

Connah's Quay Low Carbon Power

Environmental Statement Volume IV Appendix 11-I: Water Vole Technical Appendix

Planning Inspectorate Reference: EN010166

Document Reference: EN010166/APP/6.4

Planning Act 2008 (as amended)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(a)

Revision 00

Prepared for:
Uniper UK Limited

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Table of Contents

1.	Introduction	1
1.1	Background	1
1.2	Survey Scope	1
2.	Relevant Legislation and Policy	2
2.1	Legislation	2
2.2	Planning Policy	2
2.3	Priority Species	2
3.	Methodology	4
3.1	Desk Study	4
3.2	Field Survey	4
3.3	Nature Conservation Evaluation	6
3.4	Assumptions and Limitations	6
4.	Results and Evaluation	8
4.1	Desk Study	8
4.2	Field Survey	8
4.3	Evaluation of Ecological Importance	13
5.	Summary	14
	References	15
	Annex A: Figures	17
	Annex B: Photographs	18
	Annex C: Aspect Ecology Reports	41

Tables

Table 1. Water Vole Habitat Suitability Assessment Data	8
Table 2. Water Vole Survey Results	12

1. Introduction

1.1 Background

- 1.1.1 This report forms a technical appendix accompanying **Chapter 11: Terrestrial and Aquatic Ecology** of the Environmental Statement (ES) for the Connah's Quay Low Carbon Power Project (the Proposed Development).
- 1.1.2 This report describes the approach and findings of water vole *Arvicola amphibius* surveys carried out to date in support of the Ecological Impact Assessment (EIA) of the Proposed Development.
- 1.1.3 This report focuses on the Order limits excluding the Accommodation Works Areas (hereafter known as the Construction and Operation Area). This area is shown on **Figure 3-3: Areas Described in the Environmental Statement (EN010166/APP/6.3)** sheets 6 to 8 and Plate 3-2 of **Chapter 3: Description of the Existing Environment (EN010166/APP/6.2.3)**.
- 1.1.4 The Accommodation Works Areas are considered in **Appendix 5-A: Environmental Screening of Accommodation Works (EN010166/APP/6.4)**.

1.2 Survey Scope

- 1.2.1 A Preliminary Ecological Appraisal (PEA) of the ecological constraints and opportunities associated with the Construction and Operation Area was carried out in November 2023 and identified the requirements for further water vole surveys. The findings of the initial habitat and scoping survey are compiled within the PEA (annexed to **Appendix 11-C: Botanical Baseline Survey and Information Report (EN010166/APP/6.4)**). The habitat descriptions have since been updated by the habitat surveys conducted in 2024; the results of which are also presented in **Appendix 11-C: Botanical Baseline Survey and Information Report (EN010166/APP/6.4)** which should be referred to for a more detailed overview of the Construction and Operation Area conditions and habitats present.
- 1.2.2 The purpose of this report is to provide water vole baseline technical information only, based on water vole survey data gathered in support of the Proposed Development. It does not seek to include recommendations, specify mitigation or make an EIA of the Proposed Development. The formal EIA is provided as **Chapter 11: Terrestrial and Aquatic Ecology (EN010166/APP/6.2.11)**. This Water Vole Baseline Survey and Information Report comprises an appendix to that Chapter.
- 1.2.3 The 'Study Area' and 'Survey Area' used and referenced within this report are defined within Section 3.

2. Relevant Legislation and Policy

2.1 Legislation

2.1.1 **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics (EN010166/APP/6.4)** provides detail on the legislation that is of direct relevance to the assessment of ecology.

2.1.2 Water voles are given full protection under schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (WCA) (Ref 1). They are afforded protection under Section 9 Part 9 (1), (2), (4) and (5) of the WCA.

2.1.3 In summary, the legislation makes it an offence to:

- Intentionally or recklessly take (capture), injure or kill a water vole;
- Possess or control live or dead individuals of these species or their derivatives;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for their shelter or protection;
- Intentionally or recklessly disturb these species whilst occupying a structure or place of shelter used for that purpose;
- Sell these species or offer or expose for sale or transport for sale; and
- Publish or cause to be published any advertisement which conveys the buying or selling of this species.

2.1.4 Where development works have the potential to disturb, damage or destroy their places of shelter (burrows); stop water voles from accessing places they use for shelter or protection; kill or injure them; or to take, move, possess or control them a licence is required (Ref 2) from Natural Resources Wales (NRW).

2.1.5 Development and other construction activities may be licensed by NRW under “reasons of overriding public interest”. Such works should be carried out under a Mitigation Licence, issued by NRW. This licence requires demonstration of a conservation benefit for water vole and this benefit can be achieved by delivering a net gain in the amount of habitat available to the water vole population. This is typically achieved through habitat creation, improving existing habitat and significantly improving linkages between water vole colonies.

2.2 Planning Policy

2.2.1 Full details of relevant national and local planning policy relevant to ecology is provided in **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics (EN010166/APP/6.4)**.

2.3 Priority Species

2.3.1 Water voles are an Environment (Wales) Act 2016 Section 7 Priority Species (Ref 3). These are the species found in Wales which were identified as requiring action under the UK Biodiversity Action Plan (BAP) (Ref 4) and

which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework (July 2012) (Ref 5) and superseded by the UK Biodiversity framework 2024 (Ref 6). As such, it is targeted for measures necessary to support its conservation status in the UK. Water voles are also listed as being a Species of Principal Importance (SPI) for conservation under Section 41 of the Natural Environment and Rural Communities Act 2006 (Ref 7).

3. Methodology

3.1 Desk Study

- 3.1.1 A desk study was conducted which consisted of a search for recent water vole records.
- 3.1.2 All recent records for water vole were requested from Cofnod - the Local Environmental Records Centre (Cofnod) (Ref 8) for North Wales within 2 km of the Construction and Operation Area (hereafter known as the Study Area). This distance is considered appropriate to obtain an indication of water vole presence within the wider landscape. With regard to desk study data, 'recent' records are considered to be those no older than 10 years from the date of the desk study (requested March 2024). Records outside of this period are historical and have only been reported where more recent records for a species do not exist.
- 3.1.3 Previous work undertaken by Aspect Ecology in 2023 (**Annex C**) and information within the PEA report 2024 (Ref 9) was reviewed to augment and inform the desk study.
- 3.1.4 Online aerial imagery was consulted to identify suitable habitat for water vole within the Proposed CO₂ Connection Corridor and Repurposed CO₂ Connection Corridor.

3.2 Field Survey

- 3.2.1 A walkover field survey was conducted on the 7th November 2023 in order to identify and update areas for further survey within the Construction and Operation Area and development boundaries.
- 3.2.2 The Survey Area comprised watercourses WC1 and WC2, and ponds P19, P20, P21, P42 and Leadbrook, including 50m buffers from these features (where access allowed) within the Construction and Operation Area. The Survey Area is shown on **Figure 11I-1 (Annex A)**.
- 3.2.3 In accordance best practice guidelines (Ref 10) two surveys were carried out at the Construction and Operation Area within the Survey Area. The first survey was conducted in the first half of the breeding season (April to June) over two days, 24 and 25 June 2024 with the second in the second half of the breeding season (July to September) over two days, 25 and 26 September 2024. There was a gap of at least 2 months between the two surveys. Surveys were undertaken by suitably experienced and trained ecologists in suitable weather conditions.
- 3.2.4 Both surveys comprised a habitat suitability assessment (to record any variation in habitat quality between the seasons), and a search for water vole field signs. All observations were recorded in the ArcGIS Field Maps application. Habitat suitability was assigned to the following categories shown within guidelines to practical field surveys (Ref 12):
 - Optimal;
 - Good;

- Suitable but poor; and
- Negligible.

3.2.5 Water voles typically inhabit slow-moving streams, canals, ditches, dykes and rivers. When undertaking habitat suitability assessments, a range of criteria need to be taken into consideration as follows:

- connectivity to watercourses;
- extent of suitable emergent and bankside herbaceous vegetation for shelter, food and nesting material;
- year-round availability of food sources;
- rate of water flow;
- bank profile;
- degree of shading from overhanging trees or scrub;
- levels of disturbance (e.g. proximity to public rights of way);
- potential for the watercourse or waterbody to dry out;
- suitability of bank substrates for burrowing; and
- pollution and water quality.

3.2.6 Water voles leave several indications of their presence. Field signs searched for included:

- Single droppings – distinct droppings approximately 9-15 mm in length and 3-5 mm in diameter. They are regular in shape, rounded in section with blunt or rounded ends. Colour varies from olive-green, brown, purple, and khaki depending on food availability and they have an earthy/ compost-type smell;
- Latrine sites – formed by distinct piles of water vole droppings and maintained during the breeding season as territories are established. Found near burrows, at the edges of territorial boundaries and where the animals enter and leave the water. They may be compressed by an animal during scent-marking;
- Feeding stations – areas with distinct neat piles of chewed lengths of vegetation along pathways or haul out platforms along the water's edge;
- Burrows – burrow entrances are typically wider than high with a diameter between 4 cm and 8 cm. Burrow entrances are generally located at the water's edge;
- Lawns – short, grazed areas at the entrances to burrows;
- Prints – identifiable prints in soft margins of the watercourse; and
- Runways – low tunnels that are pushed through the vegetation and often leading to burrows or feeding stations.

3.2.7 Only direct sightings of water vole and the recording of latrines and/ or droppings can be used to confirm presence of water vole. Other field signs help ascertain areas of habitat use, but they are not confirmatory signs.

3.3 Nature Conservation Evaluation

- 3.3.1 Evaluation of the relative nature conservation value of the identified ecological features within a site (encompassing nature conservation designations, ecosystems, habitat and species) is required to inform a future EClA.
- 3.3.2 The method of evaluation that has been utilised has been developed with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (Ref 11). These guidelines give advice on scoping and carrying out environmental assessments and place appraisal in the context of relevant policies.
- 3.3.3 Data received through consultation, desk-based studies and field-based surveys are used to allow ecological features of nature conservation value or potential value to be identified, and the main factors contributing to their value described and related to available guidance. This data can also be used to identify other relevant values e.g. socio-economic or ecosystem services values, but this is beyond the remit of this report and requires the involvement of other relevant specialists.
- 3.3.4 The value of a species may relate to its geographic location (species may be rare and more valued towards the edge of their geographic range), the extent to which the component species are threatened throughout their range, or their rate of decline. The value of a species associated with the Construction and Operation Area has been defined with reference to the geographical level at which it is considered to matter.

3.4 Assumptions and Limitations

Desk Study

- 3.4.1 The aim of the desk study was to provide valuable background information that would not be captured by site surveys alone. Information obtained during the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular species does not necessarily mean that the species does not occur in the Study Area. Likewise, the presence of records of species does not automatically mean that these still occur within the area of interest.
- 3.4.2 Initial survey work for the Proposed Development was undertaken by Aspect Ecology. Current best practice guidelines (Ref 10) allows for surveys to be undertaken within the same year or as a late season survey then an early season survey in the following year. Surveys undertaken by Aspect Ecology did not conform with best practice as surveys as they were undertaken in 2021 and 2023. This limitation has been addressed by surveys undertaken in 2024 which followed best practice guidelines.

Field survey

- 3.4.3 Ponds P19, P20 and P21 (shown on **Figure 11I-3 Annex A**), were unable to be surveyed conventionally during the first visits in June 2024 due to a breeding pair of avocet *Recurvirostra avosetta* nesting on an island within

pond 19. Avocets are listed on Schedule 1 of the WCA making it illegal to disturb them intentionally or recklessly while they are building a nest, sitting on or nearby with eggs and young, and while the young are dependent on the adults.

- 3.4.4 The June 2024 surveys of the above ponds comprised visual assessment from a nearby bird hide so as not to disturb the avocets, with the surveys in September 2025 proceeding as planned once the avocets had finished nesting. No visual assessment could be made of P21 in June due to sight line obstruction, although anecdotal evidence from members of the local ornithological society suggests that P21 is dry. September surveys confirmed that P21 was dry.
- 3.4.5 P42 was only identified in June 2024, after the initial water vole surveys took place. During the September visit, the survey of this watercourse was limited to a visual inspection only due to a large fence preventing access to the watercourse. However, this visual assessment enabled the suitability of the watercourse to be adequately assessed.
- 3.4.6 During the September 2024 surveys there were periods of light rainfall two days prior to the survey taking place. This could have caused evidence of water vole presence to be washed away, specifically droppings and footprints. However, the showers were light and unlikely to have washed all evidence away, in particular around areas where cover was present. Furthermore, brown rat *Rattus norvegicus* evidence was located on site including droppings and prints suggesting that this was not a significant limitation to the survey effort.
- 3.4.7 Overall, these limitations are not considered to invalidate the survey results, based on the poor suitability or unsuitability of the features to support water vole, and this report is considered to be an accurate assessment of the use of the Construction and Operation Area by water voles.

4. Results and Evaluation

4.1 Desk Study

Cofnod Records

- 4.1.1 There are a total of eight records for water vole within the Study Area. All these records are located in the same place as shown on **Figure 11I-2 Annex A**. There were no records of American mink *Neogale vison*.
- 4.1.2 The Aspect Ecology surveys (**Annex C**) concluded that water vole were likely absent from the Construction and Operation Area and its immediate surroundings.
- 4.1.3 The desk study identified three watercourses that could offer suitable habitat for water vole. These are shown in **Figure 11I-3 Annex A**.

4.2 Field Survey

- 4.2.1 A total of three ponds and four watercourses were surveyed during field surveys in 2024. Those included Ponds 19, 20 and 21 and watercourses WC1, WC2, Leadbrook and a ditch P42 (surveyed only in September survey after being discovered late in the season during other survey work). These are shown in **Figure 11I-3 Annex A**.
- 4.2.2 Weather conditions for the June survey dates were dry and sunny before and during the survey period. Weather conditions for the September survey dates were overcast with scattered showers two days before the survey but dry and overcast during the survey dates with light showers in the afternoon on the final date.

Habitat suitability

- 4.2.3 Habitat suitability was undertaken at the same time as the water vole surveys looking for evidence of presence or absence. **Table 1** below highlights the results of these surveys with photographs from the assessment shown in **Annex B**.

Table 1. Water Vole Habitat Suitability Assessment Data

Watercourse Reference	Summary Description of Suitability	Suitability	Photograph
P19	Unconnected directly to other watercourses this is a large pond (210 m * 70 m) used by a range of bird species that does not dry out. Vegetation is present along the southern and western edges with reed domination to the south and areas of the west, rush in sections of the west and to the	Suitable but poor	See Annex B

Watercourse Reference	Summary Description of Suitability	Suitability	Photograph
	<p>north, this provides cover and food. The pond is static with no evidence of pollution and with varying depth (>40 cm in places) with shallow banks to the east and steeper along the west, both earthy materials suitable for burrowing. Banks to the west and south are shaded by scrub and reeds. Some disturbance through management with grass and terrestrial vegetation removal within the area containing this waterbody through strimming (noted during September survey).</p>		
P20	<p>Unconnected directly to other watercourses, this is a small pond (80 m * 40 m) used by a range of bird species that does not dry out. Vegetation is present around the pond and its margins and extended into the pond by up to 10 m in various locations. The pond is static with varying dept, approx. 10 cm-30 cm. It is surrounded by a shallow bank profile of earth that is suitable for burrowing. No shading from trees but the grasses and scrub offer some shading to the water's edge in places. Some disturbance through management with grass and terrestrial vegetation removal within the area containing this waterbody through strimming (noted during September survey).</p>	Suitable but poor	See Annex B
P21	<p>Unconnected directly to other watercourses this area is a shallow depression with no clear defined banks. No aquatic plant species are present and the area was noted to be dry in September and is considered unlikely to hold water during the</p>	Negligible	See Annex B

Watercourse Reference	Summary Description of Suitability	Suitability	Photograph
	key activity period for water vole (April through to September).		
WC1	Watercourse 1 is a flowing 1.5 m wide stream connected to a large pond at its southern end. It has a rapid flow making it less suitable for water vole and discharges toward the Dee Estuary. It is unlikely to dry out and varies in depth up to 40 cm. Vegetation is not present within the channel, with the bankside vegetation comprising grasses, nettles (<i>Urtica</i> species), bramble (<i>Rubus</i> species), ivy (<i>Hedera</i> species) and tree species. This offers limited foraging as a lot of areas are ivy dominated however where grasses, nettles and brambles are present water vole could forage. Around the pond to the south rushes are present and extend up to 1 m. Banks vary from flat to >45degrees and are made up of earth. Most of the watercourse is heavily shaded (90%) with occasional disturbance likely towards the southern end due to a footpath running adjacent to the watercourse.	Suitable but poor	See Annex B
WC2	Watercourse 2 is a 1.5 m wide slow flowing stream that flows north through a culvert completely underground through a pasture field (seen in the first photo) before emerging into another field with cows. The watercourse is unlikely to dry out and varies in depth up to 20 cm. Vegetation comprises terrestrial grasses and nettles with trees providing shade for large sections of the water course (40-50%). Banks are earth but are not protected from grazing cattle resulting in them being heavily	Negligible	

Watercourse Reference	Summary Description of Suitability	Suitability	Photograph
	poached and unsuitable for water vole burrows.		
Leadbrook	Leadbrook is a fast-flowing (reducing suitability) watercourse that comes out from a culvert before heading out into the Dee Estuary. The culvert itself comes out from under a housing estate seen on aerial maps and it is approx. 300 m long. It is connected to the wider environment through small channels. It is 3 m wide and up to 50 cm deep in places. There are indications that the water level can fluctuate with the tide and during periods of heavy rain reducing suitability due to flooding. There is no in-channel vegetation with the banks covered in terrestrial grasses. These grass swards are short with no evidence of mammal runs. The banks are steep and undercut in profile, because of the high flow, and are made of soft mud that does offer suitability for burrowing. Evidence of brown rat (<i>Rattus norvegicus</i>) recorded with prints and droppings reducing suitability although water vole will cohabit. Leadbrook is in a low disturbance area as it moves through a saltmarsh with no public access.	Suitable but poor	See Annex B
P42	P42 is a small watercourse (ditch) that is 3 m wide, with a maximum depth of 20 cm towards the western end and even shallower drying up towards the eastern end with multiple dry sections, reducing suitability significantly. The water does not appear to be flowing but is possibly tidal noted by tide marks seen along the bank	Negligible	See Annex B

Watercourse Reference	Summary Description of Suitability	Suitability	Photograph
	<p>edges reducing suitability due to flooding and burrow impacts.</p> <p>The vegetation is limited towards the west in diversity and cover, but towards the east, channel vegetation increases until it is dominated by dense bulrush (<i>Typha latifolia</i>) which shades 50% of the channel. Other bankside vegetation includes terrestrial grasses, nettles and bramble. Banks are steep and made of earth material, which offers suitability for burrowing.</p> <p>The area is adjacent to a park which is heavily managed indicating disturbance is frequent though vegetation maintenance. After reviewing aerial images and combining with in situ survey, the area appears extremely isolated from other habitats with only 100-150 m at most of low suitability habitat towards the east. Further to the west the water body appears to run into a culvert under urban development.</p> <p>Overall, the waterbody was assessed as unsuitable for water vole.</p>		

Water Vole survey

4.2.4 Results of the water vole field survey indicated a likely absence of the species at the Construction and Operation Area, with details shown below in **Table 2**.

Table 2. Water Vole Survey Results

Watercourse Reference	Early Season Survey (June)	Late Season Survey (September)
P19	Likely absent	Likely absent
P20	Likely absent	Likely absent
P21	N/a - nesting avocet within P19 prevented survey	Unsuitable (dry) – removed from survey

Watercourse Reference	Early Season Survey (June)	Late Season Survey (September)
WC1	Likely absent	Likely absent
WC2	Unsuitable – removed from survey.	N/a
Leadbrook	Likely absent	Likely absent
P42	N/a – added to scope for survey in September	Unsuitable for water vole

4.2.5 No field signs of water vole were observed during the field surveys.

Anecdotal record

4.2.6 In June 2024 a member of the Deeside Naturalist's Society suggested that a small mammal (matching the description of a water vole) was seen approximately 2-3 years ago from a bird hide overlooking P19, P20, P21, Leadbrook and the River Dee within the Construction and Operation Area.

4.3 Evaluation of Ecological Importance

4.3.1 Initial habitat assessment of watercourses and ponds at the Construction and Operation Area indicated that they were either unsuitable or had poor suitability for water vole. The desk study results found eight observations, however all were located at the same point next to a housing estate located more than 1 km north of the Construction and Operation Area. From checks in the field and online mapping there appeared to be no direct connectivity from the Construction and Operation Area to this housing estate to the north, culverts being a barrier to movement. The anecdotal record of a potential water vole sighting was unsubstantiated and cannot be verified that this observation was of a water vole. Field surveys demonstrated a likely absence of water vole at the Construction and Operation Area, and as such they will be scoped out from the subsequent Ecological Impact Assessment.

5. Summary

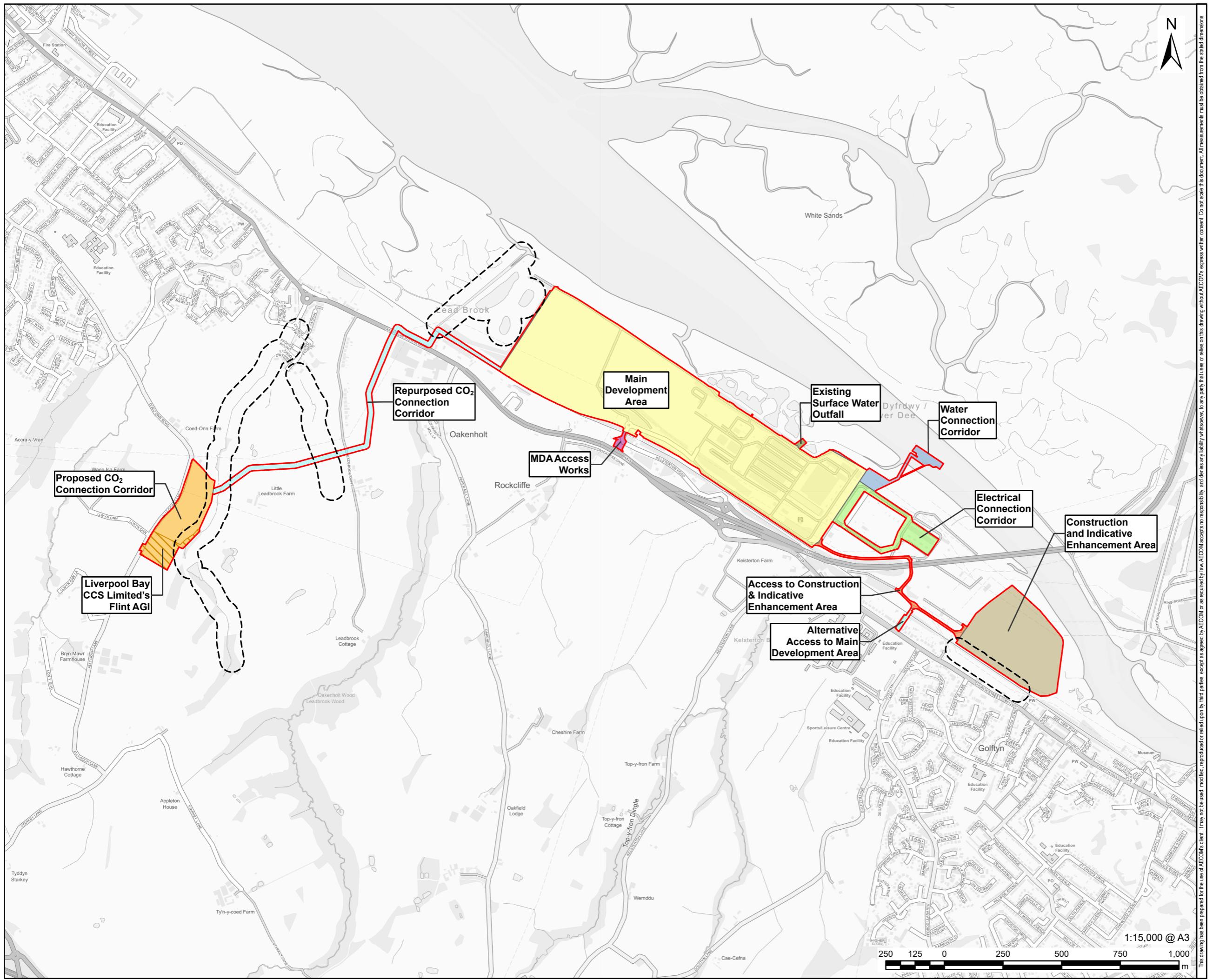
- 5.1.1 The results of the 2024 water vole desk study and surveys are taken into account to define appropriate mitigation measures. These are reported in **Chapter 11: Terrestrial and Aquatic Ecology (EN010166/APP/6.2.11)** of the ES and **Framework Construction Environmental Management Plan (CEMP) (EN010166/APP/6.5)**.
- 5.1.2 Initial surveys undertaken in 2021 and 2023 from Aspect Ecology indicated that water vole were not present, however were not completed following published survey guidelines (Ref 10). On this basis water vole surveys were repeated in 2024 in line with best practice.
- 5.1.3 Surveys undertaken in 2024 were completed by suitably trained ecologists in appropriate weather conditions following the best practice guidelines with surveys completed in both 'early' and 'late' season windows. All waterbodies were classed as having 'poor suitability' or as being 'unsuitable' for water vole.
- 5.1.4 No confirmatory field signs were identified during the surveys to suggest that water voles are present at the Construction and Operation Area. As such we can conclude that water voles are likely absent from the Construction and Operation Area.

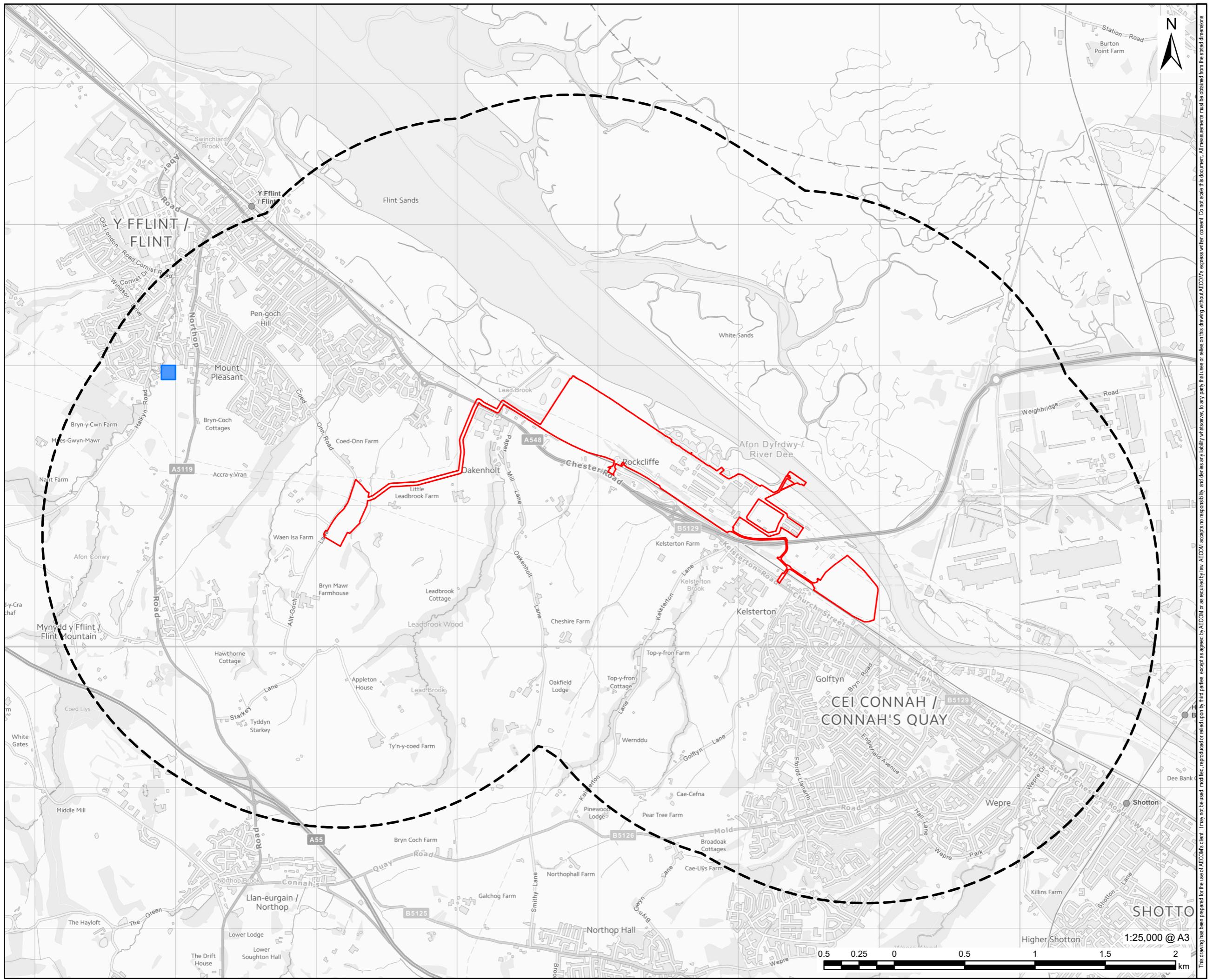
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Annex A: Figures





NOTES

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Records provided by Cofnod for Ecological Records Search Request. Due to the accuracy of the grid reference supplied some records are approximate. Any records with a grid reference accurate to a 100m square or less have been represented by a polygon rather than a point.

ISSUE PURPOSE

Environmental Statement

DATE

July 2025

PROJECT NUMBER

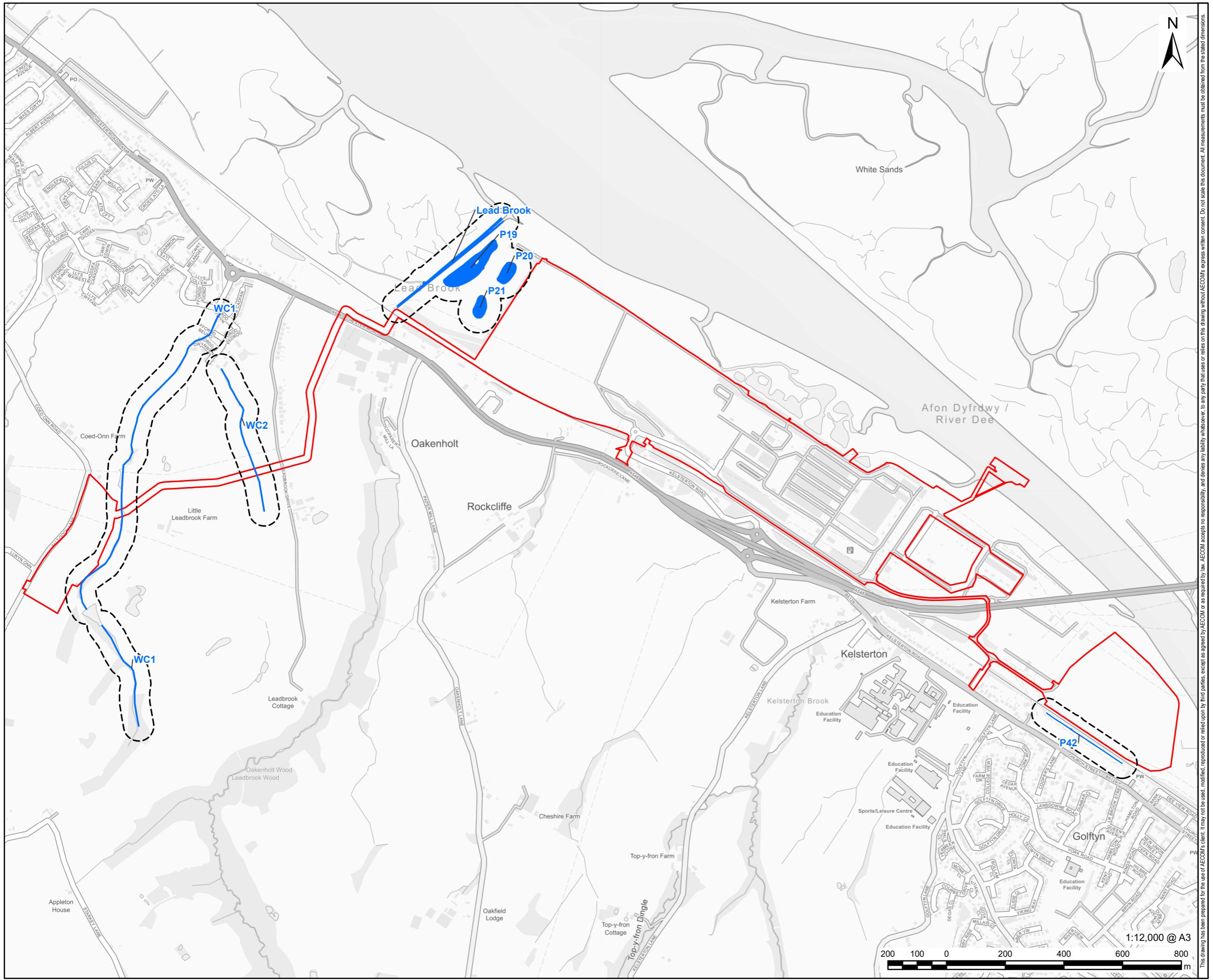
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FIGURE TITLE

Desk Study Information

FIGURE NUMBER

Figure 111-2



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DATE

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FIGURE TITLE

Water Vole Survey Areas

FIGURE NUMBER

Figure 111-3

Annex B: Photographs

Waterbody	Photograph
P19	 A photograph showing a calm pond with a dense line of reeds along its left bank. The right bank is a mix of dry, brown grass and some aquatic vegetation. The sky is overcast.
	 A photograph showing a pond with a power line tower and its associated wires in the background. The left bank of the pond is a mix of dry grass and some aquatic vegetation. The water is calm.

Waterbody | **Photograph**



Waterbody	Photograph
P20	
	

Waterbody | **Photograph**

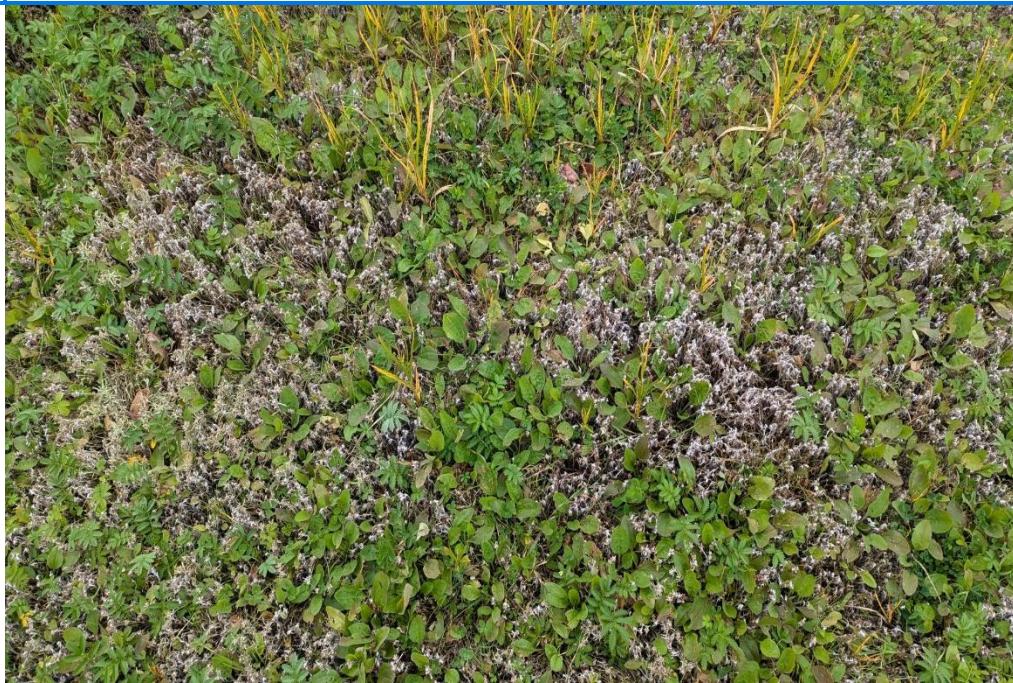


Waterbody | **Photograph**

P21

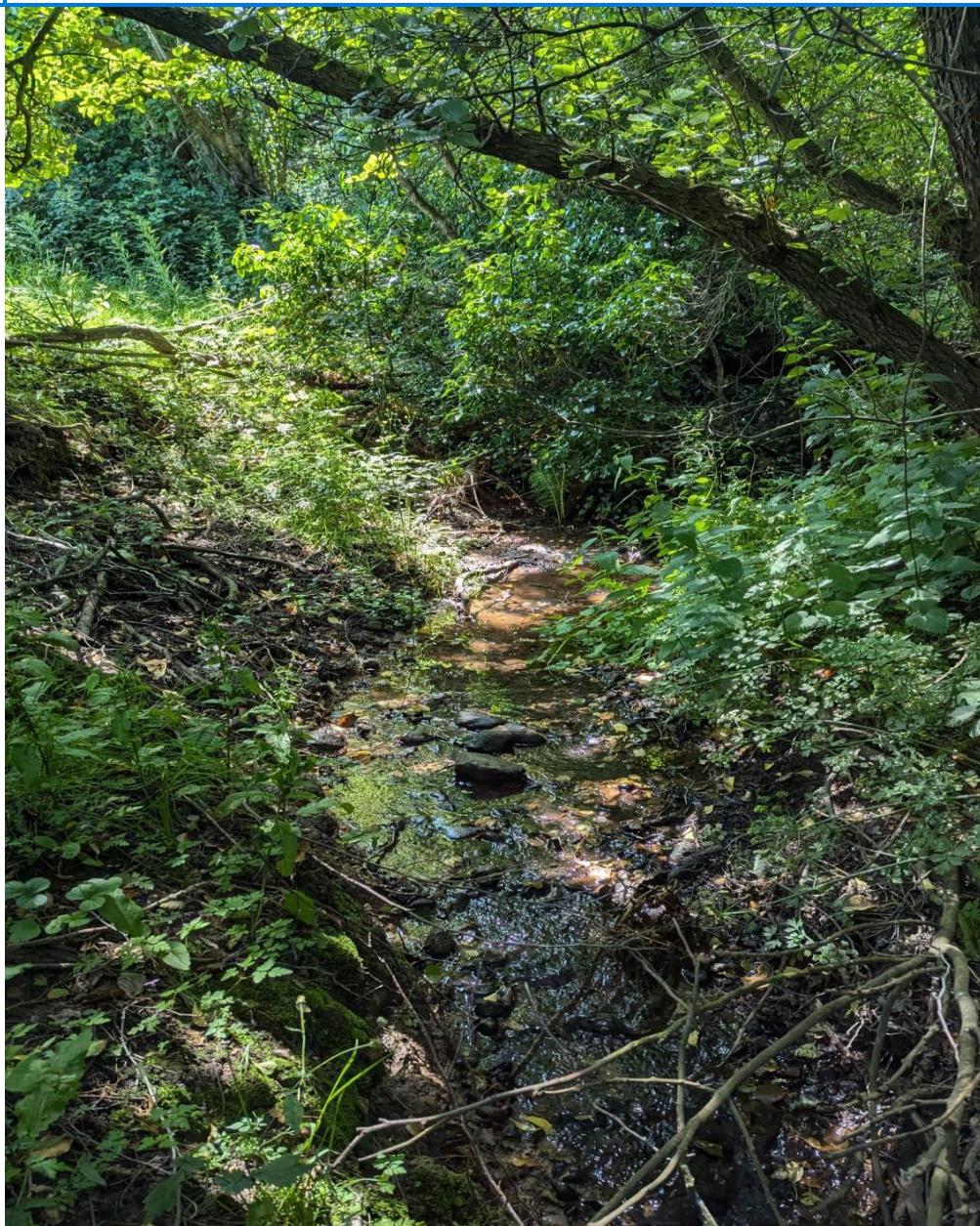


Waterbody | **Photograph**



Waterbody **Photograph**

WC1



Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody	Photograph
WC2	

Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody	Photograph
Leadbrook	

Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody | **Photograph**

P42



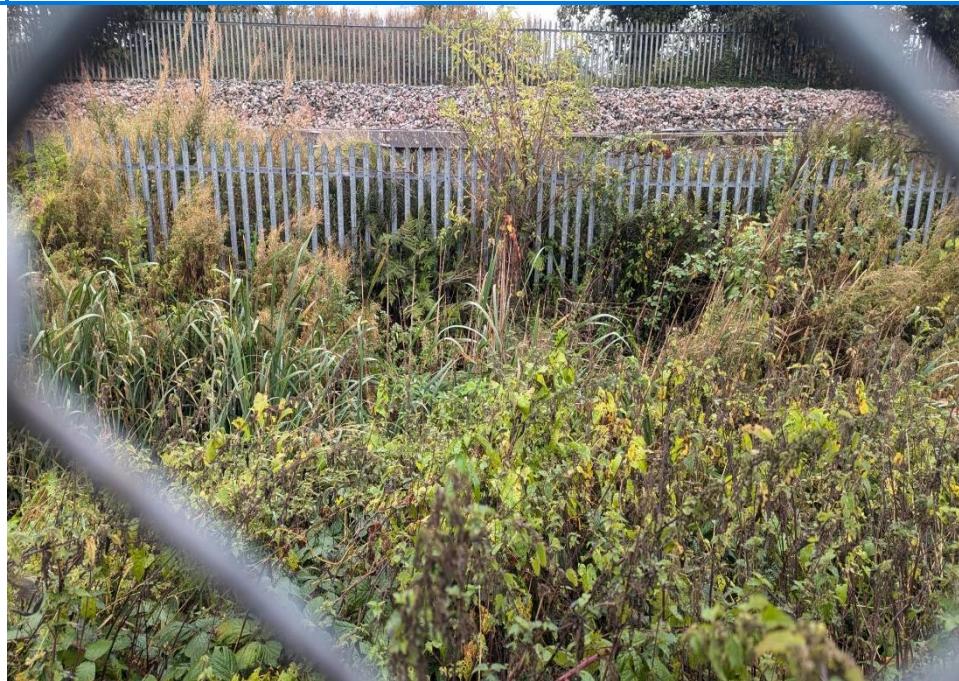
Waterbody | **Photograph**



Waterbody | **Photograph**



Waterbody | **Photograph**



Annex C: Aspect Ecology Reports

Connah's Quay Power Station:
Northern Land Parcel

**Phase 1 Habitat and
Faunal Surveys**

July 2023

Contents

Text:

Executive Summary	1
1 Introduction	2
2 Methodology	3
3 Ecological Designations.....	10
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

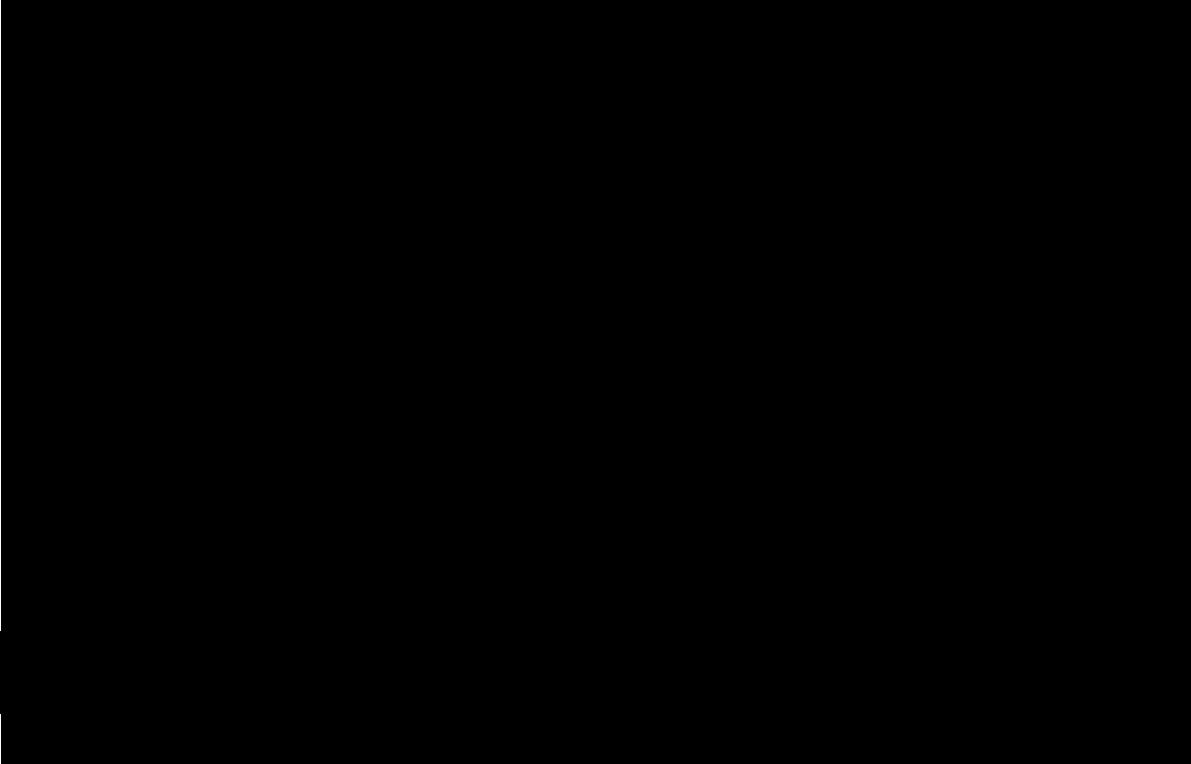
2.3.2 **Trees.** Trees were assessed for their suitability to support roosting bats based on the presence of potential roosting features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁷ as:

- 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



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 Otter⁸ 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 *Ranunculion fluitantis* and *Callitricho-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 *Critchmum maritimum*, Caper Spurge *Euphorbia lathyrus*, 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 *Diplotaxis 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.

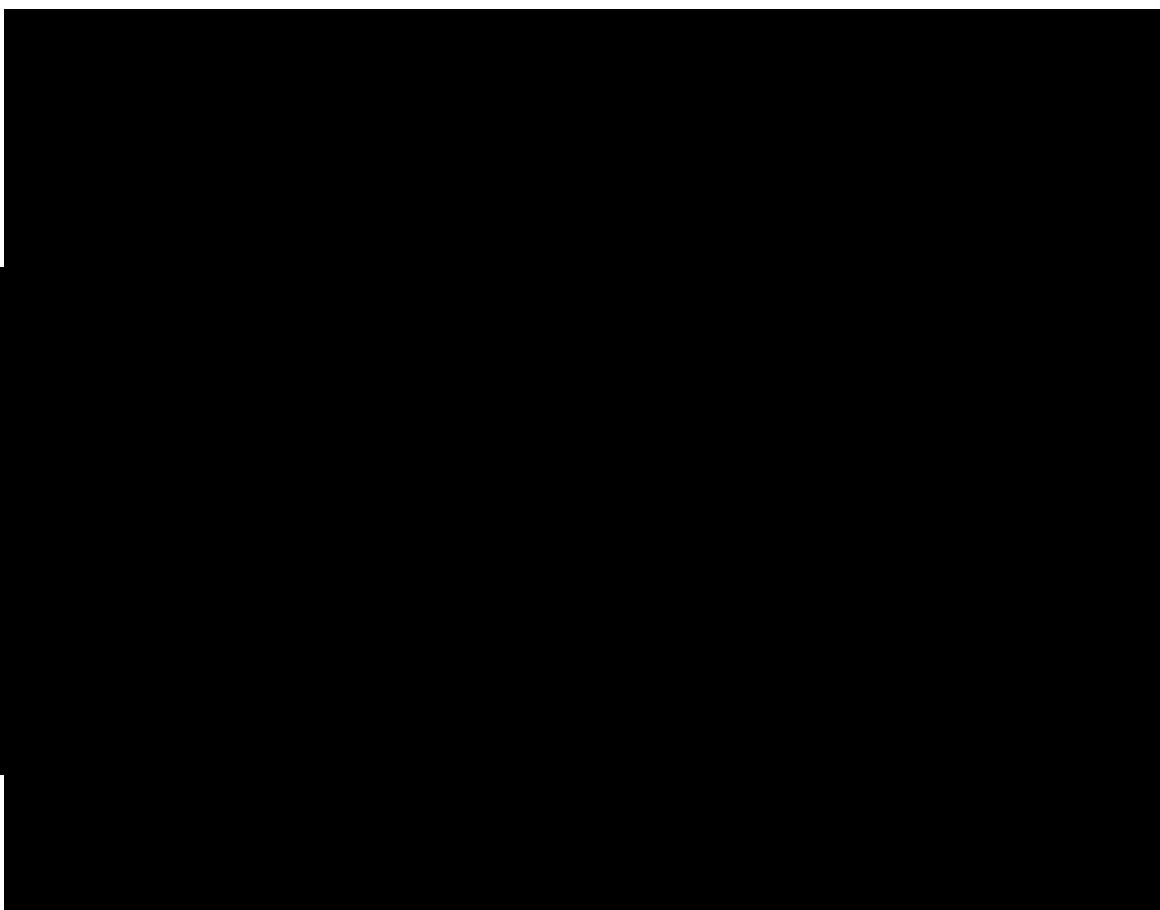
Foraging / Commuting

- 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



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 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
Otter	Likely commuting habitat offsite	Negligible
Hedgehog	Local records of presence; suitable habitat on site	Site

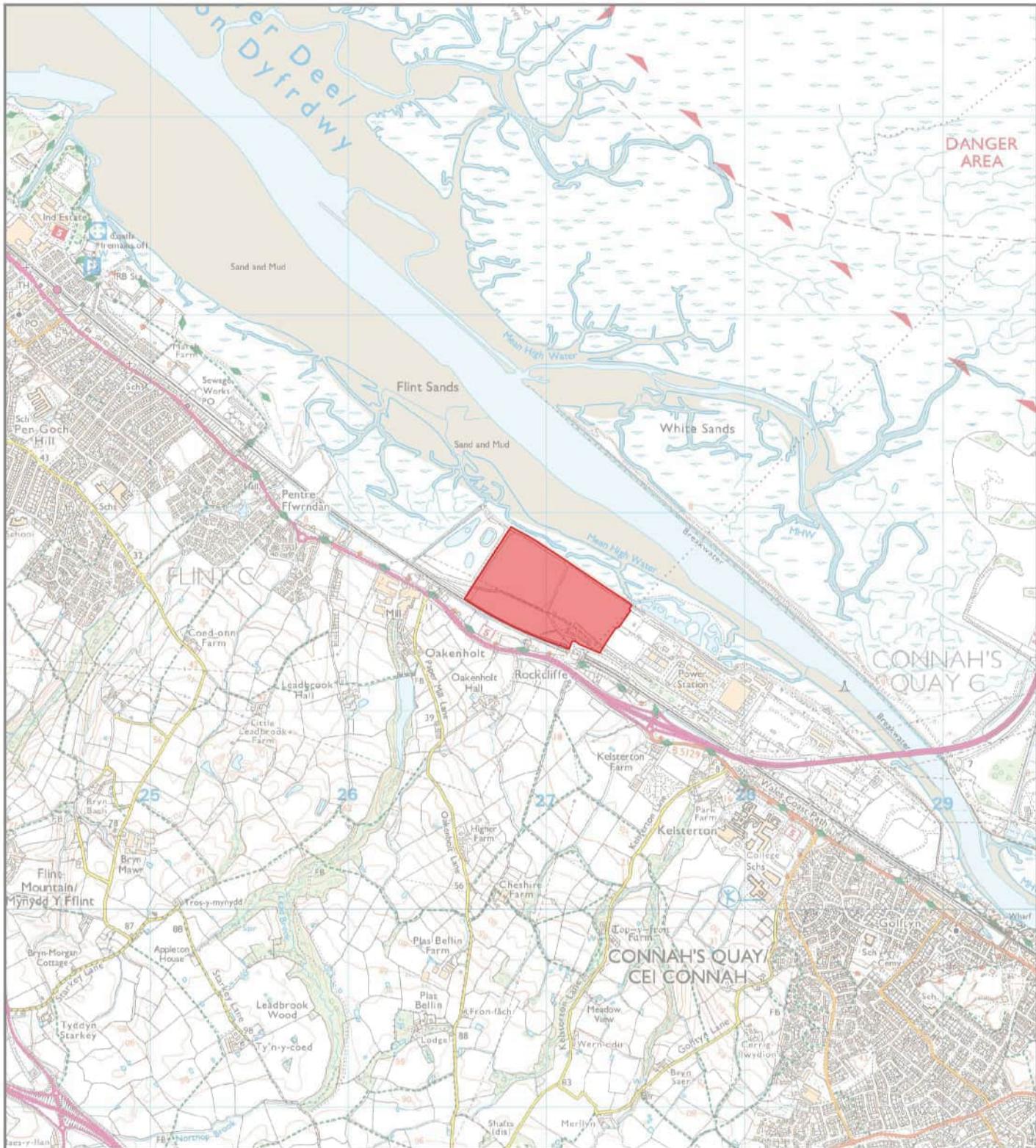
¹⁸ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

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 [REDACTED]
[REDACTED] 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



Key:

Site Location

aspect ecology

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

Connah's Quay (North)

PROJECT

Site Location

TITLE

6322/ECO1

DRAWING NO.

B/JP

REV

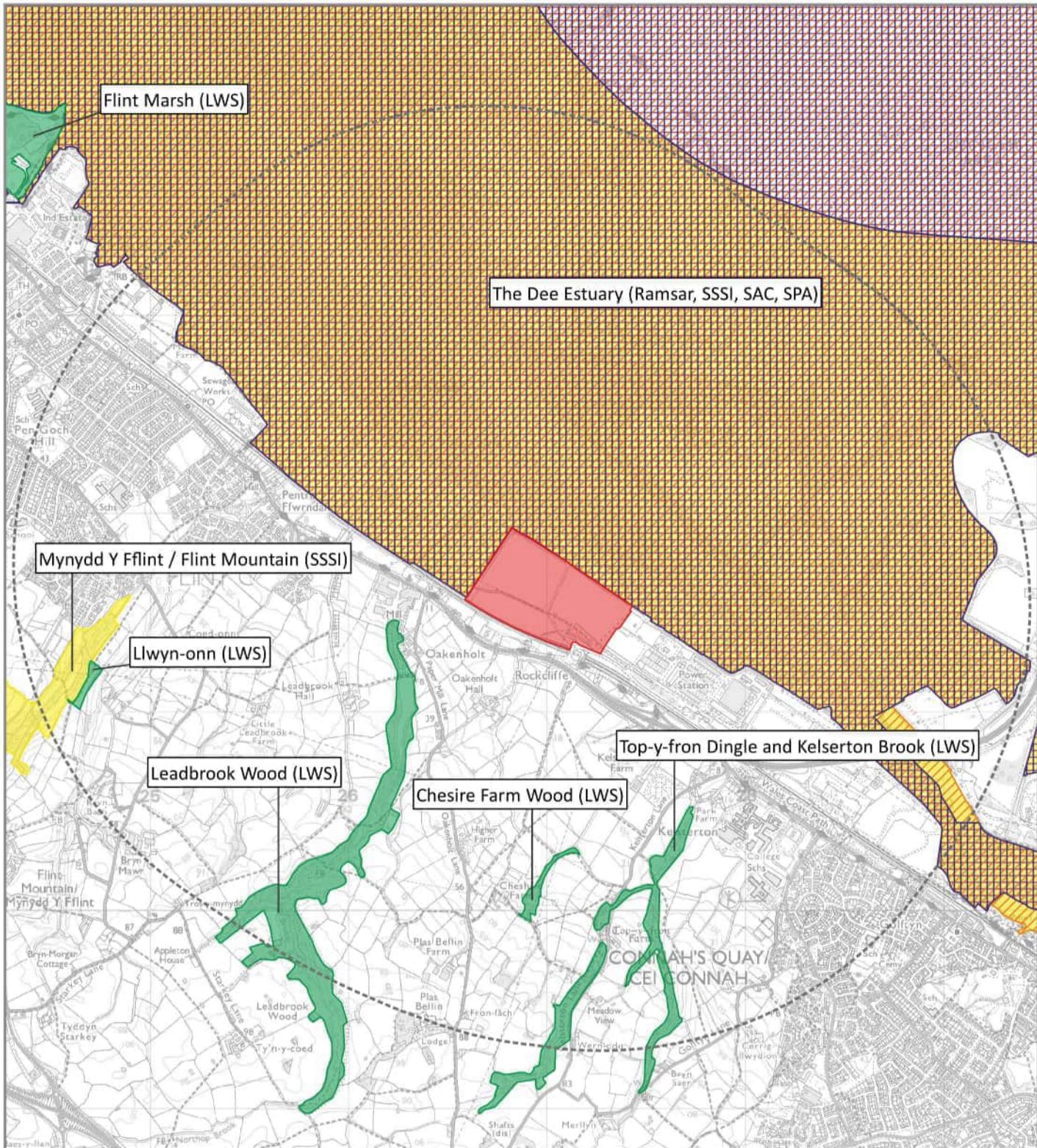
September 2023

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)

aspect ecology

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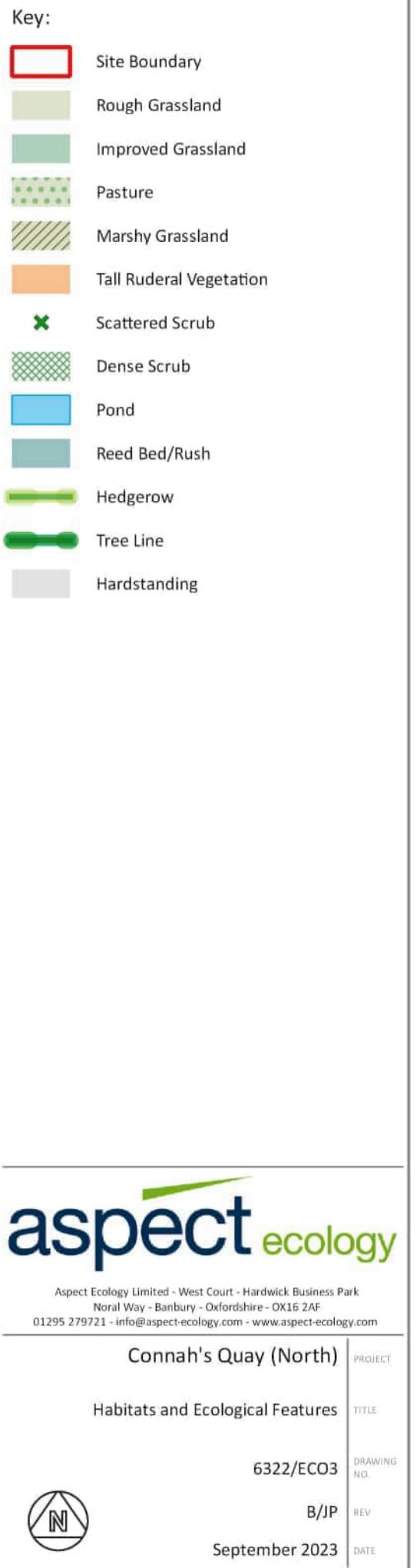
Connah's Quay (North)

Ecological Designations	PROJECT
6322/ECO2	TITLE
B/JP	DRAWING NO.
September 2023	REV
	DATE



Plan 6322/ECO3:

Habitats and Ecological Features



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 *Mergus 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-Regio, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.21611111
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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Tel: 01733 562626 Fax: 01733 555948. Contact us: [Enquiry form](#)

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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 *Callitricha 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 *Callitricho-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: [REDACTED]

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 *Callitricho-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

Date of Notification: 19 May 2011

National Grid Reference: SJ 243709

OS Maps: 1:50,000 Sheet number: 116
1:10,000 Sheet number: SJ27SW

Site Area: 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 sneezewort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

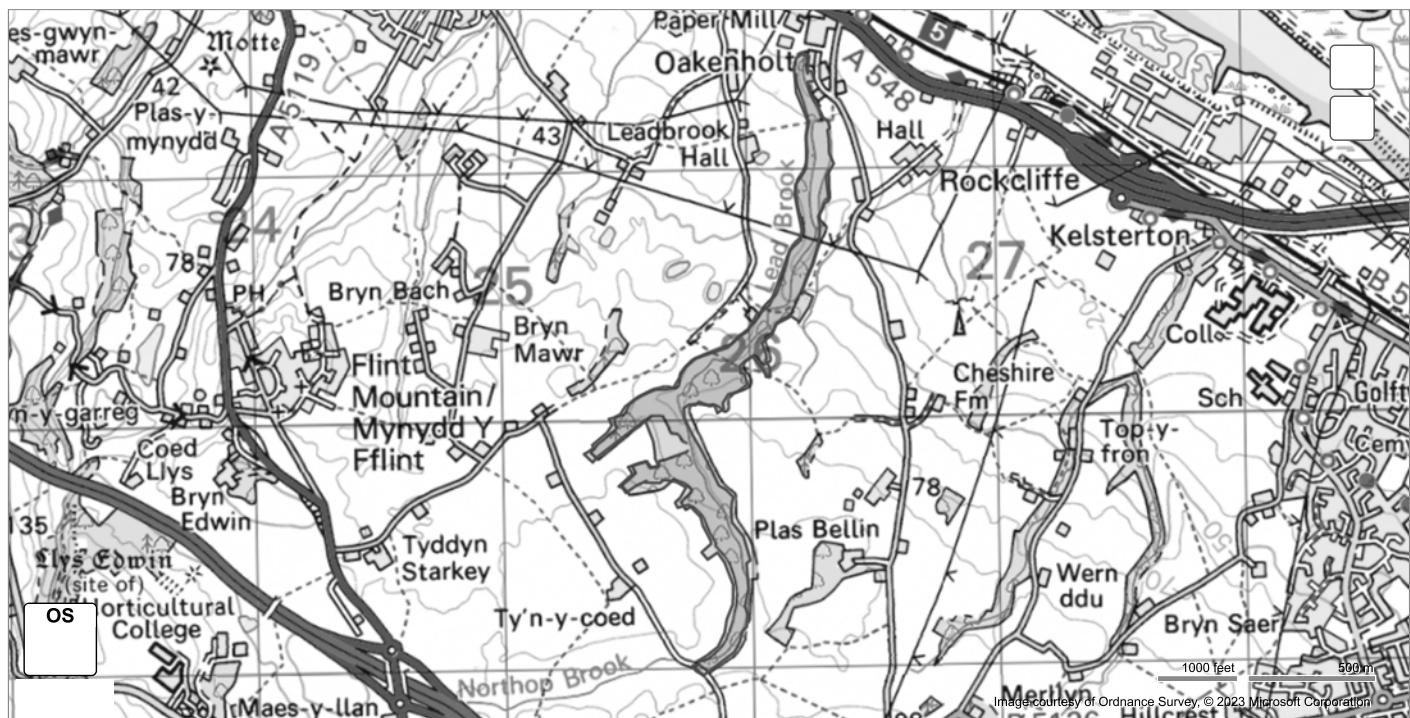
The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *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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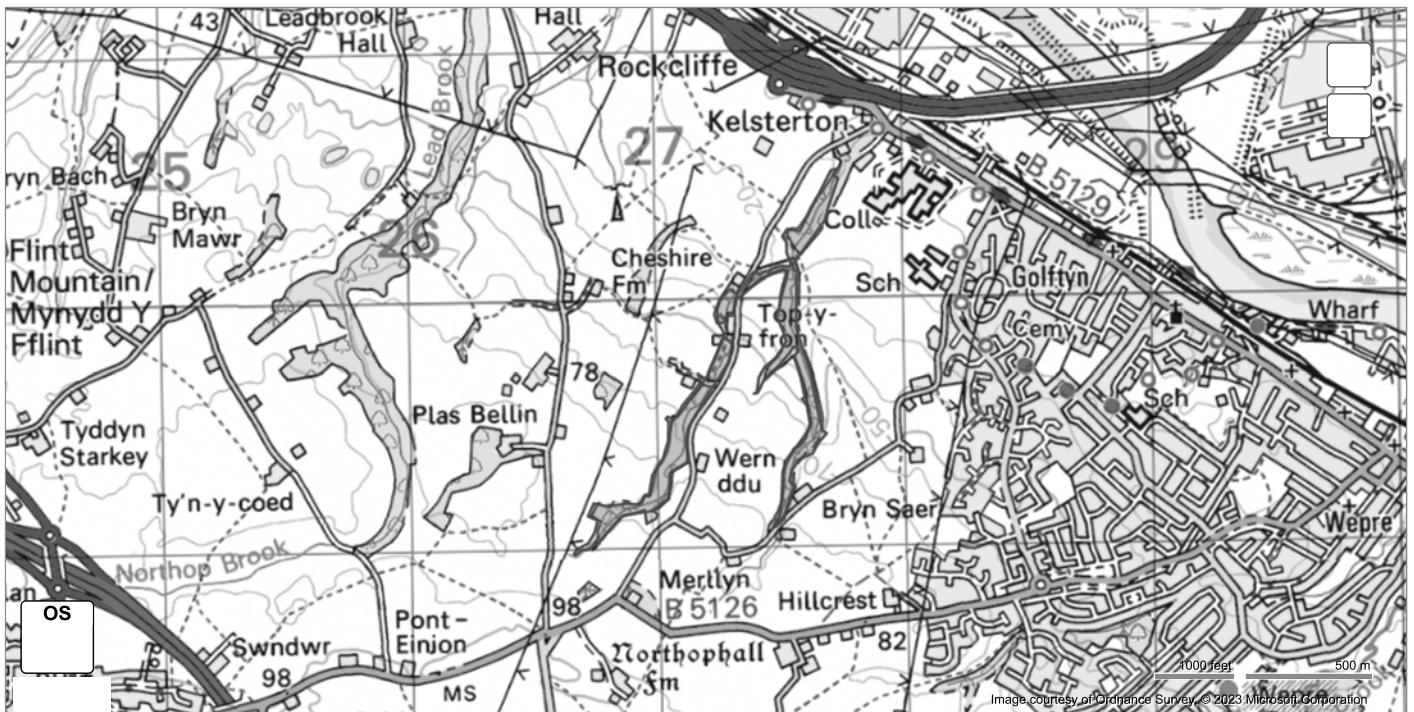
26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	<p>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.</p>
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 Kelsterton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelsterton 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 Kelsterton 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 Kelsterton 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.

ecology • landscape planning • arboriculture

The logo for Aspect Ecology Ltd. The word "aspect" is written in a lowercase, sans-serif font. The letter "a" is positioned below the "s", and a short, thin diagonal line extends from the top of the "s" towards the top of the "a".

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Connah's Quay Power Station:
Southern Land Parcel

Phase 1 Habitat and Faunal Survey

July 2023

Contents

Text:

Executive Summary	1
1 Introduction	2
2 Methodology	3
3 Ecological Designations.....	10
4 Habitats and Ecological Features.....	12
5 Faunal Use of the Site.....	15
6 Conclusions	20

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 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

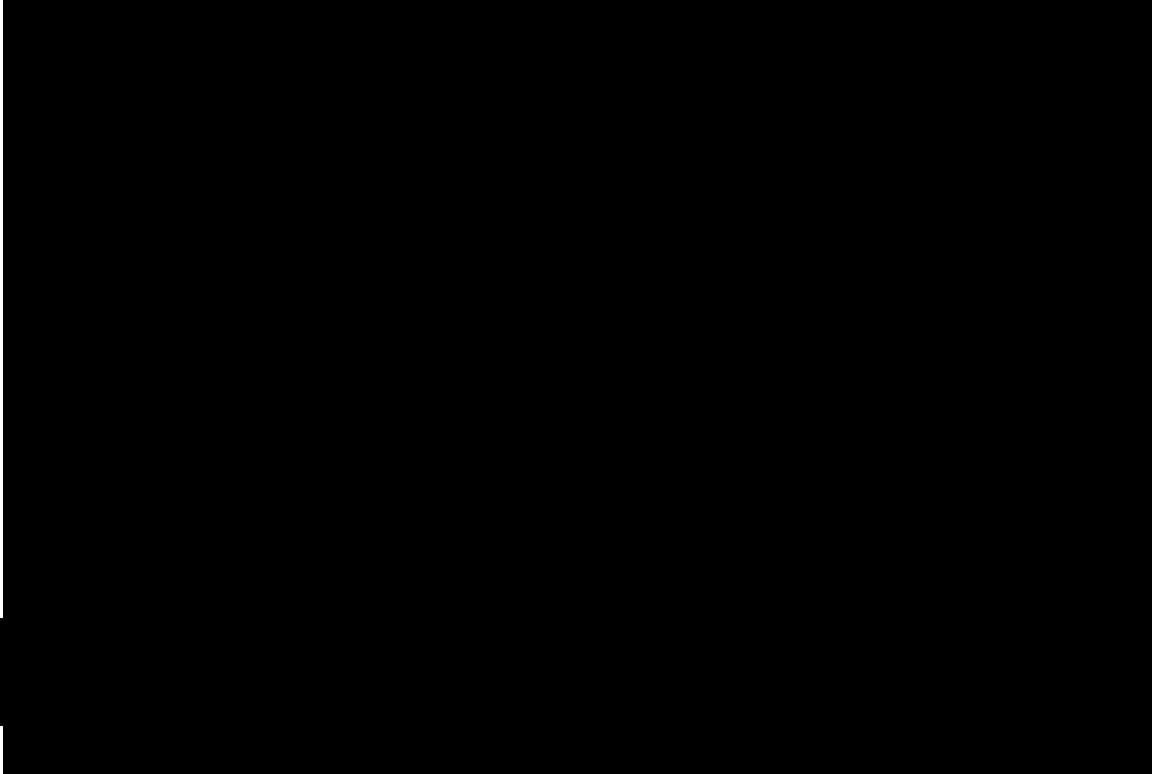
2.3.2 **Trees.** Trees were assessed for their suitability to support roosting bats based on the presence of potential roosting features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁷ as:

- 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



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 Otter⁸ 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 *Ranunculion fluitantis* and *Callitricho-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 Kelsterton 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 lathyrus*, 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 *Diplotaxis 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.

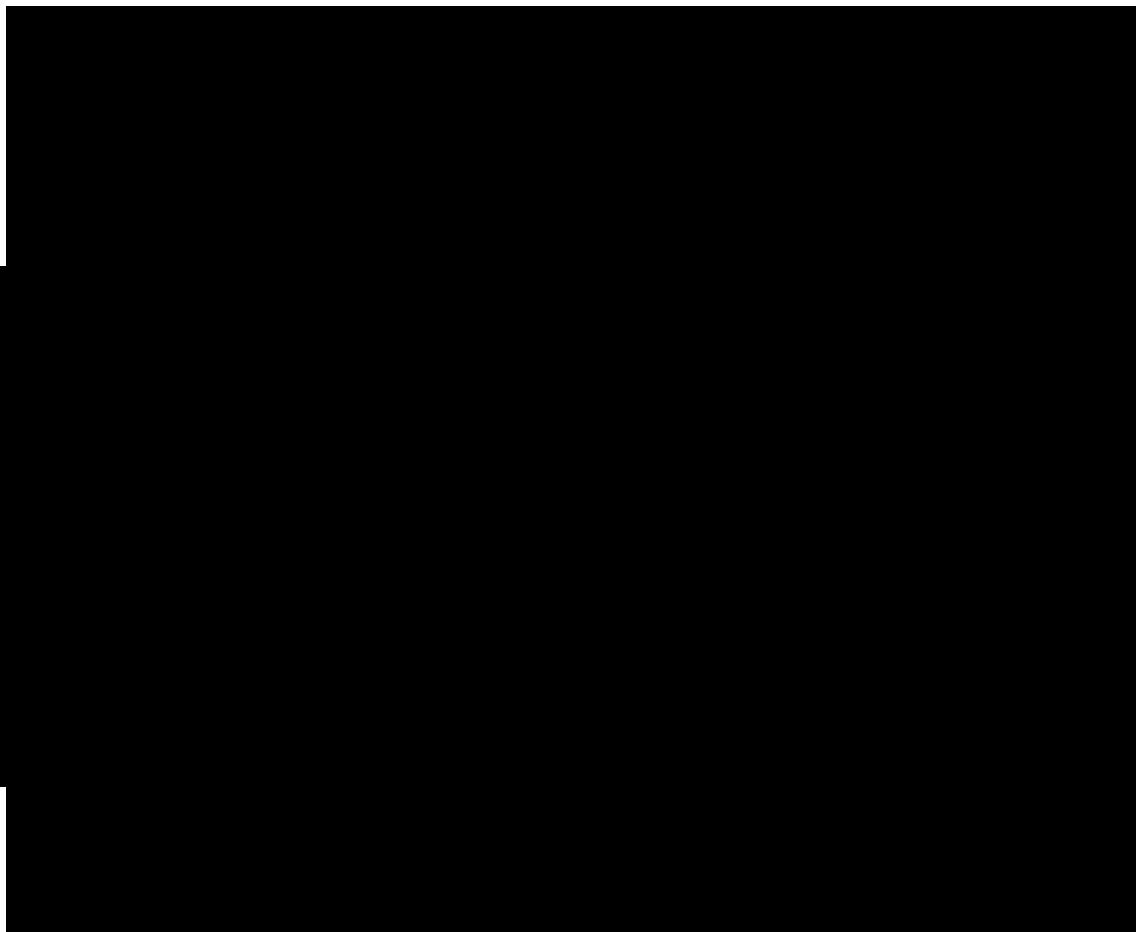
5.3.5 Bats are dynamic animals that can readily colonise new sites where potential exists. Natural England guidance in respect of European Protected Species¹⁴ such as bats advises that, even where proposals are reasonably unlikely to result in any offence, such that licensing is not required, reasonable 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



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 *Lasionympha 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
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 [REDACTED] 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

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Norwell Way - Banbury - Oxfordshire - OX16 2AF

Connah's Quay (South)

Site Location

PROJECT

6322/FC01

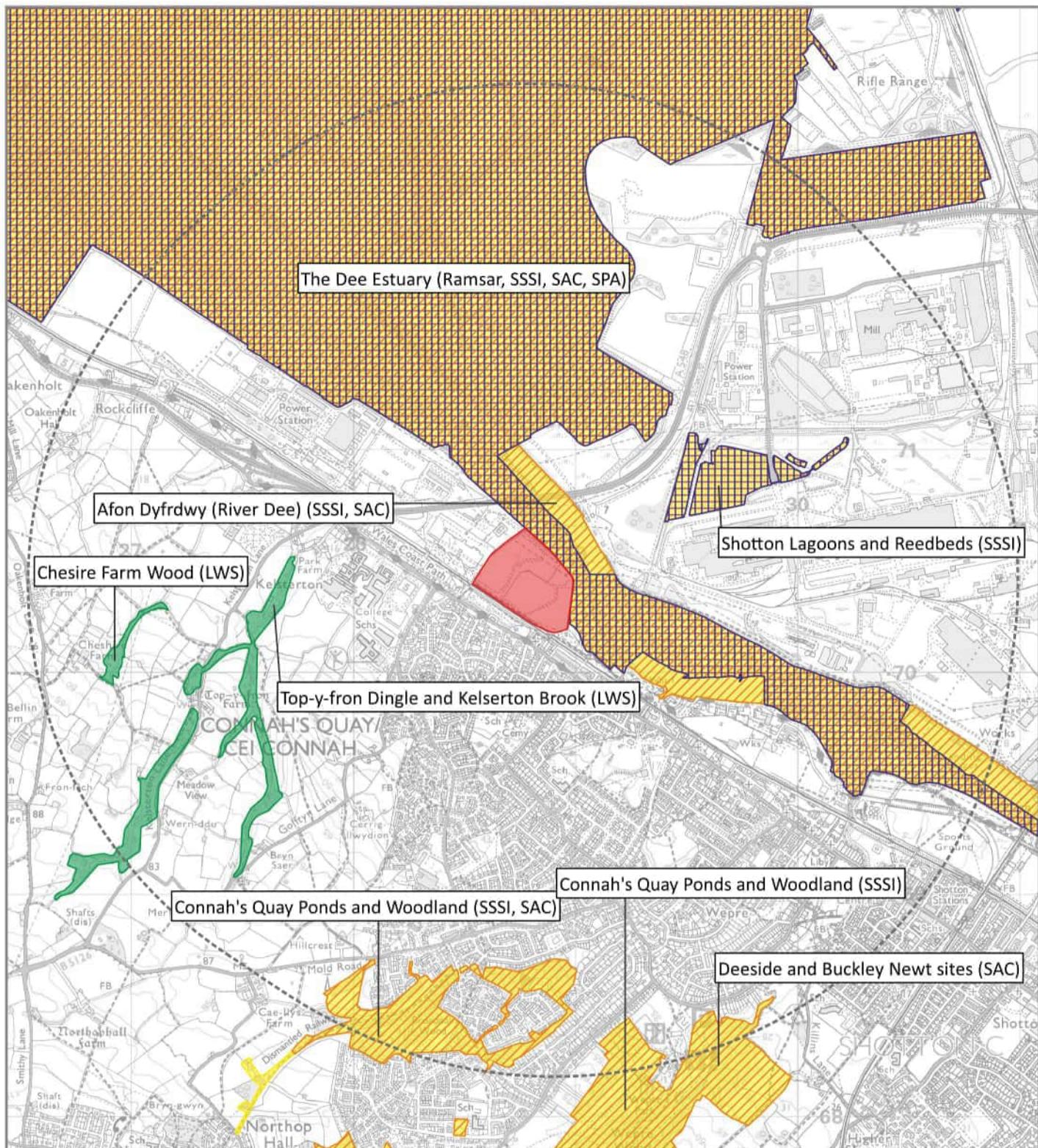
A/BG

April 2023



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)

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Norfolk Way - Banbury - Oxfordshire - OX16 2AF
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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



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 *Mergus 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-Regio, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.21611111
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 *Callitricha 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 *Callitricho-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: [REDACTED]

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 *Callitricho-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

Date of Notification: 19 May 2011

National Grid Reference: SJ 243709

OS Maps: 1:50,000 Sheet number: 116
1:10,000 Sheet number: SJ27SW

Site Area: 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 sneezewort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

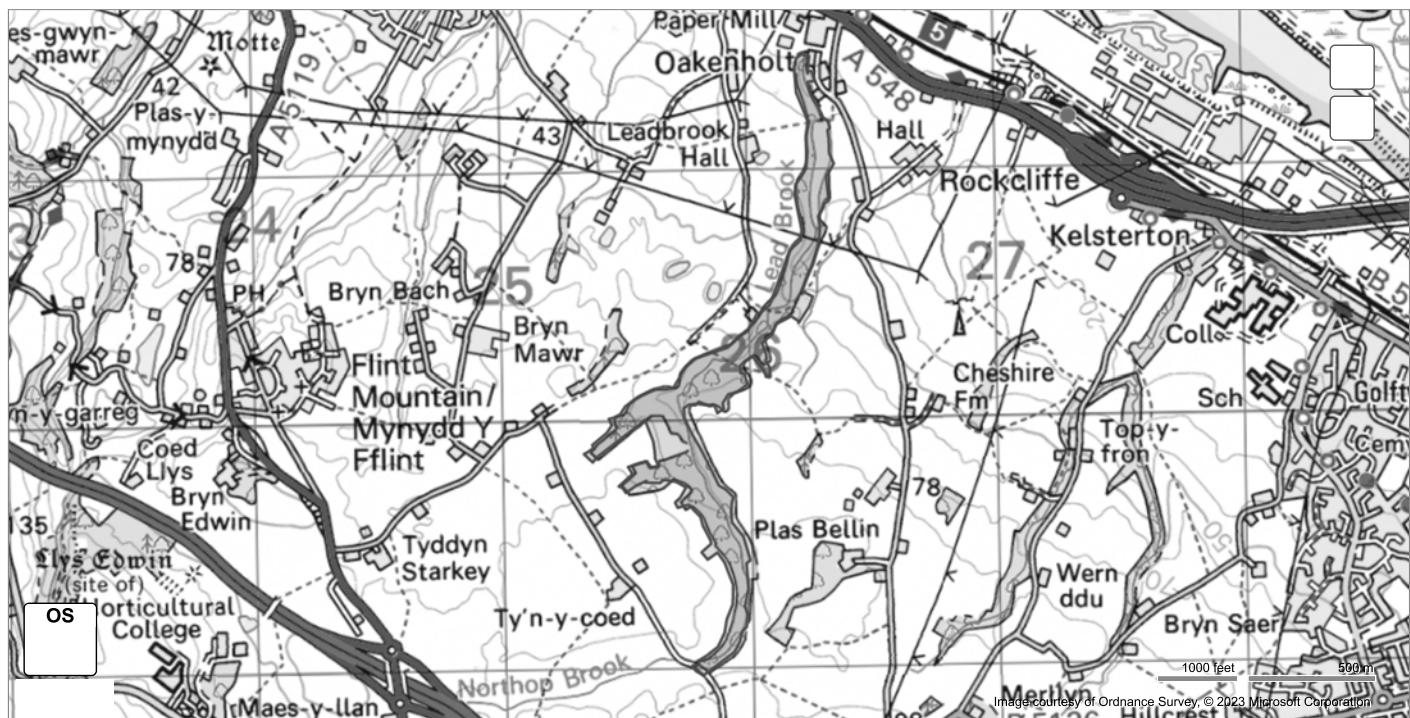
The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *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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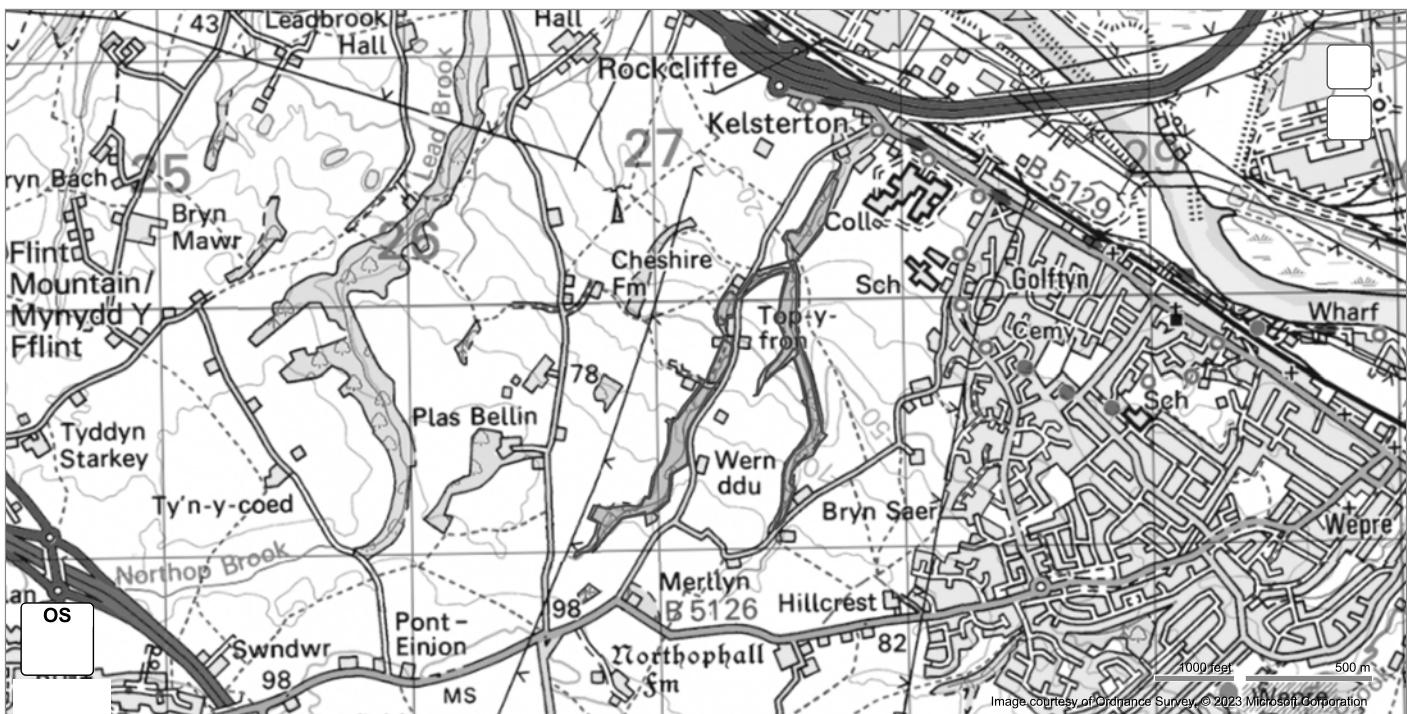
26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	<p>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.</p>
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 Kelsterton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelsterton 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 Kelsterton 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 Kelsterton 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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