755 370587	Post-Medieval	Scheduled monument	Kelsterton Brewery, remains of a 19th century industrial building. Kelsterton Brewery consists of a very large ale and porter brewery, which was the first of the kind established in this county, and was erected in the hamlet of Kelsterton, in the year 1818. The impressive remains of vaulted under-crofts, double-skinned stone tanks, and of a weir and associated works survive.
FL213	325877 371763	Roman	Scheduled monument	Croes Atti Roman Site. The monument comprises the buried remains of a Roman road, roadside settlement and associated cremation cemetery known from geophysical survey and archaeological evaluation (Wardell Armstrong 2014, 2015). This lies on the continuation of the same Roman road and an associated roadside lead working and domestic complex excavated approximately 80 m to the NNW in 2013.
FL131	325486 372085	Roman	Scheduled monument	Pentre Bridge Roman Site. A Roman settlement site.
1	SJ 27836 70714	Post-Medieval	Grade II listed building	Kelsterton Hall, Circa 1800. A large two storeyed house of red brick with stone dressings. Of three bays, the sides advanced and the recess built-up to second storey floor level with later stone pilastered colonnade, now filled in with modern glazing and roofed with glass.
355	SJ 26667 71055	Post-Medieval	Grade II listed building	Oakenholt Hall, a three storey, three window country house, of stucco with a roof behind parapet. Second floor has three six-pane hornless sash windows. First floor has three 16-pane hornless sash windows. On ground floor, central doorway under flat-roofed Doric porch. Dated sill states "JSMW 1808".
521	SJ 26680 71034	Post-Medieval	Grade II listed building	Oakenholt Farmhouse, comprising two storeys, with modern cement rendered, modern glazing, and a slate roof. Origins of a 17th century or earlier timber-framed cruck building faced in stone 18/19th century.
16408	SJ 24301 70393	Post-Medieval	Grade II listed building	Waen Farmhouse, a probably 17th century farmhouse. Two storeys, rubble with raking gable parapets with ball finials, brick chimney towards centre.

Ref	Grid Reference	Period	Designation	Description
16409	SJ 26013 71035	Post-Medieval	Grade II listed building	Leadbrook Hall. A 17th century & 18th century farmhouse. Consists of two blocks, large three-storey block in brick (on stone plinth), cement rendered to north and west, slate roof, raking gable parapets, pressed red brick chimneys
85254	SJ 29078 69885	Post-Medieval	Grade II listed building	Church of St Mark dated 1836, consisting of a nave, chancel, W tower incorporating porch, SE vestry and NW choir vestry. Constructed of dressed yellow sandstone, the chancel later and of snecked sandstone, under slate roofs.
85255	SJ 29401 69896	Post-Medieval	Grade II listed building	Dock Basin, a large, 19th century three-sided dock basin, the fourth side open to the Dee Estuary. The three sides are lined by large blocks of snecked stone with flat stone copings, continuing as flagstone paving to the south side.
85257	SJ 29337 69879	Post-Medieval	Grade II listed building	Former Barn, Old Quay House Inn, built c. 1777. Symmetrical three-bay lofted range constructed of coursed blocks of yellow sandstone under an old slate roof. Dressed sandstone quoins with moulded kneelers and raised stone copings.
85258	SJ 29035 69859	Post-Medieval	Grade II listed building	Former Stable Block & attached boundary walls, c. 1839-41. An L-shaped lofted block with coach-house, stables and accommodation. Constructed of brick, white-washed to front, with dentilled eaves. Slate roof, hipped to north end and south-west angle, with raised stone copings to east gable end.
85260	SJ 29071 69907	Modern	Grade II listed building	Lychgate at Church of St Mark, built 1917. Side walls and front piers of snecked yellow sandstone with chamfered stone copings, supporting a timber-framed superstructure, the timbers pegged. Swept gabled slate-covered roof surmounted by a crucifix.
85262	SJ 29341 69894	Post-Medieval	Grade II listed building	Old Quay House Inn, dated 1777. A two-storey four-window range, rendered and white-washed over brick under a slate roof with tile cresting; four tall brick ridge stacks with distinctive corbelled caps, two towards each end.
85264	SJ 29562 69609	Post-Medieval	Grade II listed building	The Ship Public House, recorded on 1870 OS map. Three-window, two-storey, constructed of brick, the façade half-timbered to the upper storey, under a red-tiled roof; brick end stacks set forward. The timber-framed and jettied upper storey is symmetrical, with ornamental box-panelling containing quadrant circle decoration.
85265	SJ 29052 69850	Post-Medieval	Grade II listed building	The Vicarage, built 1839-41. Symmetrical three-window two-storey vicarage; roughcast and white-washed under a hipped slate roof with two red brick ridge stacks. Wide boarded eaves and stone plinth. Central entrance containing a half-glazed panelled door with three-pane overlight inside a wide glazed porch.

Table 2 5 km Study Area Gazetteer

Ref	Grid Reference	Period	Designation	Description
FL064	323814 371425	Medieval	Scheduled monument	Bryn y Cwm Mound & Bailey Castle. The monument comprises the remains of a motte and bailey castle, a military stronghold built during the medieval period. The motte is roughly circular and stands to a height of 30 ft with a flattened top, which measures 90 ft in diameter. The ditch on west side rises 15 ft to the counterscarp and on the south side of motte, a spur of high ground runs south. This is separated from the field to the west by the ditch which measures 15 ft deep with a small stream at the bottom, and from the field to the east by a wide ditch rising 10 ft to field boundary.
FL003	324694 373286	Medieval	Scheduled monument	Castell y Fflint. This monument comprises the remains of a medieval castle begun in 1277 by King Edward I. The castle is located on the foreshore of the Dee estuary, dominating the river and the route along the coastal plain. The castle consists of a square ward with a round tower at each corner. Notably, the south-eastern tower (Great Tower) is much bigger and offset from the main courtyard by a moat which probably contained sea water at high tide, and was crossed by a drawbridge. This highly sophisticated separate tower or donjon has a strong barrel-vaulted circular gallery at basement level, surrounding a central space and supporting a ring of small interconnecting rooms on the floor above. It probably contained all the facilities necessary to withstand a siege (storerooms, well, residential accommodation, chapel) many of them duplicated in the courtyard, and was effectively a castle within the castle. Notably, this unique tower design has no known exact parallel in Britain or the Continent.
FL002	328806 367519	Medieval	Scheduled monument	Castell Ewloe. This monument comprises the remains of a medieval castle built around 1257 by Llywelyn ap Gruffudd. Located in dense woodland which in medieval times was part of the great forest of Ewloe, it commands a north-facing slope above two ravines, but is overlooked on the south, where a substantial earthwork has been built outside the moat.
FL023	323680 369354	Medieval	Scheduled monument	Llys Edwin Medieval Fortified House Site. The moated area of Llys Edwin measures 58 m north-east to south-west by 54 m. In 1931 excavation indicated a multiphase moated house, focussed on the northern quadrant. A possible fishpond, c. 86 m by 18 m is aligned with the south-west arm of the moat, and earthworks in the north-east may indicate the presence of a formal garden. Finds indicate late thirteenth to early fourteenth century occupation.
FL082	323232 369327	Early Medieval	Scheduled monument	Wat's Dyke: Section from Coed Llys to Chester-Holywell Road. An early historic boundary marker probably associated with the border of the kingdom of Mercia. Both Offa's Dyke and

Ref	Grid Reference	Period	Designation	Description
				Wat's Dyke probably represent separate attempts in the 8th century to formalise the boundary between the early historic kingdoms within Wales and Mercia to the east. Wat's Dyke runs south from Holywell to the Morda Valley near Maesbury. For the most part, Wat's dyke consists of an earthen bank, often utilising local topography and fronted, where it survives, by a ditch to the west.
FL083	323406 368179	Early Medieval	Scheduled monument	Wat's Dyke: Section from Chester-Holywell Road to Soughton Farm, an early historic boundary marker probably associated with the border of the kingdom of Mercia. Both Offa's Dyke and Wat's Dyke probably represent separate attempts in the 8th century to formalise the boundary between the early historic kingdoms within Wales and Mercia to the east. Wat's Dyke runs south from Holywell to the Morda Valley near Maesbury. For the most part, Wat's dyke consists of an earthen bank, often utilising local topography and fronted, where it survives, by a ditch to the west. The size of the surviving earthworks varies considerably, reflecting differences in preservation and probably also in the original scale of construction.
FL084	324327 366969	Early Medieval	Scheduled monument	Wat's Dyke: Section SE of Clawdd Offa. The monument consists of the remains of a length of Offa's Dyke, a presumed 8th century AD defensive bank and ditch. It consists of a stretch of bank, with a ditch on the western side. A counterscarp (raised bank) may be visible on the west side of the ditch in places.
FL085	325217 365827	Early Medieval	Scheduled monument	Wat's Dyke: Section north and east of New Brighton.
FL061	322428 373540	Medieval	Scheduled monument	Bryn Castell Castle Mound. The motte stands to a height of 18 ft and has a flattened top with a diameter of 25 ft. There is a large hole cut into the top of the motte, measuring 7 ft deep, which is continued as a trench down the west side.
FL062	322138 373436	Medieval	Scheduled monument	Hen Blas Castle Site. The monument consists of the remains of a castle, dating to the medieval period. A castle is a defended residence or stronghold, built mainly of stone, in which the principal or sole defence comprises the walls and towers bounding the site. The monument consists of the remains of an enclosure approximately 48 m north-south by 50 m east-west sited on a spur-end between two streams flowing from west to east. The enclosure is defined by a ditch on the west and elsewhere by steep natural slopes. On the west is an outer enclosure 72 m north-south by 78 m, again ditched on the west. There is mention of a castle being built in this location in 1157 and captured in 1166. Excavations concluded in 1957 demonstrated that an earthwork castle was replaced by a fortified manor house in the early thirteenth century which was itself abandoned in the late fourteenth century.

Ref	Grid Reference	Period	Designation	Description
FL179	321165 372204	Medieval	Scheduled monument	Hafod Wood Moated Site, the monument comprises the remains of a well-preserved medieval moated homestead. It comprises a rectangular moated site, c. 23 m square within a moat c. 8 m wide and counterscarp bank c. 2 m wide. The site is in excellent condition; the moat platform is fairly level with no signs of disturbance, while the moat is waterlogged in places and therefore has good potential for organic remains. There is no clear entrance. A circular feature in the south-west corner may be an earlier pond or quarry.
FL011	321117 369036	Iron Age	Scheduled monument	Moel y Gaer Camp comprises the remains of a defended enclosure or hillfort. Such monuments probably date to the Iron Age period (c. 800 BC - AD 74), although several are known to date from the Late Bronze Age with activity through to the early post-Roman period. Moel y Gaer is a sub-oval hilltop enclosure, measuring about 190 m north-south by 130 m to 170 m. It is generally defined by a bank, ditch and counterscarp, but there is some variation, notably about the east-facing entrance. Excavations in 1972-3, in advance of the construction of the reservoir, revealed a complex late Bronze Age and early Iron Age sequence of construction and occupation. The site encompasses a tumulus on the summit of the hilltop.
FL030	331262 365975	Medieval	Scheduled monument	Trueman's Hill motte, the monument comprises the remains of a medieval motte, an earthen mound upon which a fortification once stood.
FL166	327519 365526	Post-Medieval	Scheduled monument	Pinfold Lane Pottery, Site of, the monument consists of the remains of a pottery kiln. The earthwork remains of one of the earliest potteries so far located at Buckley. Trial excavations in 1972/74 revealed a working floor and pan. Finds recovered date from the late 17th century to the mid-eight century.
1013298	SJ 30336 73568	Iron Age	Scheduled monument	Promontory fort on Burton Point 550 m south-west of Burton Point Farm. The monument includes a promontory fort formed by a single bank and external ditch which cuts off a small promontory known as Burton Point overlooking the estuary of the River Dee on the south west coast of the Wirral. The single rampart stands up to 5m high and is 12m wide at the base. It curves around to form a 50 degree angle for 68m and encloses a triangular tip of the promontory. The external ditch is 2m deep. Both ends of the defences have been truncated by erosion and quarrying.
1007635	SJ 30180 74657	Medieval	Scheduled monument	St Andrew's medieval hospital and limekiln, Denhall. The monument is the medieval hospital of St Andrew, located in Chapel Field at Denhall and founded c.1231-4 for the help of the poor, shipwrecked, and travellers to and from Ireland. It is situated at the foot of a west-facing slope a short distance above the shoreline of the River Dee and includes earthwork remains of the ruined buildings of the hospital complex and precinct wall.

Ref	Grid Reference	Period	Designation	Description
1011785	SJ 33595 72022	Medieval	Scheduled monument	Shotwick Hall moated site. The monument comprises the moated site of the original Shotwick Hall and includes an island and moat occupied by a coppice known as Moat Plantation. The island measures c. 25 m x 32 m, is raised c. 0.5 m above the level of the surrounding fields, and is occupied by established trees and newly planted saplings. Surrounding the island is a largely silted moat c.10 m wide x 1.5 m deep vegetated with grass, nettles and some scrub.
1016918	SJ 31407 74061	Post-Medieval	Scheduled monument	Icehouse 110 m south-west of Burton Manor College main building. The monument includes an icehouse with a food preparation chamber attached in the grounds of Burton Manor College. The icehouse is approached by two sets of stairs leading down into the entrance passage on the south side, constructed of drystone walling and revetted back to the stone built entrance archway which is mortared. There is a second entrance on the north side, leading directly into the ice chamber. This consists of a revetted sunken way leading down from the garden. The southern chamber has an entrance passage 1.8 m long, 1.25 m wide and 2 m high. This opens onto a rock cut chamber with a stone vaulted roof. This is 5 m long, 3.5 m wide and 1.3 m high.
PGW(C)2 5(FLT)	324696 367536	Post-Medieval	Grade II* registered park and garden	Soughton Hall is located on the immediate south side of the village of Northop. It is registered for its well-preserved early eighteenth-century parkland planting and for the contemporary lime avenue that flanks the drive approaching the house. There is important group value with the Grade II* Listed early eighteenth-century house (LB 547), coach house range and stable block (LBs 549-50), and garden walls with turrets (LB 548), together with the Grade II Listed game larder and garden well head (LBs 551 & 25684). The park is a medium-sized landscape park on gently undulating ground. It is roughly rectangular on plan, bounded on the north by the B5126, on the west by the A5149, on the east by an old track and a local golf course, and on the south by a minor road. Most of the park dates from the eighteenth century, as is much of the planting, though earlier planting is evident. Dense planting on the west side of the park shielded the property from the A5119. The park surrounds entirely Lower Soughton Hall to the north (PGW(C)18(FLT)).
PGW(C)4 3(FLT)	322952 366371	Post-Medieval	Grade II* registered park and garden	Gwysaney is located on the edge of a plateau to the north of Mold. It is registered for the historical interest of its park which has origins as a seventeenth-century deer park with some contemporary walling and trees; also for its fine nineteenth-century arboretum containing many unusual mature specimens, and for the Victorian/Edwardian layout of its garden. There is also important group value with the Grade II* Listed Gwysaney Hall (LB 14885), the Grade II Listed Gwysaney Lodge and gate piers (LBs 26173-4), and several other Grade II Listed buildings and garden features around the Hall and estate.

Ref	Grid Reference	Period	Designation	Description
				The park, first mentioned in 1664, lies between the Mold-Rhydymwyn road on the south (A541) and the house to the north, on rolling ground sloping up from south to north. It is rectangular, aligned north by south, but was formerly more extensive on the east, west and north; about two thirds of the historic park is now farmland. The remainder is pasture with isolated mature trees, mainly oak, but with some lime and very ancient sweet chestnut. The drive, formerly flanked by sweet chestnuts, approaches from the main entrance and lodge on the A541 to the higher, more level ground to the south of the house. Just east of the drive, in the middle of the park, is an evergreen oak.
3	SJ 31704 66275	Post-Medieval	Grade I listed building	St Deiniols Ash, a large timber-framed and brick house of two main periods. Storeyed central timber-framed range, probably third quarter 16th century, to which a tall parlour wing, garderobe tower and porch were added in the early 17th century
13	SJ 28819 67523	Medieval	Grade I listed building	Ewloe Castle, situated in a wood overlooking the Wepre Brook. A native Welsh castle, small in scale, though occupying a commanding site at the confluence of two streams and with a steep drop to the north. The castle is overlooked by higher ground to the south and this side is therefore the focus of the defences. Large ditches to this and the east sides. The castle is in two sections, with a large D-shaped keep known as the "Welsh Tower" in a walled upper ward at the east.
321	SJ 24637 68486	Medieval	Grade I listed building	Church of St Eurgain and St Peter. A medieval Church in Perpendicular style with W Tower, nave and chancel in one, N aisle. The Perpendicular tower is constructed of fine coursed sandstone ashlar. It is five-stage with full-height diagonal buttresses with offsets, a plinth and string courses between stages, all with moulded copings.
542	SJ 20917 71169	Post-Medieval	Grade I listed building	Church of St Mary, built 1877-8 by John Douglas, architect of Chester. Early Decorated style church comprising nave with a north aisle and south porch, a slightly lower and narrower chancel, and north-east tower.
15025	SJ 31451 65919	Post-Medieval	Grade I listed building	St Deiniol's Library. The library was founded by W.E. Gladstone in 1890. Roughly H-plan and conceived as Jacobethan in design and as late Perpendicular in detail. Of red sandstone under a medium-pitched slate roof.
16403	SJ 24708 73344	Medieval	Grade I listed building	Flint Castle including Revetment Wall of Ditch. First of castles built by Edward I during his conquest of North Wales. Ruinous. Brown, yellow, and red stone, quarried from site, and across Dee on Wirral. Inner bailey consists of almost square enclosure with sides of approximately 50 m (east-west) by 40 m (north-south), and corner towers. Medieval curtain wall survives to the south, and at the north-west corner

Ref	Grid Reference	Period	Designation	Description
1145903	SJ 33679 71771	Medieval	Grade I listed building	Church of St Michael. It has a late 11th century door, body of church 14th century, late Perpendicular tower, south porch and some fenestration of 17th century. Restoration in 1851. Ashlar red sandstone, with purple tile roof except for Welsh slated chancel and porch.
12	SJ 31545 65918	Medieval	Grade II* listed building	Parish Church of St Deinol, a mid-14th century, late Decorated church with earlier origins. This was restored by James Harrison c. 1855-6 but was largely gutted by fire in 1857. The church was restored in Decorated style by Sir Gilbert Scott of London and was completed in 1859.
23	SJ 30919 67029	Medieval/ Post-Medieval	Grade II* listed building	Aston Hall, home of the Whitley family since the 14th century. The present house H plan and probably early-mid 16th century, though reduced and much altered in the early 19th century, to which period its external appearance now belongs. The present entrance front (south-west) is near symmetrical and of three bays. Medium-pitched slate roof with plain rendered end-chimneys and brick dentilated eaves. Of brick, roughcast-rendered with painted stucco quoins and plinth.
55	SJ 27344 69845	Post-Medieval	Grade II* listed building	Top y Fron Hall, an early-18th century hall, said to be one of the earliest brick houses in Flintshire. Some of the internal features are of the 1760s. Early Georgian double-pile three-storey house, constructed of brick under slate roofs with two brick stacks between roof spans. Detail includes continuous parapets with stone copings, shallow quoin strips and flush sash windows with cambered brick heads and brick sills.
323	SJ 26802 68436	Medieval	Grade II* listed building	Northop Hall Farm (Llaneurgain), a former gentry house, now farmhouse. Said to have been built in mid-15th century. House in yellow stone and red brick, roof covering lost in fire of 1995, brick chimneys.
326	SJ 22682 70250	Post-Medieval	Grade II* listed building	Coed-y-cra Uchaf, a two-storey rubble-stone house with mullioned windows, slate roof behind coped gables, and with central stone ridge stack. The origin of the present house is a 16th century timber-framed hall house altered in successive phases.
547	SJ 24819 67354	Post-Medieval	Grade II* listed building	Soughton Hall. The present house was first built c. 1727 for the Conway family and was Baroque in style. Wide symmetrical south front with four-storey end towers, three-storey linking bays to recessed two-storey three-bay centre with Italianate detailing. Red brick with sandstone dressings.
548	SJ 24839 67313	Post-Medieval	Grade II* listed building	Garden Walls, Corner Turrets, Gates and Gate Piers at Soughton Hall. Formal rectangular south garden in front of house enclosed by tall red brick walls with stone cappings. Pair of square panelled monolithic gatepiers to centre (aligned with main avenue), on plinths and

Ref	Grid Reference	Period	Designation	Description
				with moulded capstones supporting tall urns. Between them are double wrought iron gates with dog rails, top rails swept down to centre, and spear finials.
549	SJ 24802 67261	Post-Medieval	Grade II* listed building	Stable Block at Soughton Hall. Large square two-storey block constructed of brick with freestone dressings under double-pitched hipped slate roofs, and with tall brick stacks asymmetrically arranged. Detail includes banded angle pilasters, stone plinth and deep moulded eaves cornice. Early Georgian stable block, said to retain Bankes heraldry so probably mid-18th century. The stable block is now a restaurant.
550	SJ 24783 67268	Post-Medieval	Grade II* listed building	Coach-house Range at Soughton Hall. An early Georgian coach-house, comprising square block in red brick with freestone dressings including banded quoins. Two-storey three-bay front with pediment facing east. Parapets behind pediment and complex hipped slate roof, formerly surmounted by a glazed lantern containing a pigeon loft.
592	SJ 24416 68252	Post-Medieval	Grade II* listed building	Parkgate Farm Farmhouse and attached Shippon. Tall L-plan farmhouse in simple Gothic style, of two storeys and attics with rear ranges linking with shippon at right angles. Constructed of local rubble with freestone dressings under steeply pitched slate roofs with stone stacks and wide boarded eaves. Built c. 1863 by the Soughton estate, and shown on the 1st edition Ordnance Survey of 1870.
14885	SJ 22766 66452	Post-Medieval	Grade II* listed building	Gwysaney, a large Jacobean house facing south, comprising the original house on the right side, with the main service wing of 1863-5 to its left, and a further west service wing of c. 1906 at the left end.
17792	SJ 20945 70916	Post-Medieval	Grade II* listed building	Halkyn Castle and attached Stable Block a 19th century castellated style mansion of two and three storeys with turrets, towers, many stacks; of buff ashlar and chiefly mullioned and transomed windows under hood moulds.
19185	SJ 24489 68368	Post-Medieval	Grade II* listed building	Plymouth House and adjoining Coach-house, a large house of two storeys and attics with symmetrical Renaissance-style plan; central block with gabled wings advanced to front.
24440	SJ 24666 68518	Post-Medieval	Grade II* listed building	Grammar School, built c. 1608. Single range orientated north-south. Two-storey three-window front facing west, constructed of rubble sandstone under a slate roof.
1115567	SJ 32618 73314	Medieval/ Post-Medieval	Grade II* listed building	Puddington old hall, priests house and priests house flat. Formerly moated manor house, now two houses and a flat: two wings late 15th century and one wing early 16th century for the Massey family. Rewalling of early 18th century and some additions dated 1909. Timber framed, outer walls are brick clad, and roughcast. Welsh slate roof with stone ridge, mixture of lateral and ridge brick chimneys.

Ref	Grid Reference	Period	Designation	Description
1387811	SJ 31723 74343	Medieval	Grade II* listed building	Church of St Nicholas, 12th century and 14th century; re-ordered 1721 on datestone over south door; restoration and chancel rebuilt 1870. Built of coursed red sandstone; grey slate roofs with stone coped gables and sandstone ridges. Comprises a continuous nave and chancel; north aisle, continuous chapel and north vestry; west tower.

Appendix D Long List of 'Other Developments'

Connah's Quay Low Carbon Power

Scoping Report Appendix D

Document Reference 60717119

Uniper

Quality information

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Appendix D Long List of 'Other Schemes'

Table 1 Long list of development initially considered for cumulative impact assessment

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
1	HyNet Carbon Dioxide Pipeline	Planning Inspectorate	A new build carbon dioxide (CO ₂) pipeline that will transport CO ₂ produced and captured by future hydrogen producing facilities and existing industrial premises in North West England and North Wales for offshore storage. The CO ₂ pipeline will comprise both newbuild and existing pipelines [and newbuild and existing above-ground installations (AGI) to allow operation and maintenance works in relation to the pipeline, including the newbuild Proposed Flint AGI] that will be covered under the DCO. When complete it will run from the Ince AGI in Cheshire to Talacre Beach in North Wales.	1.4 km	2
2	Hydrodec Oil Re-Refinery Eastham	Planning Inspectorate	The construction of a new hazardous waste recovery facility at Power House Road, Eastham, Port Wirral, Merseyside comprising the construction and operation of a waste oil re-refining plant together with associated and ancillary development.	13.25 km	3
3	60765	Flintshire County Council	Installation and operation of ground mounted solar panels and associated infrastructure	1.95 km	1
4	61171	Flintshire County Council	Construction of new two storey building and erection of 2 no. 27 m high towers	4.7 km	1
5	59026	Flintshire County Council	Erection of 59 no. dwellings and associated works	6.4 km	1
6	59352	Flintshire County Council	Erection of 32 no. dwellings	8.95 km	1
7	59421	Flintshire County Council	Erection of 23 no. apartments and associated works	7.95 km	1

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
8	63291	Flintshire County Council	Change of use of land (114 sqm) at the rear of the property from agricultural to residential, including the erection of decking	7.25km	1
9	62483	Flintshire County Council	Erection of three commercial buildings (B1 Business (Light Industrial), B2 Business Uses and B8 Storage and Distribution Uses) together with the construction of an access road and parking, a pump house, substation, installation of associated infrastructure and platform bases for additional units to form an expansion to Hawarden Business Park.	8.05 km	1
10	58946	Flintshire County Council	Proposed Residential Development	11.45 km	1
11	60336	Flintshire County Council	New build 32 bed extension to an existing care home facility and associated administration/service areas with external landscaping.	7.65 km	1
12	59399	Flintshire County Council	Proposed erection of 52 dwellings including highways, public open space, landscaping and all associated works.	2.5 km	1
13	59055	Flintshire County Council	Proposed erection of 78 dwellings including highways, public open space, landscaping and all associated works	2.5 km	1
14	58296	Flintshire County Council	Erection of 28 no. 2 and 1 Bedroom Apartments (over 55's), and 3 no. Houses (total scheme 100% affordable housing), associated access and parking, including demolition of former public house	4.5 km	1
15	61627	Flintshire County Council	The Construction of a Flexible Gas Fired Power Station.	5.3 km	1
16	58968	Flintshire County Council	Residential development of 20 no. apartments	8.95 km	1
17	60783	Flintshire County Council	Residential development for 20 no. dwellings and associated gardens and car parking.	14.8 km	1
18	62897	Flintshire County Council	Construction of a 26 bedroom extension with lounges and assisted bathrooms to an existing 18 bedroom care home to provide full nursing	12.4 km	1

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
			care facilities. Note one existing bedroom is lost due to the extension, net gain is 25 bedrooms.		
19	FUL/000034/22	Flintshire County Council	Construction of a residential development of 141 no. dwellings and associated works	1.4 km	1
20	FUL/000154/22	Flintshire County Council	Convert 10,000 sq.ft retail unit into 3 no. smaller units comprising: 600, 1400 and 8000 sq.ft units respectively. Change of use of unit G2 from A1 retail to A3 hot food takeaway.	4.7 km	1
21	FUL/000037/23	Flintshire County Council	Redevelopment of the former Cottage Hospital site to provide a new care home comprising of 56 no. bedrooms, complete with new road access and parking, green space and landscaping.	4.8 km	1
22	OUT/001016/23	Flintshire County Council	Erection of a detached block of flats	0.85 km	2
23	FUL/001017/23	Flintshire County Council	Erection of a 66 bedroom care home (Use Class C2) for the elderly with associated access, parking and landscaping.	5.1 km	2
24	SCO/000970/23	Flintshire County Council	EIA Scoping Opinion Request for the construction and operation of carbon capture technology	2.95 km	2
25	OUT/000930	Flintshire County Council	Outline application (to include means of access) for the erection of up to 36 no. residential apartments following the demolition of the Queensferry Hotel.	4.7 km	2
26	FUL/000826/23	Flintshire County Council	Erection of 155 dwellings, construction of a new vehicular access, landscaping and associated works	7.3 km	2
27	FUL/000769/22	Flintshire County Council	Erection of 70 dwellings, construction of a new vehicular access, landscaping and associated works.	14.5 km	2
28	FUL/000414/22	Flintshire County Council	Residential development of 200 dwellings, means of access open space and all associated works.	4.3 km	2

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
29	NAA/000257/22	Flintshire County Council	Proposed Solar Farm.	10.5 km	2
30	DNS/00140/22	Flintshire County Council	Development of National Significance of Solar Farm to include: Solar PV Modules mounted onto frames to form arrays; Transformer units; DNO substation; Fencing & Security measures; Access tracks; Onsite cabling; Outdoor classroom; Car Parking spaces; Offsite connecting the DNO substation on-site to the Saltney Primary substation via grid connection; Landscaping; Temporary construction compound; Associated Site works	11.1 km	2
31	64249	Flintshire County Council	Extension to existing nursing home to provide additional 25 no. bedroom dementia unit, restoration and incorporation of existing listed buildings to form a link to proposed new build.	3.11 km	2
32	63507	Flintshire County Council	Residential development comprising 90 Dwellings including the provision of affordable units, areas of public open space, landscaping and associated works.	6.07 km	2
33	62458	Flintshire County Council	Residential development of up to 140 dwellings, means of access, open space, sustainable drainage infrastructure and all other associated works (outline application including access, with all other matters reserved.)	8.04 km	2
34	61994	Flintshire County Council	Erection of residential development of 232 no. units together with associated public open space and infrastructure	8.26 km	2
35	59739	Flintshire County Council	Erection of 75 to 90 bed extra care facility to include supporting communal facilities and 12 bungalows and all ancillary works	8.27 km	2
36	NMA/23/01624	Wirral Council	Hybrid application for a) Full application for four commercial buildings (Use Classes E, B2 and B8), including ancillary trade counter and showroom) with associated works and b) Outline application (with access) for up to 2 units of a use that could include Cafe/Restaurant/drive through/drive up.	13.68 km	1
37	DPP3/20/00415	Wirral Council	Outline Planning Application (with all matters reserved except access) for development of up to 15 houses and 30 apartments on Woodhead Street	14.92 km	1

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
			car park and land off New Chester Road, together with retention of 70 car park spaces for public use.		
38	DPP3/20/00418	Wirral Council	Outline Planning Application (with all matters reserved except access) for development of up to 23 apartments and 540 sqm retail floorspace on land off Bebington Road, including existing car park off Grove Street, together with retention of 8 car park spaces for public use.	14.85 km	1
39	APP/18/01632	Wirral Council	New Residential Development Comprising of 28 Units	11.71 km	1
40	OUT/19/01633	Wirral Council	Development of up to 500,000 ft ² (46,450 m ²) of B2 / B8 Use Class floorspace, with ancillary B1(a) Use Class floorspace, service yards, and all associated works including landscaping and car parking with all matters reserved for future consideration.	13.14 km	1
41	APP/19/00315	Wirral Council	Demolition of existing buildings and erection of 127 dwellings with associated landscaping and access	15.00 km	1
42	APP/19/00636	Wirral Council	Proposed demolition and erection of a three storey new build residential development containing 23 Flats (4 no. 1 bed and 19 no. 2 bed). Car Parking located to the rear of the site accessed from both Poll Hill Road and Radnor Avenue. Amenity space is provided to the perimeter and bin & cycle storage is provided adjacent to the car park.	10.65 km	1
43	APP/19/01459	Wirral Council	Erection of an extra care scheme comprising 102 apartments, 1 guest bedroom and ancillary facilities, the conversion of Ravenswood comprising 8 apartments and the erection of 76 dwellings with associated access, car parking and landscaping on land off Highfield South and Ravenswood Avenue	14.81 km	1
44	22/03028/OUT	Cheshire West and Chester Council	Outline planning permission for erection of a hospital building, including the construction of a link to the adjacent building, the erection of compounds for storage and for housing power supply units, the demolition of existing buildings and associated landscape works. Full planning permission for a car park on the 1829 Site and alterations to an on-site roundabout.	13.06 km	1

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
45	21/03611/FUL	Cheshire West and Chester Council	Erection of six commercial buildings for General Industrial and Storage and Distribution uses with ancillary office space, together with the creation of accesses, parking and associated works (Revised Description)	14.93 km	1
46	21/03161/WAS	Cheshire West and Chester Council	Change of use to include Sui Generis waste management uses (handling circa 5,000 tonnes per annum of off-site sources of very low level (VLL) and low level (LL) radioactive wastes) additional to and located within the existing waste processing-related buildings and associated internal and external storage areas currently used for treatment of circa 2,000 tonnes per annum of on-site VLL and LL radioactive wastes associated with the decommissioning of former on-site nuclear enrichment facilities; and additional to the current Uranium enrichment and Tails manufacturing facilities and storage of Uranic materials carried out at the Urenco Complex	9.88 km	1
47	20/03681/FUL	Cheshire West and Chester Council	Battery storage facility and ancillary equipment	9.84 km	1
48	19/03845/OUT	Cheshire West and Chester Council	Erection of 244 bed Hotel (Class C1) over 7 storeys, with associated parking, landscaping and other works with access from Black Diamond Park.	14.49 km	1
49	19/02556/FUL	Cheshire West and Chester Council	Demolition of existing building and construction of a 138 bedroom hotel (Use Class C1) and ancillary accommodation including engineering and associated works.	14.65 km	1
50	23/02149/S73	Cheshire West and Chester Council	Erection of six commercial buildings for General Industrial and Storage and Distribution uses with ancillary office space, together with the creation of accesses, parking and associated works - Variation of conditions 2 (approved plans), 9 (external lighting), 14 (Habitat Management and Maintenance Plan) and 17 (landscaping details) of planning permission 21/03611/FUL	14.84 km	2

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
51	23/03377/FUL	Cheshire West and Chester Council	Erection of 152 dwellings and provision of infrastructure including internal road layout, landscaping, children's play area and associated works (Re-submission of 22/03064/FUL)	13.81 km	2
52	22/04675/OUT	Cheshire West and Chester Council	Demolition of Oaktree Court Business Centre and Livery and the erection of up to 21 residential dwellings with associated infrastructure	7.50 km	2
53	22/04461/S73	Cheshire West and Chester Council	Erection of mixed use development comprising of 23 dwellings and 23 commercial units (B1) following demolition of the existing buildings on the site - variation of condition 2 (approved drawings) of 19/02685/S73 to reflect elevational changes, installation of Air Source Heat Pumps and solar panels	14.75 km	2
54	22/03736/FUL	Cheshire West and Chester Council	Demolition of existing farmhouse and associated outbuildings and erection of 54 dwellings and the provision of associated infrastructure (including roads, footpaths, cycleways, landscaping and children's play area) and two new ponds located off Lache Lane	14.81 km	2
55	22/02572/REM	Cheshire West and Chester Council	Erection of a seven-storey apartment building comprising 133 no. units including associated access, parking and landscaping works.	14.91 km	1
56	22/01679/S73	Cheshire West and Chester Council	Part A - (full permission) for phased development of 483 dwellings and associated infrastructure (including playing fields / open space); Part B - (outline permission - all matters reserved apart from access) for a local centre (comprising supermarket (Use Class A1 (500 sqm); other shops (Use Class A1)(500 sqm); cafe/restaurant (Use Class A3)(200 sqm); public house (Use Class A4)(650 sqm); and nursery/creche (Use Class D1) (600 sqm) plus an outdoor play area) and a primary school with associated playing fields (Hybrid application) - Variation to condition 4 (approved plans) under 17/02453/OUT to coincide with amendments to the layout including plot / house type substitutions and landscape details.	14.57 km	2
57	21/01358/FUL	Cheshire West and Chester Council	Extension, alteration and conversion of former office buildings and associated outbuildings to create an aparthotel comprising of 54 no. apartments (use class C3) (with incidental outdoor pool / terrace), 6 no.	14.02 km	2

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
			mews cottages (Use Class C3) and a restaurant (Class E). And the erection of 3 no. apartments (Use Class C3) on former car park off Nicholas Street Mews		
58	21/01243/FUL	Cheshire West and Chester Council	Erection of 63 dwellings comprising 26 one and two bedroom apartments in a 2 storey block; 12 one bedroom 'walk-up' cottage style apartments, 22 two bedroom houses and 3 four bedroom houses. New access road and associated external works.	13.60 km	1
59	20/04060/FUL	Cheshire West and Chester Council	Erection of 29 dwellings including all associated infrastructure, parking and private/communal amenity space	14.71 km	1
60	20/00789/FUL	Cheshire West and Chester Council	Demolition of the former Station Hotel and erection of 25 affordable apartments	14.16 km	1
61	19/03292/FUL	Cheshire West and Chester Council	Construction of 52 no. new dwellings (Use Class C3) with associated access, parking and landscaping.	12.02 km	1
62	19/03291/FUL	Cheshire West and Chester Council	Construction of 55 no. dwellings (Use Class C3) with associated access, landscaping and parking	13.18 km	1
63	20/04850/OUT	Cheshire West and Chester Council	Hybrid Planning Application for a gas engine electricity generating plant with a maximum generating capacity of 22.5 MWe and Units for B2/B8 General Industrial / Storage and Distribution uses	13.65 km	1
64	19/04561/OUT	Cheshire West and Chester Council	Development of up to 500,000 ft ² (46,450 m ²) of B2/B8 use class floorspace, with ancillary offices, service yards, and all associated works including landscaping and car parking with all matters reserved for future consideration.	13.54 km	1
65	STR3A Strategic Site	Flintshire County Council	Local Plan 2015: 1325 houses, 72.4 ha of B2/B8 employment land	N/A	3
66	STR3B Strategic Site Warren Hall Development Site	Flintshire County Council	Local Plan 2015: 19.1 ha of B1 and B2	N/A	3

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
67	Policy WM 3: Allocations for District level Sites	Wirral Council	Waste Local Plan 2013: 2 sites in Wirral: -W2 Bidston MRF / HWRC, Wallasey Bridge Road 3.7 ha, uses (HWRC, WTS, Re-processor, Primary Treatment) -W3 Former Goods Yard, Adjacent Bidston MRF/HWRC, Wallasey Bridge Road 2.8ha uses (WTS, Reprocessor, Primary Treatment)	N/A	3
68	22/00090/S73	Cheshire West and Chester Council	Development of up to 500,000 ft ² (46,450 m ²) of B2/B8 use class floorspace, with ancillary offices, service yards, and all associated works including landscaping and car parking with all matters reserved for future consideration (Variation of condition 3 (Parameter plans) and removal of condition 9 (Safeguarding disused rail corridor) to planning permission under 19/04561/OUT	13.56 km	2
69	23/01294/NMA	Cheshire West and Chester Council	Residential development, including provision of temporary sales area, and provision of formal and informal open space and associated works including highways and drainage works, pedestrian/cycle level rail crossing to Percival Road, enhancement works within Jacks Wood, together with improvements to footbridge approach on Ross Road following demolition of existing building - Non-material amendment to application 20/03599/FUL to amend Condition 2 (approved plans - update to plot 106 and 186), Condition 14 (omitting cladding from plot 175) and Condition 18 (Unit 1 Demolition)	13.02 km	1
70	21/03392/HAZ	Cheshire West and Chester Council	Introduction of new substances (Oxygen and Natural gas) and increase to the quantities of Hydrogen, plus substances within the flammable gases and environmental hazard categories	16.72 km	1
71	APP/19/01882	Wirral Council	The installation of 10 gas powered generators with ancillary buildings and equipment to form a 'flexible generation' power plant, (Use Class Sui Generis) with the formation of vehicular access from Riverbank Road and the erection of 4.5 metre high gabion walling and 4.5 metre high acoustic fencing to site boundaries.	14.19 km	1

UpID	Application Reference	Local Planning Authority	Brief Description	Distance from Proposed Development	Tier
72	APP/19/01792	Wirral Council	Development by MBE Construction and Torus Group to provide 30 new 1 and 2 bed apartments including complimentary external works and landscaping	16.61 km	1
73	APP/20/01728	Wirral Council	43 affordable rent residential units (Use Class C3) comprising of 2 bungalows, 8 apartments, and 33 two storey houses.	16.04 km	1
74	APP/20/01084	Wirral Council	Change of use from school to residential for the proposal of the refurbishment of Redcourt, a grade II listed vacant school building, into 15 no. 1 and 2 bedroom apartments. Adjacent to Redcourt, it is proposed to build a 3/4 storey stand alone apartment block, comprising 30 no. 1 and 2 bedroom apartments. Both apartment blocks will have separate vehicular and pedestrian access from Devonshire Place, car parking, cycle storage, bin storage and generous private amenity space is provided.	16.74 km	1

Appendix E Transboundary Effects Matrix

Appendix E Transboundary Effects Matrix

Regulation 32 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the consideration of any likely significant effects on the environment of European Economic Association (EEA) States.

Guidance upon the consideration of transboundary effects is provided in the PINS's Advice Note 12: Transboundary Impacts and Process.

Paragraph 3.1.4 of PINS Advice Note 12 explains:

3.1.4 All NSIPs that are EIA development will be subject to a transboundary screening process determined and undertaken by the Inspectorate on behalf of the SoS. Where the SoS is satisfied that the likelihood of transboundary effects is extremely low, the transboundary screening decision will be included in a scoping opinion (if one is requested) or as a separate, short proforma where a scoping opinion is not requested. If the SoS is not satisfied that the likelihood of transboundary effects is extremely low, the transboundary screening decision will be provided in a separate long proforma. The position in respect of the likelihood of transboundary effects will remain under review pending any new or materially different information coming to light. However, the Inspectorate will not update the screening decision where it remains valid.

The following screening matrix provides the consideration of transboundary effects for the Proposed Development, taking guidance from Advice Note 12 (Annex 1).

Criteria and Relevant Consideration	Commentary with Regard to the Proposed Development
Characteristics of the development: <ul style="list-style-type: none"> • Size of development; • Use of natural resources; • Production of waste; • Pollution and nuisance; • Risk of accidents; and • Use of technologies. 	<p>The proposed CCGT generating station will be designed to operate with post-combustion CCP plant installed such that the plant can be operated as a dispatchable, low-carbon generating station. The Site encompasses a total area of approximately 112 ha and is indicative at this stage encompassing the natural gas, CO₂, electricity and water connections that may be required.</p> <p>The resources required for the construction of the Proposed Development are likely to be obtained from the global to local scale markets and where reasonably practicable, materials would be obtained locally. No waste, nuisances or accidents are likely to extend beyond the border of the UK. No novel technologies are proposed that have potential for transboundary effects.</p>
Location of development and Geographical area <ul style="list-style-type: none"> • What is the existing use?; • What is the distance to another EEA state? (Name EEA state)?; and • What is the extent of the area of a likely impact under the jurisdiction of another EEA state? 	<p>The Proposed Development's closest EEA boundary is the Republic of Ireland, located approximately 195 km to the west. No impacts are likely to extend beyond the jurisdiction of the UK.</p>

Criteria and Relevant Consideration

Commentary with Regard to the Proposed Development

<p>Environmental importance:</p> <ul style="list-style-type: none"> • Are particular environmental values likely to be affected?; • Capacity of the natural environment; and • Wetlands, coastal zones, mountain and forest sites, nature reserves and parks, Natura 2000 sites, area where environmental quality standards already exceeded, densely populated areas, landscapes of historical, cultural or archaeological significance. 	<p>Potential impacts and the potential for likely significant effects on relevant qualifying features of internationally designated sites (referred to as Habitat Sites) will be considered and presented within a HRA Report that will accompany the DCO Application.</p> <p>The Site is partially located within and in close proximity to a Ramsar site, SPA, and SAC. This natural environment is juxtaposed with an existing industrialised area of Flintshire, including the existing CCGT Connah's Quay Power Station. The Proposed Development forms part of a long-term replacement strategy for the existing CCGT on the Main Site. It is not anticipated that there is potential for transboundary effects (and therefore any effects on important environmental receptors beyond the UK).</p>
<p>Potential impact and carrier</p> <ul style="list-style-type: none"> • By what means could impacts be spread? 	<p>The primary available pathways for impact include emissions to atmosphere and emissions to water.</p>
<p>Extent</p> <ul style="list-style-type: none"> • What is the likely extent of the impact? 	<p>The only potential transboundary environmental impact is considered to arise from GHG emissions, which would be spread by atmospheric processes. It is recognised that GHG emissions contribute to changes to climate that occur on a global scale. The impact of GHG emissions is considered irreversible within human lifetimes, however, the Proposed Development seeks to align with and contribute positively to the UK Government's target to achieve net-zero emissions by 2050.</p>
<p>Magnitude</p> <ul style="list-style-type: none"> • What will the likely magnitude of the change in relevant variables relative to the status quo, taking into account the sensitivity of the variable? 	
<p>Probability</p> <ul style="list-style-type: none"> • What is the degree of probability of the impact? • Is the impact likely to occur as a consequence of the normal conditions or exceptional situations, such as accidents? 	
<p>Duration</p> <ul style="list-style-type: none"> • Is the impact likely to be temporary, short-term or long-term? • Is the impact likely to relate to the construction, operation or decommissioning phase of the activity? 	<p>It is proposed to calculate the likely GHG emissions generated by the Proposed Development as part of the EIA and report these within the ES that accompanies the DCO Application. In line with relevant guidance, the Proposed Developments emissions will be contextualised against the UK national and Welsh carbon budgets as proposed by the CCC, agreed by government, and ratified by parliament and Senedd Cymru, respectively.</p>
<p>Frequency</p> <ul style="list-style-type: none"> • What is likely to be the temporal pattern of the impact 	<p>In any event, the global nature of GHG impacts means that it is not possible to apportion or identify any impact in GHG emissions in terms of environmental effects on any particular country or state. Due to the distance to the nearest EEA State, it is considered unlikely that any impacts that arise from the Proposed Development would generate any significant effect to any receptor in any other EEA State including those impacts resulting from GHG emissions from the Proposed Development, as the environmental receptor in this regard is the global atmosphere, rather than the environment of any country or state or group</p>
<p>Reversibility</p> <ul style="list-style-type: none"> • Is the impact likely to be reversible or irreversible 	

Criteria and Relevant Consideration

Commentary with Regard to the Proposed Development

of countries or states. The GHG emissions are considered at a global level, and so are captured by the assessment in any event.

The magnitude of the climate change impacts will be assessed and reported in the ES as part of the GHG assessment in the Climate Change chapter.

GHG emissions are probable and will occur as a result of normal operation of the Proposed Development, noting that the Proposed Development will be designed to capture the CO₂.

CO₂ emissions will result from both the construction and operational phases. The impact to the global atmosphere long-term, however, the Proposed Development is intended to contribute to the UK's long-term GHG emissions reduction targets.

Cumulative impacts

- Are there other major development close by?

Schemes within 15 km of the Proposed Development will be taken into consideration in the EIA. On this basis, it is not anticipated that there is potential for likely significant cumulative transboundary effects.

