

Preliminary Environmental Information Report

Chapter 8A: Desk Study

PEIR Appendices [PINS Ref: EN 010171]

Document Reference: EN 010171/PEIR APP/8A

Revision Number: 1

December 2025

Future Energy Llanwern Limited

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1.0 Desk Study

1.1 Introduction

1.1.1 This Appendix presents the results of a desk-based study for Future Energy Llanwern in relation to an application for a Development Consent Order (DCO) for the installation of solar photovoltaic panels. The surveys were commissioned by Future Energy Llanwern Ltd.

1.1.2 The area within the PEIR assessment boundary is hereafter ref

1.1.3 erred to as the 'Site'.

Aims

1.1.4 The aims of this report are to:

- Identify any designated nature conservation sites on or within the vicinity of the Site; and
- Identify any known records of protected, notable or scarce species in the local area.

1.2 Methods

Desk Study

1.2.1 A data search for existing ecological information from The South East Wales Biodiversity Records Centre (SEWBRc) was undertaken in January 2024 up to 2km from the Site for priority and protected species with a 10km search for bat species. Statutory and non-statutory sites of nature conservation up to 3km were also included in the search. A search of the UK governments on-line tool MAGIC and Natural Resources Wales Interactive Map Viewer was undertaken for International/European statutory sites further afield up to 10km from the Site. Mapping by Natural Resource Wales¹ of priority habitats (as defined under Section

¹ https://datamap.gov.wales/layergroups/geonode:nrw_terrestrial_sections_7_habitats Accessed: 27.10.25

7 of the Environment (Wales) Act 2016) was used to identify priority habitats that are within or in proximity to the Site.

1.2.2 The data search result was filtered to only include records from 2009 onwards, to include data up to 10 years before the start of the surveys.

Limitations

1.2.3 The lack of records of a protected species on Site does not necessarily preclude their presence from Site.

1.3 Results

National Site Network Sites

1.3.1 The following European designated sites of International importance are present within 10km:

- Severn Estuary (Wales) Ramsar Wetland of International Importance;
- Severn Estuary (Wales/ England) Special Area of Conservation (SAC);
- River Usk SAC;
- Severn Estuary (Wales) Special Protection Area (SPA);
- Wye Valley and Forest of Dean Bat SAC.

1.3.2 These are described in more detail in **Table 8A-1** below and illustrated in **Figure 8.1.1**.

Table 8A-1 Designated National Site Network sites records within 10km of Site boundary

Site Name	Proximity to Site	Description
<i>National Site Network ('European sites')</i>		
Severn Estuary Special Area of Conservation (SAC)	20m south of Site	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> • 1130 Estuaries • 1140 Mudflats and sandflats not covered by seawater at low tide • 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) <p>Annex I habitats present as a qualifying feature:</p>

- 1110 Sandbanks which are slightly covered by sea water all the time
- 1170 Reefs

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

- 1095 Sea lamprey *Petromyzon marinus*
- 1099 River lamprey *Lampetra fluviatilis*
- 1103 Twaite shad *Alosa fallax*

The estuary has the second highest tidal range in the world and consists of an extensive intertidal zone comprising intertidal mudflats, sand banks, saltmarsh, shingle, and rocky platforms. Flora and fauna communities typical of extreme physical conditions occur at the site. The invertebrate community provides an important food source for passage and wintering waders. The site is of particular importance for staging nationally important numbers of several species of waterbirds, including *Tadorna tadorna* and *Numenius phaeopus*, and supports internationally important numbers of various species of wintering waterbirds, including *Limosa limosa islandica*. This site is important for several species of fish migrating between sea and river via the estuary. Small patches of a nationally rare plant *Lythrum hyssopifolia* are found in the grassland zone

Severn Estuary Special Protection Area (SPA)	20m south of Site	<p>SPA Qualifying Features:</p> <ul style="list-style-type: none"> • A037 <i>Cygnus columbianus bewickii</i>; Bewick's swan (Non-breeding) • A048 <i>Tadorna tadorna</i>; Common shelduck (Non-breeding) • A051 <i>Anas strepera</i>; Gadwall (Non-breeding) • A149 <i>Calidris alpina alpina</i>; Dunlin (Non-breeding) • A162 <i>Tringa totanus</i>; Common redshank (Non-breeding) • A394 <i>Anser albifrons albifrons</i>; Greater white-fronted goose (Non-breeding) • Waterbird assemblage
Severn Estuary Ramsar	20m south of Site	<p>Ramsar Criteria Ramsar criterion 1 Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities. Habitats Directive Annex I features present on the pSAC include:</p>

- H1110 Sandbanks which are slightly covered by sea water all the time
- H1130 Estuaries
- H1140 Mudflats and sandflats not covered by seawater at low tide
- H1330 Atlantic salt meadows (*Glaucopuccinellietalia maritimae*)

Ramsar criterion 4

This site is important for the run of migratory fish between sea and river via estuary.

Species include:

- Salmon *Salmo salar*
- Sea trout *S. trutta*
- Sea lamprey *Petromyzon marinus*
- River lamprey *Lampetra fluviatilis*
- Allis shad *Alosa alosa*
- Twait shad *A. fallax*
- Eel *Anguilla Anguilla*
- It is also of particular importance for migratory birds during spring and autumn.

Species with peak counts in winter:

- Waterfowl

Ramsar criterion 6 – species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species with peak counts in winter:

- Tundra swan *Cygnus columbianus bewickii*
- Greater white-fronted goose *Anser albifrons albifrons*
- Common shelduck *Tadorna tadorna*
- Gadwall *Anas strepera strepera*
- Dunlin *Calidris alpina alpina*
- Common redshank *Tringa totanus totanus*

River Usk SAC

3.7km west of Site

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

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

		<ul style="list-style-type: none"> • 1095 Sea lamprey <i>Petromyzon marinus</i> • 1096 Brook lamprey <i>Lampetra planeri</i> • 1099 River lamprey <i>Lampetra fluviatilis</i> • 1103 Twaite shad <i>Alosa fallax</i> • 1106 Atlantic salmon <i>Salmo salar</i> • 1163 Bullhead <i>Cottus gobio</i> • 1355 Otter <i>Lutra lutra</i> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> • 1102 Allis shad <i>Alosa alosa</i>
Wye Valley and Forest of Dean Bat Sites SAC	9.7km north-east of Site	<p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> • 1303 Lesser horseshoe bat <i>Rhinolophus hipposideros</i> • 1304 Greater horseshoe bat <i>Rhinolophus ferrumequinum</i>

Nationally Designated Sites

1.3.3 There are seven Sites of Special Scientific Interest (SSSI) and one National Nature Reserve (NNR) within 3km of the Site illustrated in **Figure 8.1.2**. In addition, at the request of NRW, two further SSSI's with ornithological interest have been considered beyond this distance and have been included below.

Table 8A-2 Designated Sites of Special Scientific Interest records of relevance

Site	Proximity to Site	Description
<i>Sites of Special Scientific Interest (SSSIs)</i>		
Gwent Levels - Magor and Undy	Site is located within SSSI (0 m)	This site is designated for reed and ditch habitat and the invertebrates that it supports such as silver colonel soldier fly, the hairy dragonfly and the great silver beetle, and the shrill carder bee. The site also has other habitats of wildlife interest including green lanes, hedgerows and flower rich ditch banks.
Gwent Levels - Nash and Goldcliff	Site is located within SSSI (0 m)	This site is designated for reed and ditch habitat and the invertebrates that it supports such as the soldier fly <i>Odontomyia ornata</i> , the hairy dragonfly and the great silver beetle, and the shrill carder bee. The site also has other habitats of wildlife interest including green lanes, hedgerows and flower rich ditch banks.
Gwent Levels - Redwick and Llandevenny	Site is located within SSSI (0 m)	This site is designated for reed and ditch habitat and the invertebrates that it supports such as silver colonel soldier fly, the hairy

		dragonfly and the great silver beetle, and the shrill carder bee. The site also has other habitats of wildlife interest including green lanes, hedgerows and flower rich ditch banks.
Gwent Levels - Whitson	Site is located within SSSI (0 m)	This site is designated for reed and ditch habitat and the invertebrates that it supports such as silver colonel soldier fly, the hairy dragonfly, the variable damselfly and the great silver beetle, and the shrill carder bee. The site also has other habitats of wildlife interest including green lanes, hedgerows and flower rich ditch banks.
Severn Estuary	20m south of Site	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> • 1130 Estuaries • 1140 Mudflats and sandflats not covered by seawater at low tide • 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) <p>Annex I habitats present as a qualifying feature:</p> <ul style="list-style-type: none"> • 1110 Sandbanks which are slightly covered by sea water all the time • 1170 Reefs <p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> • 1095 Sea lamprey <i>Petromyzon marinus</i> • 1099 River lamprey <i>Lampetra fluviatilis</i> • 1103 Twaite shad <i>Alosa fallax</i> <p>The estuary has the second highest tidal range in the world and consists of an extensive intertidal zone comprising intertidal mudflats, sand banks, saltmarsh, shingle, and rocky platforms. Flora and fauna communities typical of extreme physical conditions occur at the site. The invertebrate community provides an important food source for passage and wintering waders. The site is of particular importance for staging nationally important numbers of several species of waterbirds, including <i>Tadorna tadorna</i> and <i>Numenius phaeopus</i>, and supports internationally important numbers of various species of wintering waterbirds, including <i>Limosa limosa islandica</i>. This site is important for several</p>

		species of fish migrating between sea and river via the estuary. Small patches of a nationally rare plant <i>Lythrum hyssopifolia</i> are found in the grassland zone.
Magor Marsh	0.8km north of Site	<p>This site is designated for marshy grassland, neutral grassland, swamp, standing water and a wetland invertebrate assemblage.</p> <p>As well as these features, the site has other habitats that contribute to the special wildlife interest, including hay meadows, willow carr and ponds.</p>
Gwlyptiroedd Casnewydd / Newport Wetlands	1.1km west of Site	<p>This site is designated for:</p> <ul style="list-style-type: none"> • Reens and ditches that are host to a wide range of aquatic plants, including several rare or scarce species that in turn support a wide variety of other wildlife. • The largest area of reedbed in the wider south-east Wales area supporting a range of breeding and overwintering birds and invertebrates. • A number of rare and scarce plants are present within the reens and ditches, including rootless duckweed and hairlike pondweed. • Nationally important numbers of shoveler and blacktailed godwit are present overwinter. • The site supports an exceptional assemblage of 17 different species of breeding birds, including nationally important breeding populations of Cetti's warbler, water rail, redshank, lapwing, avocet and bearded tit. • A diverse community of insects and other invertebrates including the soldier fly <i>Odontomyia ornata</i>, the great silver water-beetle <i>Hydrophilus piceus</i> and <i>Hydaticus transversalis</i>, <i>Tetragnatha striata</i> and the shrill carder bee <i>Bombus sylvorum</i>. <p>In addition to the features mentioned, the site has other habitats that contribute to the special wildlife interest, these include lowland wet grassland, hedgerows and scrub.</p>

Llandegfedd Reservoir	14km north of Site	<p>This reservoir is the largest inland open water habitat in the county and is one of the three regionally important overwintering wildfowl refuges in Wales.</p> <p>The site is particularly important for the overall numbers and variety of wintering wildfowl, with large numbers of wigeon, pochard and mallard. Other notable species include goosander, teal and goldeneye.</p> <p>The area around the reservoir includes grassland, important for feeding and roosting wildfowl, woodland and scrub.</p>
Flat Holm	24km south-west of Site	<p>The island cliff-top soils support a maritime grassland including red fescue <i>Festuca rubra</i>, sea stork's-bill <i>Erodium maritimum</i>, thrift <i>Armeria maritima</i> and buck's-horn plantain <i>Plantago coronopus</i>.</p> <p>The island supports a notable breeding colony of lesser black-backed gulls and herring gulls (1,500 pairs total) and shelduck (>100 pairs).</p>
National Nature Reserves (NNRs)		
Newport Wetlands	0.5km west of the Site	<p>This site is designated for:</p> <ul style="list-style-type: none"> • Reens and ditches that are host to a wide range of aquatic plants, including several rare or scarce species that in turn support a wide variety of other wildlife. • The largest area of reedbed in the wider south-east Wales area supporting a range of breeding and overwintering birds and invertebrates. • A number of rare and scarce plants are present within the reens and ditches, including rootless duckweed and hairlike pondweed. • Nationally important numbers of shoveler and blacktailed godwit are present overwinter. • The site supports an exceptional assemblage of 17 different species of breeding birds, including nationally important breeding populations of Cetti's warbler, water rail, redshank, lapwing, avocet and bearded tit.

- A diverse community of insects and other invertebrates including the soldier fly *Odontomyia ornata*, the great silver water-beetle *Hydrophilus piceus* and *Hydaticus transversalis*, *Tetragnatha striata* and the shrill carder bee *Bombus sylvarum*.

In addition to the features mentioned, the site has other habitats that contribute to the special wildlife interest, these include lowland wet grassland, hedgerows and scrub.

Designated Wildlife Sites

1.3.4 There are 16 Wildlife Sites within 3km of the Site.

Table 8A-3 Designated Wildlife Sites records within 3km of the Site Boundary

Site Name	Proximity to Site	Description
<i>Wildlife Sites</i>		
Elver Pill Reen Grassland & Pond	Directly adjacent to Site boundary at N Row along north of Site	Lagoon with mosaic of swamp and marshy and dry semi-improved neutral grassland; supports Cetti's warblers.
Spencer Works 3	0.3km north of Site	Marshy grassland with wet drains.
Bridewell Common Field	0.8km north of Site	Designated for dragonflies, as well as mosaic habitat (H20) for freshwater, grassland and woodland
Gwent Wetland Reserve	0.9km west of Site	Mosaic of wet grassland reed beds, open water, hedgerows and saline lagoon, which supports internationally important numbers of wildfowl as well as UK BAP Priority species such as water vole, great crested newt and brown hare.
Blackwall Lane Field	1.0km north of Site	Designated for its Priority Habitat lowland species-rich grassland with vascular plants including <i>Thalictrum flavum</i> and <i>Cirsium dissectum</i> interest.
Caldicot Moor Meadow	1.1km east of Site	Small flat field on Caldicot Moor containing SI neutral sward with good herb diversity.
Greenmoor Pool	1.1km north of Site	Formerly standing water which now supports reed swamp (UKBAP Priority Habitat), which

		itself supports bird populations including Cetti's warbler.
Land at Barecroft Common	1.5km north of Site	Designated for its lowland species-rich grassland and semi-improved grassland interest.
Breezy Bank to Rockfield Farm	1.6km north of Site	Designated for its narrow strip of broadleaved woodland and scrub neighbouring unimproved grassland with scrub, tall herb communities and hedgerows interest.
Bluehouse Farm	1.6km north of Site	Designated for its Priority Habitat of neutral and lowland species interest.
Barecroft Fields	1.6km north of Site	Designated for its Priority Habitat lowland species-rich marshy grassland with bird interest.
Bowkett Field, Barecroft	1.7km north of Site	Designated for its species rich grassland, floodplain pastures, mature willow and hedgerows interest.
Grange Road	1.9km north of Site	Designated for its botanically interesting damp and dry grassland interest.
Former Steel Works Site off Queensway Meadow	1.9km northwest of Site	Designated for dragonflies, as well as mosaic habitat (H20) for freshwater, grassland and woodland
Solutia Site	1.9km west of Site	A series of improved and semi-improved grasslands with traditional ditches and ponds; site supports a range of species including nesting birds such as Cetti's warbler, and invertebrates including hairy dragonfly (<i>Brachytron prantense</i>).
Upper Cottage Pond	2.0km north of Site	Designated for its neutral grassland, watercourse, scattered scrub and hedgerow with ancient woodland indicator species interest

Wildlife Trust Reserves

1.3.5 Wildlife Trust Reserves are sites of significant wildlife interest within a local context but do not reach the criteria for a SINC; they are not covered by NPPF but are included in the Local Plan. A summary of those found within 3km is provided in **Table 8A-4** below.

Table 8A-4 Wildlife Trust Reserves 3km of the Site Boundary

Site Name	Proximity to Site	Description
<i>Wildlife Trust Reserves</i>		
Bridewell Common	0.3km north of Site	Otters, Water Voles, wildflowers, butterflies, dragonflies, water beetles and birds including Snipe, Stonechat and Reed Bunting, live in and around the reens.
Magor Marsh	0.8km north of Site	This site is designated for marshy grassland, neutral grassland, swamp, standing water and a wetland invertebrate assemblage. As well as these features, the site has other habitats that contribute to the special wildlife interest, including hay meadows, willow carr and ponds.
Great Traston Meadows	2.3km west of Site	A marshy grassland bursting with wildflowers, butterflies, bees and birds in the summer.

Priority Habitats/ Ancient Woodland

- 1.3.6 The majority of the Site is mapped by Natural Resource Wales as ‘Coastal and Floodplain Grazing Marsh’, as shown in **Figure 8.2.1**. Adjacent to the Site were priority habitats ‘Traditional Orchards’, ‘Lowland Fens and Reedbeds’, ‘Saltmarsh’, ‘Maritime Cliff and Slopes’ and ‘Purple Moor Grass and Rush Pastures’.
- 1.3.7 One Ancient Semi Natural Woodland site lies 2km north of the Site boundary to the north of the Llanwern Steelworks site.

1.4 Protected and Notable Species

- 1.4.1 The data search requested from SEWBReC returned a wide range of protected and notable species within a radius from the Site boundary of 10km for bats and 2km for all other species.
- 1.4.2 Detailed results are listed in the relevant sections below, with a summary and figures provided in the relevant technical reports accompanying the ES Chapter.

Amphibians

1.4.3 There were 7 records of GCN within 2km of the Site returned by SEWBRc which were all associated with Goldcliff Lagoons within Newport Wetlands NNR 1.6km west. There is a record from 1993 within the Site boundary, however, due to the precision of the grid reference provided, it is not possible to discern whether the record is from a terrestrial habitat, pond or reed. Common toad (Section 7) were also recorded.

Bats

1.4.4 The data search with SEWBRc provided 1904 incidental bat detector and bat roost records within the 10km search area, with 1086 of these from within 10 years prior to the start of the surveys in 2019. Records show a broad assemblage of 15 species of bats in the area including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, serotine *Eptesicus serotinus*, noctule *Nyctalus noctula*, Leisler's (or lesser noctule) *Nyctalus leisleri*, barbastelle *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, whiskered bat *M.mystacinus*, Brandt's bat *M.brandtii*, Natterer's bat *M.nattereri*, Daubenton's bat *M.daubentonii*, brown long-eared bat *Plecotus auritus*, lesser horseshoe bat *Rhinolophus hipposideros* and greater horseshoe bat *R.ferrumequinum*. Additional records of *Myotis* sp., *Plecotus* sp. and *Pipistrellus* sp. were returned as part of the desk study; as well as records not identified to species/genus level.

1.4.5 The data was filtered to include those records listed as 'roost records' within a 4km radius of the Site as this distance is equal to or exceeds the core sustenance zone for most species except barbastelle (BCT, 2020)². No roost records were returned within the Site boundary. There were 61 roost records within 4km, including roosts of unknown species and a summary of species-specific data search results is provided in **Table 8A-5** and on **Figure 8.5.6** within **Appendix 8E**. Due to the larger sustenance zone for barbastelle bats, a specific check of the full 10km data set was undertaken and identified no roost records for this species.

² BCT (2020) Core Sustenance Zones and habitats of importance for designing Biodiversity Net Gain for bats. Bat Conservation Trust, London.

Table 8A-5 Summary of bat roost records within 4km of Site (provided by SEWBReC)

Species	Status/ Distribution in South-west England & South Wales ³	Record Summary
Common pipistrelle	EPS. Widely distributed.	17 roost records since 2009. Roost types included 'male roost' and 'day roost' with records in buildings and trees. Closest record is a roost c.0.5km north of Site within Redwick with two adults within the roof of a dwelling.
Soprano pipistrelle	EPS, SPI. Widely distributed.	Four roost records between 2017 and 2019. The closest records relate to individual bats within tree roosts adjacent to the railway c.1.7km north.
Nathusius' pipistrelle	EPS. Rare but widespread.	A single roost record c.3.2km west of the Site. Abundance was not recorded.
Pipistrelle sp.	EPS. Widely distributed.	Eight roost records between 2011 and 2019. Records included a maternity roost 1.7km west of the Site. The closest record is a roost within a building c.1.65km north.
Brown long-eared bat and long eared species.	EPS, SPI. Widely distributed.	Six roost records within 4km, including a record of a roosts with a count of 17 individuals, which likely corresponds to a maternity roost, 3.9km north of the Site. The closest is a record of three brown long-eared bats within a dwelling's loft space c.1.9km north.
Noctule bat	EPS, SPI. Widespread in many geographies, but not abundant in all.	Two roost records from 2017-2019. Closest record is a tree roost (individual bat) c. 1.5km north of the Site adjacent to the railway.
Serotine	EPS. Rare but widespread.	Eight roost records from 2012 -2018. The closest seven of these relate to roosts within trees adjacent to the railway, north of the Site, the closest being c.1.8 km. It is however noted that

³ Status/distribution according to the UK Bat Mitigation Guidelines (Reason and Wray, 2023).

		serotines do not typically roost in trees or bat boxes.
Natterer's bat	EPS. Widespread in many geographies, but not abundant in all.	A single adult male in a roost recorded at Pye Corner c.2.4km west during a soft demolition.
Whiskered bat	EPS. Widespread in many geographies, but not abundant in all.	A single roost record c.300m north of the Site within Redwick. The roost was identified by dropping DNA, so abundance is unknown.
Lesser horseshoe bat	EPS, Annex II, SPI. Rare, with a restricted distribution.	Six roost records within 4km. Two of these pertain to the same roost c.3.8km north of the Site and are counts of 54 and 12 which indicate the presence of a maternity roost. The nearest record is c.1.2km north of the Site within Magor and is recorded as a night roost, with droppings found.

EPS = European Protected Species; **Annex II** = species listed in the Habitat Directives Annex II; **SPI**= Species of Principal Importance under S41 of NERC Act 2006

Dormouse

1.4.6 SEWBRc provided 9 records of hazel dormouse within 2km of the Site. The closest record was a nest found within a bird box on Site in 2022, at grid reference ST 4344 8470 in the hedgerow between fields 180 and 182. This survey was not part of the current project. Several records were returned from a strip of woodland to the north of the Llanwern steel works, northwest of Queens Way, approximately 1.6km northwest of the Site.

Reptiles

1.4.7 There were 33 records of reptiles within 2km of the Site returned by SEWBRc, including, adder, grass snake, slow-worm and red-eared terrapin, the nearest of these records were for grass snake, approximately 200 metres from the Site boundary on the South Wales Coast Path.

Water Vole

1.4.8 The data search returned by SeWBRC returned 1610 records of water vole within 2km of the Site boundary, the majority of which are in association with Magor Marsh SSSI and surrounding reens. There were 12 records of field signs which are from

within the Site boundary and are mostly associated with boundary reens and ditches throughout the Site. No burrows are reported within the Site boundary. The largest concentration is three records around Field 64. The records appear to be from riparian mammal surveys undertaken in the area and therefore correspond locationally with the otter records.

Otter

- 1.4.9 The data search returned by SeWBRC returned 95 records of otter within 2km of the Site boundary, of which, 10 record locations are from within the Site boundary primarily around Cock Street Reen and Hares Reen. The records appear to be signs recorded from riparian mammal surveys undertaken in the area and therefore correspond locationally with the water vole records. While there are ten locations, these correspond to approximately 130 records from between 2013 and 2017. The area with the largest number of records is at the intersection of Cock Street Reen and Yoke Reen.

European Eel

- 1.4.10 The data search returned records 15 of European eel within 2km of the Site, with no particular aggregation. There are five records within the Site boundary, associated with major reens and minor ditches. Records included mature adults and elvers.

Harvest Mice

- 1.4.11 The data search returned five records of harvest mouse within 2km of the Site, all of which were in association with Magor Marsh SSSI 950m to the north.

Hedgehog

- 1.4.12 The data search returned 35 records of hedgehog within 2km of the Site. These records are concentrated around urban areas such as, Magor & Undy, Redwick, Newport and Goldcliff. None are recorded on Site and the closest is 178m from the Site boundary.

Brown Hare

- 1.4.13 The data search returned three records of harvest mouse within 2km of the Site, one of which was on Site at the intersection of North Row and Cock Street.

Pole Cat

1.4.14 The data search returned two records of polecat within 2km of the Site, both of which were road casualties along Newport Road, heading into Undy.

Notable Plants

1.4.15 The data search returned records of 140 notable plant species within 2km of the Site, of which 37 were reported within the Site boundary including: Schedule 9 water fern and waterweed; invasive non-native species butterfly-bush, common cord-grass, Himalayan honeysuckle, least duckweed and Nuttall's duckweed; and S7 tubular water-dropwort. Full results are detailed in **Table 8A-6** below.

Table 8A-6 Notable Plant Records within 2km of the Site

Common Name	Scientific Name	Status	Number of records	Record within boundary
Annual Beard-grass	<i>Polypogon monspeliensis</i>	RDB2 (UK) - S	10	
Arrowhead	<i>Sagittaria sagittifolia</i>	RDB1 (Wales) - VU, LI(SEWBRcC)	8	ü
Babington's Orache	<i>Atriplex glabriuscula</i>	LI(SEWBRcC)	1	
Bee Orchid	<i>Ophrys apifera</i>	LI(SEWBRcC)	3	
Bird Cherry	<i>Prunus padus</i>	LI(SEWBRcC)	2	
Black Horehound	<i>Ballota nigra</i>	LI(SEWBRcC)	2	
Black-poplar	<i>Populus nigra</i>	LI(SEWBRcC)	1	
Blue Water-speedwell	<i>Veronica anagallis-aquatica</i>	LI(SEWBRcC)	2	
Bluebell	<i>Hyacinthoides non-scripta</i>	WCA8	12	
Blunt-flowered Rush	<i>Juncus subnodulosus</i>	LI(SEWBRcC)	1	
Blunt-fruited Water-starwort	<i>Callitriche obtusangula</i>	LI(SEWBRcC)	2	
Brookweed	<i>Samolus valerandi</i>	LI(SEWBRcC)	5	
Brown Sedge	<i>Carex disticha</i>	LI(SEWBRcC)	9	
Bulbous Foxtail	<i>Alopecurus bulbosus</i>	RDB2 (UK) - S, LBAP (NEW), LI(SEWBRcC)	2	
Butterfly-bush	<i>Buddleja davidii</i>	INNS	50	ü
Callitriche hamulata	<i>Callitriche hamulata</i>	LI(SEWBRcC)	1	

Calystegia sepium subsp. roseata	<i>Calystegia sepium subsp. roseata</i>	RDB2 (UK) - S	2	
Canadian Waterweed	<i>Elodea canadensis</i>	INNS	6	
Charlock	<i>Sinapis arvensis</i>	RDB1 (Wales) - VU	8	ü
Common Cord-grass	<i>Spartina anglica</i>	INNS	9	ü
Common Glasswort	<i>Salicornia europaea</i>	LI(SEWBRcC)	1	
Common Meadow-rue	<i>Thalictrum flavum</i>	LI(SEWBRcC)	5	
Common Rock-rose	<i>Helianthemum nummularium</i>	LI(SEWBRcC)	1	
Common Sea-lavender	<i>Limonium vulgare</i>	LI(SEWBRcC)	6	ü
Corky-fruited Water-dropwort	<i>Oenanthe pimpinelloides</i>	RDB1 (Wales) - CR, LI(SEWBRcC)	11	
Corn Marigold	<i>Glebionis segetum</i>	RDB1 (UK) - VU, LI(SEWBRcC)	1	
Corn Parsley	<i>Petroselinum segetum</i>	LBAP (NEW), LI(SEWBRcC)	9	ü
Cyperus Sedge	<i>Carex pseudocyperus</i>	RDB1 (Wales) - NT, LI(SEWBRcC)	26	ü
Dittander	<i>Lepidium latifolium</i>	RDB2 (UK) - S	5	
Dwarf Elder	<i>Sambucus ebulus</i>	LI(SEWBRcC)	1	
Dwarf Mallow	<i>Malva neglecta</i>	RDB1 (Wales) - NT, LI(SEWBRcC)	2	
Early Meadow-grass	<i>Poa infirma</i>	RDB2 (UK) - S	1	
Esthwaite Waterweed	<i>Hydrilla verticillata</i>	RDB1 (UK) - VU, RDB2 (UK) - R	1	
Euphorbia amygdaloides subsp. robbiae	<i>Euphorbia amygdaloides subsp. robbiae</i>	LI(SEWBRcC)	1	
Fat Duckweed	<i>Lemna gibba</i>	LI(SEWBRcC)	41	ü
Fennel Pondweed	<i>Potamogeton pectinatus</i>	LI(SEWBRcC)	8	ü
Flowering-rush	<i>Butomus umbellatus</i>	RDB1 (Wales) - VU, LI(SEWBRcC)	4	ü
Grass Vetchling	<i>Lathyrus nissolia</i>	LI(SEWBRcC)	9	
Great Lettuce	<i>Lactuca virosa</i>	LI(SEWBRcC)	5	
Great Yellow-cress	<i>Rorippa amphibia</i>	LI(SEWBRcC)	1	
Greater Duckweed	<i>Spirodela polyrhiza</i>	LI(SEWBRcC)	36	ü
Greater Periwinkle	<i>Vinca major</i>	INNS	6	

Greater Pond-sedge	<i>Carex riparia</i>	LI(SEWBRcC)	16	ü
Greater Sea-spurrey	<i>Spergularia media</i>	LI(SEWBRcC)	6	ü
Green Field-speedwell	<i>Veronica agrestis</i>	LI(SEWBRcC)	1	ü
Grey Club-rush	<i>Schoenoplectus tabernaemontani</i>	LI(SEWBRcC)	1	
Grey Field-speedwell	<i>Veronica polita</i>	LI(SEWBRcC)	7	
Hairy St John's-wort	<i>Hypericum hirsutum</i>	LI(SEWBRcC)	5	
Hairy Violet	<i>Viola hirta</i>	LI(SEWBRcC)	1	
Hard-grass	<i>Parapholis strigosa</i>	LI(SEWBRcC)	7	ü
Hawkweed Oxtongue	<i>Picris hieracioides</i>	LI(SEWBRcC)	2	
Himalayan Balsam	<i>Impatiens glandulifera</i>	WCA9, INNS	3	
Himalayan Honeysuckle	<i>Leycesteria formosa</i>	INNS	4	ü
Hoary Plantain	<i>Plantago media</i>	LI(SEWBRcC)	4	
Horned Pondweed	<i>Zannichellia palustris</i>	LI(SEWBRcC)	1	
Hybrid Woundwort	<i>Stachys sylvatica x palustris = S. x ambigua</i>	LI(SEWBRcC)	2	
Ivy-leaved Duckweed	<i>Lemna trisulca</i>	LI(SEWBRcC)	26	ü
Japanese Knotweed	<i>Fallopia japonica</i>	WCA9, INNS	13	
Japanese Rose	<i>Rosa rugosa</i>	WCA9, INNS	1	
Knotted Hedge-parsley	<i>Torilis nodosa</i>	LI(SEWBRcC)	4	
Lamiastrum galeobdolon subsp. argentatum	<i>Lamiastrum galeobdolon subsp. argentatum</i>	WCA9, INNS	1	
Least Duckweed	<i>Lemna minuta</i>	INNS	28	ü
Lesser Bulrush	<i>Typha angustifolia</i>	LI(SEWBRcC)	1	
Lesser Calamint	<i>Clinopodium calamintha</i>	RDB1 (UK) - VU, RDB2 (UK) – S	1	
Lesser Sea-spurrey	<i>Spergularia marina</i>	LI(SEWBRcC)	7	ü
Long-bracted Sedge	<i>Carex extensa</i>	LI(SEWBRcC)	4	ü
Long-spiked Glasswort	<i>Salicornia dolichostachya</i>	LI(SEWBRcC)	1	
Mare's-tail	<i>Hippuris vulgaris</i>	RDB1 (Wales) - NT, LI(SEWBRcC)	1	

Marsh-mallow	<i>Althaea officinalis</i>	RDB2 (UK) - S, LBAP (NEW), LI(SEWBRcC)	17	
Meadow Barley	<i>Hordeum secalinum</i>	LI(SEWBRcC)	33	ü
Meadow Brome	<i>Bromus commutatus</i>	LI(SEWBRcC)	2	
Mistletoe	<i>Viscum album</i>	LI(SEWBRcC)	49	ü
Montbretia	<i>Crocsmia pottsii x aurea = C. x crocsmiiflora</i>	WCA9, INNS	3	
Narrow-leaved Bird's-foot-trefoil	<i>Lotus tenuis</i>	RDB1 (Wales) - NT, LI(SEWBRcC)	6	
Narrow-leaved Everlasting-pea	<i>Lathyrus sylvestris</i>	LI(SEWBRcC)	13	ü
Narrow-leaved Water-plantain	<i>Alisma lanceolatum</i>	LI(SEWBRcC)	1	
Nettle-leaved Goosefoot	<i>Chenopodium murale</i>	RDB1 (Wales) - EN, RDB1 (UK) - VU	1	
Nit-grass	<i>Gastridium ventricosum</i>	RDB1 (Wales) - DD, RDB2 (UK) - S, LI(SEWBRcC)	1	
Nuttall's Waterweed	<i>Elodea nuttallii</i>	INNS	8	ü
Oak-leaved Goosefoot	<i>Chenopodium glaucum</i>	RDB1 (Wales) - VU, RDB1 (UK) - VU, RDB2 (UK) - S	6	
Parrot's-feather	<i>Myriophyllum aquaticum</i>	WCA9, INNS	1	
Parsley Water- dropwort	<i>Oenanthe lachenalii</i>	LI(SEWBRcC)	2	
Pedunculate Water-starwort	<i>Callitriche brutia</i>	LI(SEWBRcC)	1	
Pepper-saxifrage	<i>Silaum silaus</i>	LI(SEWBRcC)	2	
Perennial Wall- rocket	<i>Diplotaxis tenuifolia</i>	LI(SEWBRcC)	1	
Perfoliate Pondweed	<i>Potamogeton perfoliatus</i>	LI(SEWBRcC)	1	
Pink Water- speedwell	<i>Veronica catenata</i>	LI(SEWBRcC)	12	ü
Populus nigra	<i>Populus nigra</i>	LI(SEWBRcC)	1	
Portugal Laurel	<i>Prunus lusitanica</i>	INNS	1	
Pyramidal Orchid	<i>Anacamptis pyramidalis</i>	LI(SEWBRcC)	1	
Reflexed Saltmarsh-Grass	<i>Puccinellia distans</i>	LI(SEWBRcC)	5	

Rigid Hornwort	<i>Ceratophyllum demersum</i>	LI(SEWBRcC)	18	ü
Rock Stonecrop	<i>Sedum forsterianum</i>	RDB2 (UK) - S, LI(SEWBRcC)	1	
Rootless Duckweed	<i>Wolffia arrhiza</i>	RDB1 (UK) - VU, RDB2 (UK) - S, LI(SEWBRcC)	25	ü
Rough Clover	<i>Trifolium scabrum</i>	LI(SEWBRcC)	1	
Round-leaved Crane's-bill	<i>Geranium rotundifolium</i>	LI(SEWBRcC)	11	
Sea Clover	<i>Trifolium squamosum</i>	RDB2 (UK) - S	5	
Sea Stork's-bill	<i>Erodium maritimum</i>	LI(SEWBRcC)	1	
Sea Wormwood	<i>Seriphidium maritimum</i>	LI(SEWBRcC)	2	
Shore Horsetail	<i>Equisetum fluviatile x arvense</i> = <i>E. x litorale</i>	LI(SEWBRcC)	1	
Short-styled Field-rose	<i>Rosa stylosa</i>	LI(SEWBRcC)	2	ü
Slender Hare's-ear	<i>Bupleurum tenuissimum</i>	S7, RDB1 (UK) - VU, RDB2 (UK) - S	4	
Slender Sandwort	<i>Arenaria serpyllifolia subsp. leptoclados</i>	LI(SEWBRcC)	2	
Small Nettle	<i>Urtica urens</i>	LI(SEWBRcC)	2	
Small Pondweed	<i>Potamogeton berchtoldii</i>	LI(SEWBRcC)	7	ü
Small-flowered Crane's-bill	<i>Geranium pusillum</i>	LI(SEWBRcC)	2	
Smooth Brome	<i>Bromus racemosus</i>	LI(SEWBRcC)	2	
Snowberry	<i>Symphoricarpos albus</i>	INNS	8	
Spanish Bluebell	<i>Hyacinthoides hispanica</i>	INNS	3	
Sparganium erectum subsp. erectum	<i>Sparganium erectum subsp. erectum</i>	RDB1 (Wales) - WL	1	
Spiked Water-milfoil	<i>Myriophyllum spicatum</i>	LI(SEWBRcC)	2	
Spiny Restharrow	<i>Ononis spinosa</i>	LI(SEWBRcC)	17	ü
Spotted Medick	<i>Medicago arabica</i>	LI(SEWBRcC)	6	
Stinking Iris	<i>Iris foetidissima</i>	LI(SEWBRcC)	8	
Stone Parsley	<i>Sison amomum</i>	LI(SEWBRcC)	26	ü
Strawberry Clover	<i>Trifolium fragiferum</i>	LI(SEWBRcC)	6	ü
Three-cornered Garlic	<i>Allium triquetrum</i>	WCA9, INNS	1	

Tree-mallow	<i>Malva arborea</i>	LI(SEWBRcC)	6	
Tubular Water-dropwort	<i>Oenanthe fistulosa</i>	S7, RDB1 (UK) - VU, LI(SEWBRcC)	24	ü
Tufted-sedge	<i>Carex elata</i>	LI(SEWBRcC)	2	
Unbranched Bur-reed	<i>Sparganium emersum</i>	LI(SEWBRcC)	1	
Various-leaved Water-starwort	<i>Callitriche platycarpa</i>	LI(SEWBRcC)	4	
Viper's-bugloss	<i>Echium vulgare</i>	LI(SEWBRcC)	17	
Virginia-creeper	<i>Parthenocissus quinquefolia</i>	WCA9, INNS	1	
Wall Cotoneaster	<i>Cotoneaster horizontalis</i>	WCA9, INNS	3	
Water Chickweed	<i>Myosoton aquaticum</i>	LI(SEWBRcC)	5	
Water Fern	<i>Azolla filiculoides</i>	WCA9, INNS	15	ü
Waterweed	<i>Elodea</i>	WCA9, INNS	6	ü
Wayfaring-tree	<i>Viburnum lantana</i>	LI(SEWBRcC)	2	ü
White Bryony	<i>Bryonia dioica</i>	LI(SEWBRcC)	7	
White Mullein	<i>Verbascum lychnitis</i>	RDB2 (UK) - S, LI(SEWBRcC)	1	
White Stonecrop	<i>Sedum album</i>	INNS	9	
White Water-lily	<i>Nymphaea alba</i>	LI(SEWBRcC)	1	
Whorled Water-milfoil	<i>Myriophyllum verticillatum</i>	RDB1 (Wales) - VU, RDB1 (UK) - VU	3	ü
Whorl-grass	<i>Catabrosa aquatica</i>	LI(SEWBRcC)	1	
Wild Celery	<i>Apium graveolens</i>	LI(SEWBRcC)	2	
Wild Mignonette	<i>Reseda lutea</i>	LI(SEWBRcC)	2	
Wilson's Honeysuckle	<i>Lonicera nitida</i>	INNS	1	
Yellow-wort	<i>Blackstonia perfoliata</i>	LI(SEWBRcC)	6	
Zannichellia palustris subsp. palustris	<i>Zannichellia palustris subsp. palustris</i>	LI(SEWBRcC)	1	

INNS = Invasive non-native species; **LBAP(NEW)** = Newport Local Biodiversity Action Plan Species; **LI(SEWBRcC)** = Locally Important Species (as identified by local specialists) in SEWBRcC area; **RDB1 (UK) – VU** = UK Red Data Book listing based on IUCN guidelines (Vulnerable); **RDB1 (Wales) – VU** = Welsh Red Data Book listing based on IUCN guidelines (Vulnerable); **RDB1 (Wales) – CR** = Welsh Red Data Book listing based on IUCN guidelines (Critically Endangered); **RDB1 (Wales) – DD** = Welsh Red Data Book listing based on IUCN guidelines (Data Deficient); **RDB1 (Wales) – EN** = Welsh Red Data Book listing based on IUCN guidelines (Endangered); **RDB1 (Wales) – NT** = Welsh Red Data Book listing based on IUCN guidelines (Near Threatened); **RDB2 (UK) – S** = UK Red Data Book listing not based on IUCN guidelines (Scarce); **RDB2 (UK) – R** = UK Red Data Book listing not based on IUCN guidelines (Nationally Rare); **S7** = Species of Principal Importance under Section 7 of the Environment (Wales) Act 2016; **WCA8** = listed on Schedule 8 of the Wildlife & Countryside Act 1981 (as amended); **WCA9** = listed on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended).

Notable Invertebrates

1.4.16 The data search returned records of 131 notable invertebrate species within 2km of the Site, of which 24 were reported within the Site boundary including: S7 brown-banded carder bee, long-horned bee, red-shanked carder bee and shrill carder bee; and INNS harlequin ladybird and Jenkins' spire snail. Full results are detailed in **Table 8A-7** below.

Table 8A-7 Notable Invertebrate Records within 2km of the Site

Common Name	Scientific Name	Status	Number of records	Record Within Site Boundary
Anaglyptus mysticus	<i>Anaglyptus mysticus</i>	RDB2 (UK) - NB	4	
Anobium inexpectatum	<i>Anobium inexpectatum</i>	RDB2 (UK) - NB	1	ü
Anoscopus albifrons	<i>Anoscopus albifrons</i>	RDB2 (UK) - NB	1	
Anthocoris visci	<i>Anthocoris visci</i>	RDB2 (UK) - NB	3	
Atheta basicornis	<i>Atheta basicornis</i>	RDB2 (UK) - N	1	
Atheta hygrobia	<i>Atheta hygrobia</i>	RDB2 (UK) - N	1	ü
August Thorn	<i>Ennomos quercinaria</i>	S7	2	
Autumnal Rustic	<i>Eugnorisma glareosa</i>	S7	1	
Banded Demoiselle	<i>Calopteryx splendens</i>	LI(SEWBRcC)	17	ü
Beaded Chestnut	<i>Agrochola lychnidis</i>	S7	9	
Beautiful Demoiselle	<i>Calopteryx virgo</i>	LI(SEWBRcC)	5	ü
Beet Moth	<i>Scrobipalpa ocellatella</i>	RDB2 (UK) - N	1	
Berosus affinis	<i>Berosus affinis</i>	LBAP (NEW)	3	
Black Colonel	<i>Odontomyia tigrina</i>	RDB2 (UK) - N	12	ü
Black Mining Bee	<i>Andrena pilipes</i>	RDB2 (UK) - NB	1	
Black-headed Cardinal Beetle	<i>Pyrochroa coccinea</i>	RDB2 (UK) - NB	1	
Black-tailed Skimmer	<i>Orthetrum cancellatum</i>	LI(SEWBRcC)	27	
Blood-vein	<i>Timandra comae</i>	S7	14	
Blunthorn Nomad Bee	<i>Nomada flavopicta</i>	RDB2 (UK) - NB	1	
Brindled Beauty	<i>Lycia hirtaria</i>	S7	3	
Broom Moth	<i>Ceramica pisi</i>	S7	1	
Brown Tree Ant	<i>Lasius brunneus</i>	RDB2 (UK) - NA	4	ü

Common Name	Scientific Name	Status	Number of records	Record Within Site Boundary
Brown-Banded Carder Bee	<i>Bombus humilis</i>	S7	90	ü
Brown-spot Pinion	<i>Anchoscelis litura</i>	S7	1	
Buff Ermine	<i>Spilosoma lutea</i>	S7	5	
Bulrush Veneer	<i>Calamotropha paludella</i>	RDB2 (UK) - NB, LBAP (NEW)	8	
Centre-barred Sallow	<i>Atethmia centrago</i>	S7	4	
Cepero's Ground-hopper	<i>Tetrix ceperoi</i>	RDB2 (UK) - S, LI(SEWBRcC)	1	
Choragus sheppardi	<i>Choragus sheppardi</i>	RDB2 (UK) - NA	1	ü
Cinnabar	<i>Tyria jacobaeae</i>	S7	11	
Corixa affinis	<i>Corixa affinis</i>	RDB2 (UK) - S	2	
Crangonyx pseudogracilis	<i>Crangonyx pseudogracilis</i>	INNS	2	
Crangonyx pseudogracilis/floridanus	<i>Crangonyx pseudogracilis/floridanus</i>	INNS	3	ü
Crescent	<i>Helotropha leucostigma</i>	S7	6	
Cryptophagus populi	<i>Cryptophagus populi</i>	RDB2 (UK) - N	1	
Dark Brocade	<i>Mniotype adusta</i>	S7	1	
Dark-barred Twin-spot Carpet	<i>Xanthorhoe ferrugata</i>	S7	8	
Demetrias imperialis	<i>Demetrias imperialis</i>	RDB2 (UK) - NB	1	
Demoiselle damselflies	<i>Calopteryx</i>	LI(SEWBRcC)	1	
Dot Moth	<i>Melanchra persicariae</i>	S7	2	
Dusky Brocade	<i>Apamea remissa</i>	S7	1	
Dusky Thorn	<i>Ennomos fuscantaria</i>	S7	6	
Ear Moth	<i>Amphipoea oculea</i>	S7	1	
Emerald Damselfly	<i>Lestes sponsa</i>	LI(SEWBRcC)	8	ü
Euglesa pseudosphaerium	<i>Euglesa pseudosphaerium</i>	RDB2 (UK) - S	1	
Eyed Flat-backed Millipede	<i>Nanogona polydesmoides</i>	LBAP (NEW)	1	
Fairy Shrimp	<i>Chirocephalus diaphanus</i>	WCA5	2	
Figure of Eight	<i>Diloba caeruleocephala</i>	S7	2	
Flecked General	<i>Stratiomys singularior</i>	RDB2 (UK) - N	1	ü
Garden Dart	<i>Euxoa nigricans</i>	S7	1	
Garden Tiger	<i>Arctia caja</i>	S7	4	
Ghost Moth	<i>Hepialus humuli</i>	S7	7	

Common Name	Scientific Name	Status	Number of records	Record Within Site Boundary
Giant Water-veneer	<i>Schoenobius gigantella</i>	RDB2 (UK) - NB	1	
Golden-ringed Dragonfly	<i>Cordulegaster boltonii</i>	LI(SEWBRReC)	1	
Green-brindled Crescent	<i>Allophyes oxyacanthae</i>	S7	5	
Grey Dagger	<i>Acronicta psi</i>	S7	1	
Hairy Dragonfly	<i>Brachytron pratense</i>	LI(SEWBRReC)	49	ü
Harlequin Ladybird	<i>Harmonia axyridis</i>	INNS	17	ü
Helochares lividus	<i>Helochares lividus</i>	LBAP (NEW)	20	ü
Hollyhock Seed Moth	<i>Pexicopia malvella</i>	RDB2 (UK) - NB	3	
Hornet Robberfly	<i>Asilus crabroniformis</i>	S7, RDB2 (UK) - N	1	
Hydaticus transversalis	<i>Hydaticus transversalis</i>	RDB2 (UK) - S	2	
Hydronomus alismatis	<i>Hydronomus alismatis</i>	RDB2 (UK) - NB	2	
Hypnogyra angularis	<i>Hypnogyra angularis</i>	RDB2 (UK) - NA	1	
Ischnomera cyanea	<i>Ischnomera cyanea</i>	RDB2 (UK) - NB	1	
Jenkins' Spire Snail	<i>Potamopyrgus antipodarum</i>	INNS	14	ü
Kissophagus vicinus	<i>Kissophagus vicinus</i>	RDB2 (UK) - NB	1	ü
Knot Grass	<i>Acronicta rumicis</i>	S7	6	
Lackey	<i>Malacosoma neustria</i>	S7	7	
Large Fruit Bark Beetle	<i>Scolytus mali</i>	RDB2 (UK) - NB	1	
Large Wainscot	<i>Rhizedra lutosa</i>	S7	6	
Latticed Heath	<i>Chiasmia clathrata</i>	S7	7	
Liparus coronatus	<i>Liparus coronatus</i>	RDB2 (UK) - NB	1	
Lissodema denticollis	<i>Lissodema denticollis</i>	RDB2 (UK) - NB, RDB2 (UK) - S	1	
Long-horned Bee	<i>Eucera longicornis</i>	S7, RDB2 (UK) - NA,	4	ü
Long-winged Cone-head	<i>Conocephalus fuscus</i>	LI(SEWBRReC)	5	
Lunar Yellow Underwing	<i>Noctua orbona</i>	S7	1	
Magdalis cerasi	<i>Magdalis cerasi</i>	RDB2 (UK) - NB	1	
Melandrya caraboides	<i>Melandrya caraboides</i>	RDB2 (UK) - NB	1	
Minor Shoulder-knot	<i>Brachylomia viminalis</i>	S7	1	
Mottled Rustic	<i>Caradrina morpheus</i>	S7	2	
Mouse Moth	<i>Amphipyra tragopoginis</i>	S7	1	

Common Name	Scientific Name	Status	Number of records	Record Within Site Boundary
Mullein Wave	<i>Scopula marginepunctata</i>	S7	1	
Musk Beetle	<i>Aromia moschata</i>	RDB2 (UK) - NB,	2	
Oak Hook-tip	<i>Watsonalla binaria</i>	S7	4	
Oblique Carpet	<i>Orthonama vittata</i>	S7	4	
Oedemera femoralis	<i>Oedemera femoralis</i>	RDB2 (UK) - NB, RDB2 (UK) - S	1	
Paederus fuscipes	<i>Paederus fuscipes</i>	RDB2 (UK) - NB	1	
Peltodytes caesus	<i>Peltodytes caesus</i>	RDB2 (UK) - S	8	
Pentastiridius leporinus	<i>Pentastiridius leporinus</i>	RDB2 (UK) - NB	1	
Physella acuta	<i>Physella acuta</i>	INNS	5	
Physella gyrina	<i>Physella gyrina</i>	INNS	1	
Pied Grey	<i>Eudonia delunella</i>	RDB2 (UK) - NB	1	
Powdered Quaker	<i>Orthosia gracilis</i>	S7	3	
Prionychus ater	<i>Prionychus ater</i>	RDB2 (UK) - NB	7	
Pseudocistela ceramoides	<i>Pseudocistela ceramoides</i>	RDB2 (UK) - NB, RDB2 (UK) - S	2	
Pterostichus anthracinus	<i>Pterostichus anthracinus</i>	RDB2 (UK) - NB	1	ü
Red-eyed Damselfly	<i>Erythromma najas</i>	LI(SEWBRcC)	2	
Red-shanked Carder Bee	<i>Bombus ruderarius</i>	S7	2	ü
Red-tailed (Hill) Cuckoo Bee	<i>Bombus rupestris</i>	RDB2 (UK) - NB	1	
Rhantus frontalis	<i>Rhantus frontalis</i>	RDB2 (UK) - NB, RDB2 (UK) - S	1	ü
Rhinocyllus conicus	<i>Rhinocyllus conicus</i>	RDB2 (UK) - NA	1	
Rosy Minor	<i>Litoligia literosa</i>	S7	2	
Rosy Rustic	<i>Hydraecia micacea</i>	S7	9	
Ruddy Darter	<i>Sympetrum sanguineum</i>	LI(SEWBRcC)	25	ü
Rustic	<i>Hoplodrina blanda</i>	S7	2	
Sallow	<i>Cirrhia icteritia</i>	S7	1	
Scarce Blue-tailed Damselfly	<i>Ischnura pumilio</i>	RDB1 (UK) - NT, LI(SEWBRcC)	1	

Common Name	Scientific Name	Status	Number of records	Record Within Site Boundary
Scirtes orbicularis	<i>Scirtes orbicularis</i>	RDB2 (UK) - S	2	
Sepedophilus testaceus	<i>Sepedophilus testaceus</i>	RDB2 (UK) - N	1	ü
September Thorn	<i>Ennomos erosaria</i>	S7	4	
Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>	S7	7	
Short-winged Cone-head	<i>Conocephalus dorsalis</i>	LI(SEWBRcC)	5	
Shoulder-striped Wainscot	<i>Leucania comma</i>	S7	4	
Shrill Carder Bee	<i>Bombus sylvarum</i>	S7, RDB2 (UK) - NB	170	ü
Silver-studded Blue	<i>Plebejus argus</i>	WCA5, S7, RDB1 (UK) - VU, LI(SEWBRcC)	1	
Silver-washed Fritillary	<i>Argynnis paphia</i>	LBAP (MON, NEW), LI(SEWBRcC)	1	
Slender Ground-hopper	<i>Tetrix subulata</i>	LI(SEWBRcC)	2	
Small Blue	<i>Cupido minimus</i>	WCA5, S7, RDB1 (UK) - NT, LI(SEWBRcC)	3	
Small Emerald	<i>Hemistola chrysoprasaria</i>	S7	3	
Small Heath	<i>Coenonympha pamphilus</i>	S7, RDB1 (UK) - NT	3	
Small Phoenix	<i>Ecliptopera silaceata</i>	S7	9	
Small Square-spot	<i>Diarsia rubi</i>	S7	9	
Speckled Bush-cricket	<i>Leptophyes punctatissima</i>	LI(SEWBRcC)	7	
Spindle Knot-horn	<i>Nephoterix angustella</i>	RDB2 (UK) - NB	1	
Sprawler	<i>Asteroscopus sphinx</i>	S7	1	
Stag Beetle	<i>Lucanus cervus</i>	WCA5, S7, RDB2 (UK) - NB	1	
Variable Damselfly	<i>Coenagrion pulchellum</i>	RDB1 (UK) - NT, LI(SEWBRcC)	3	ü
Wainscot Neb	<i>Monochroa palustrellus</i>	RDB2 (UK) - NB	2	
White Ermine	<i>Spilosoma lubricipeda</i>	S7	6	
White-legged Damselfly	<i>Platycnemis pennipes</i>	LI(SEWBRcC)	1	

INNS = Invasive non-native species; **LBAP(NEW)** = Newport Local Biodiversity Action Plan Species; **LBAP(NEW)** = Monmouthshire Local Biodiversity Action Plan Species; **LI(SEWBRcC)** = Locally Important Species (as identified by local specialists) in SEWBRcC area; **RDB1 (UK) – NT** = UK Red Data Book listing based on IUCN guidelines (Near Threatened); **RDB1 (UK) – VU** = UK Red Data Book listing based on IUCN guidelines (Vulnerable); **RDB2 (UK) – S** = UK Red Data Book listing not based on IUCN guidelines (Scarce); **RDB2 (UK) – N** = UK Red Data Book listing not based on IUCN guidelines (Notable); **RDB2 (UK) – NA** = UK Red Data Book listing not based on IUCN guidelines (Notable Category A); **RDB2 (UK) – NB** = UK Red Data Book listing not based on IUCN guidelines (Notable Category B); **S7** = Species of Principal Importance under Section 7 of the Environment (Wales) Act 2016; **WCA5**= listed on Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).

Birds

1.4.17 The data search requested from SEWBREC returned records of 180 species of bird within a radius of 2km of the Site boundary, of which, 144 species are of ‘notable’ status as defined as birds listed as Amber or Red on the Welsh Birds of Conservation Concern 4 (BoCC; Johnstone *et al.*, 2022), species listed in Section 7 of the Environment (Wales) Act 2016 and birds listed on the Birds Directive Annex 1 under the European Union’s Directive on the Conservation of Wild Birds (1979). A summary is listed in **Table 8A-8** below, with further information provided in detailed technical reports accompanying the Chapter 9: Ornithology of the PIER .

Table 8A-8 List of notable birds returned by SEWBREC

Species Name	Scientific Name	Legislation
Grey Heron	<i>Ardea cinerea</i>	Amber
Coot	<i>Fulica atra</i>	Amber
Jack Snipe	<i>Lymnocyptes minimus</i>	Amber
Pomarine Skua	<i>Stercorarius pomarinus</i>	Amber
Green Woodpecker	<i>Picus viridis</i>	Amber
Shoveler	<i>Spatula clypeata</i>	Amber
Wigeon	<i>Mareca penelope</i>	Amber
Pintail	<i>Anas acuta</i>	Amber
Teal	<i>Anas crecca</i>	Amber
Eider	<i>Somateria mollissima</i>	Amber
Fulmar	<i>Fulmarus glacialis</i>	Amber
Manx Shearwater	<i>Puffinus puffinus</i>	Amber
Black-necked Grebe	<i>Podiceps nigricollis</i>	Amber
Gannet	<i>Morus bassanus</i>	Amber
Shag	<i>Phalacrocorax aristotelis</i>	Amber
Oystercatcher	<i>Haematopus ostralegus</i>	Amber
Turnstone	<i>Arenaria interpres</i>	Amber
Knot	<i>Calidris canutus</i>	Amber
Curlew Sandpiper	<i>Calidris ferruginea</i>	Amber
Snipe	<i>Gallinago gallinago</i>	Amber
Common Sandpiper	<i>Actitis hypoleucos</i>	Amber
Spotted Redshank	<i>Tringa erythropus</i>	Amber

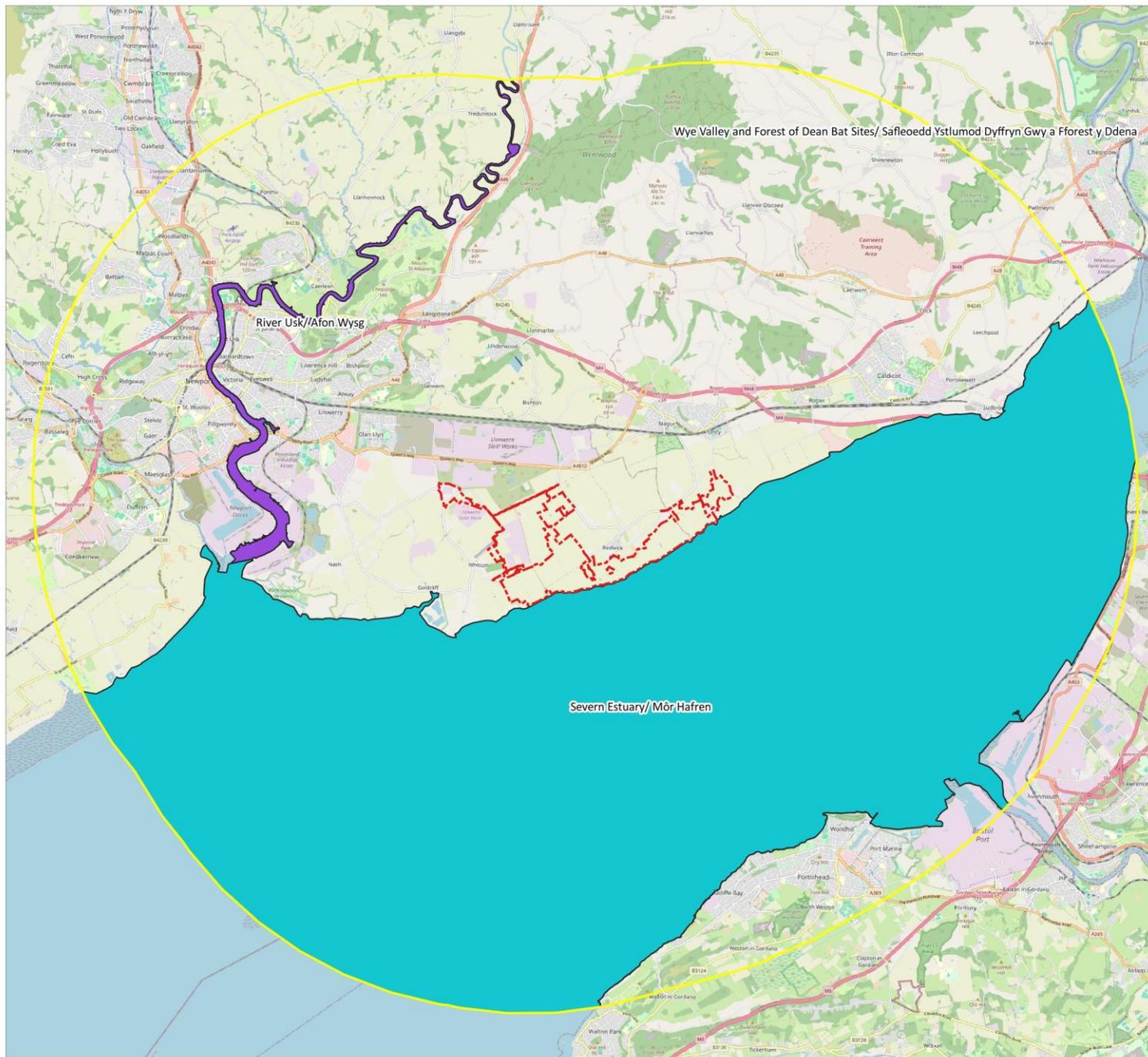
Species Name	Scientific Name	Legislation
Glaucous Gull	<i>Larus hyperboreus</i>	Amber
Yellow-legged Gull	<i>Larus michahellis</i>	Amber
Razorbill	<i>Alca torda</i>	Amber
Wheatear	<i>Oenanthe oenanthe</i>	Amber
Grey Wagtail	<i>Motacilla cinerea</i>	Amber
Storm Petrel	<i>Hydrobates pelagicus</i>	Amber
Sandwich Tern	<i>Thalasseus sandvicensis</i>	Amber
Common Tern	<i>Sterna hirundo</i>	Amber
Short-eared Owl	<i>Asio flammeus</i>	Amber
Black Guillemot	<i>Cepphus grylle</i>	Amber
Goldeneye	<i>Bucephala clangula</i>	Amber
Common Gull	<i>Larus canus</i>	Amber
Great Black-backed Gull	<i>Larus marinus</i>	Amber
Arctic Skua	<i>Stercorarius parasiticus</i>	Amber
Mistle Thrush	<i>Turdus viscivorus</i>	Amber
Lesser Redpoll	<i>Acanthis cabaret</i>	Amber, S7
Dunnock	<i>Prunella modularis</i>	Amber, S7
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber, S7
Skylark	<i>Alauda arvensis</i>	Amber, S7
House Sparrow	<i>Passer domesticus</i>	Amber, S7
Hawfinch	<i>Coccothraustes coccothraustes</i>	Amber, S7
Twite	<i>Linaria flavirostris</i>	Amber, S7
Common Scoter	<i>Melanitta nigra</i>	Amber, S7, Sch 1
Goshawk	<i>Accipiter gentilis</i>	Amber, Sch 1
Wryneck	<i>Jynx torquilla</i>	Amber, Sch 1
Bearded Tit	<i>Panurus biarmicus</i>	Amber, Sch 1
Garganey	<i>Spatula querquedula</i>	Amber, Sch 1
Green Sandpiper	<i>Tringa ochropus</i>	Amber, Sch 1
Black Redstart	<i>Phoenicurus ochruros</i>	Amber, Sch 1
Lapland Bunting	<i>Calcarius lapponicus</i>	Amber, Sch 1
Snow Bunting	<i>Plectrophenax nivalis</i>	Amber, Sch 1
Spoonbill	<i>Platalea leucorodia</i>	Amber, Sch 1, Annex 1
Osprey	<i>Pandion haliaetus</i>	Amber, Sch 1, Annex 1
Marsh Harrier	<i>Circus aeruginosus</i>	Amber, Sch 1, Annex 1
Wood Sandpiper	<i>Tringa glareola</i>	Amber, Sch 1, Annex 1
Mediterranean Gull	<i>Ichthyaetus melanocephalus</i>	Amber, Sch 1, Annex 1
Dartford Warbler	<i>Sylvia undata</i>	Amber, Sch 1, Annex 1
Little Gull	<i>Hydrocoloeus minutus</i>	Amber, Sch 1, Annex 1
Dotterel	<i>Charadrius morinellus</i>	Amber, Sch 1, Annex 1
Ruff	<i>Calidris pugnax</i>	Amber, Sch 1, Annex 1
Scaup	<i>Aythya marila</i>	Amber, Sch 1
Whimbrel	<i>Numenius phaeopus</i>	Amber, Sch 1
Black-tailed Godwit	<i>Limosa limosa</i>	Amber, Sch 1
Fieldfare	<i>Turdus pilaris</i>	Amber, Sch 1
Goldcrest	<i>Regulus regulus</i>	Red
Shelduck	<i>Tadorna tadorna</i>	Red

Species Name	Scientific Name	Legislation
Red-breasted Merganser	<i>Mergus serrator</i>	Red
Grey Plover	<i>Pluvialis squatarola</i>	Red
Redshank	<i>Tringa totanus</i>	Red
Lesser Black-backed Gull	<i>Larus fuscus</i>	Red
Willow Warbler	<i>Phylloscopus trochilus</i>	Red
Whitethroat	<i>Sylvia communis</i>	Red
Meadow Pipit	<i>Anthus pratensis</i>	Red
Pochard	<i>Aythya ferina</i>	Red
Woodcock	<i>Scolopax rusticola</i>	Red
Swift	<i>Apus apus</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Greenfinch	<i>Chloris chloris</i>	Red
Slavonian Grebe	<i>Podiceps auritus</i>	Red, Annex 1
Dunlin	<i>Calidris alpina</i>	Red, Annex 1
Arctic Tern	<i>Sterna paradisaea</i>	Red, Annex 1
Little Ringed Plover	<i>Charadrius dubius</i>	Sch 1
Temminck's Stint	<i>Calidris temminckii</i>	Sch 1
Barn Owl	<i>Tyto alba</i>	Sch 1
Hobby	<i>Falco subbuteo</i>	Sch 1
Cetti's Warbler	<i>Cettia cetti</i>	Sch 1
Brambling	<i>Fringilla montifringilla</i>	Sch 1
Crossbill	<i>Loxia curvirostra</i>	Sch 1
Greenshank	<i>Tringa nebularia</i>	Sch 1
Redwing	<i>Turdus iliacus</i>	Sch 1
Savi's Warbler	<i>Locustella luscinioides</i>	Sch 1
Bar-tailed Godwit	<i>Limosa lapponica</i>	Red, S7, Annex 1
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Red, S7
Kestrel	<i>Falco tinnunculus</i>	Red, S7
Grey Partridge	<i>Perdix perdix</i>	Red, S7
Lapwing	<i>Vanellus vanellus</i>	Red, S7
Ringed Plover	<i>Charadrius hiaticula</i>	Red, S7
Curlew	<i>Numenius arquata</i>	Red, S7
Herring Gull	<i>Larus argentatus</i>	Red, S7
Turtle Dove	<i>Streptopelia turtur</i>	Red, S7
Cuckoo	<i>Cuculus canorus</i>	Red, S7
Lesser Spotted Woodpecker	<i>Dryobates minor</i>	Red, S7
Marsh Tit	<i>Poecile palustris</i>	Red, S7
Willow Tit	<i>Poecile montanus</i>	Red, S7
Wood Warbler	<i>Phylloscopus sibilatrix</i>	Red, S7
Grasshopper Warbler	<i>Locustella naevia</i>	Red, S7
Starling	<i>Sturnus vulgaris</i>	Red, S7
Ring Ouzel	<i>Turdus torquatus</i>	Red, S7
Spotted Flycatcher	<i>Muscicapa striata</i>	Red, S7
Tree Sparrow	<i>Passer montanus</i>	Red, S7
Yellow Wagtail	<i>Motacilla flava</i>	Red, S7
Tree Pipit	<i>Anthus trivialis</i>	Red, S7
Linnet	<i>Linaria cannabina</i>	Red, S7
Yellowhammer	<i>Emberiza citronella</i>	Red, S7

Species Name	Scientific Name	Legislation
White-fronted Goose	<i>Anser albifrons</i>	Red, S7, Annex 1
Bittern	<i>Botaurus stellaris</i>	Red, S7, Sch 1, Annex 1
Bewick's Swan	<i>Cygnus columbianus</i>	Red, S7, Sch 1, Annex 1
Hen Harrier	<i>Circus cyaneus</i>	Red, S7, Sch 1, Annex 1
Little Tern	<i>Sternula albifrons</i>	Red, S7, Sch 1, Annex 1
Long-tailed Duck	<i>Clangula hyemalis</i>	Red, S7, Sch 1, Annex 1
Purple Sandpiper	<i>Calidris maritima</i>	Red, S7, Sch 1, Annex 1
Leach's Petrel	<i>Oceanodroma leucorhoa</i>	Red, S7, Sch 1, Annex 1
Merlin	<i>Falco columbarius</i>	Red, S7, Sch 1, Annex 1
Brent Goose	<i>Branta bernicla</i>	S7, Annex 1
Song Thrush	<i>Turdus philomelos</i>	S7, Annex 1
Reed Bunting	<i>Emberiza schoeniclus</i>	S7, Annex 1
Nightjar	<i>Caprimulgus europaeus</i>	S7, Annex 1
Golden Plover	<i>Pluvialis apricaria</i>	S7, Annex 1
Corn Bunting	<i>Emberiza calandra</i>	S7
Woodlark	<i>Lullula arborea</i>	S7, Sch 1, Annex 1
Red-backed Shrike	<i>Lanius collurio</i>	S7, Sch 1, Annex 1
Ruddy Shelduck	<i>Tadorna ferruginea</i>	Annex 1
Whooper Swan	<i>Cygnus cygnus</i>	Sch 1, Annex 1
Great Northern Diver	<i>Gavia immer</i>	Sch 1, Annex 1
Spotted Crake	<i>Porzana porzana</i>	Sch 1, Annex 1
Black-winged Stilt	<i>Himantopus himantopus</i>	Sch 1, Annex 1
Avocet	<i>Recurvirostra avosetta</i>	Sch 1, Annex 1
Red Kite	<i>Milvus milvus</i>	Sch 1, Annex 1
Black Tern	<i>Chlidonias niger</i>	Sch 1, Annex 1
Kingfisher	<i>Alcedo atthis</i>	Sch 1, Annex 1
Peregrine	<i>Falco peregrinus</i>	Sch 1, Annex 1
Red-necked Phalarope	<i>Phalaropus lobatus</i>	Sch 1, Annex 1

Sch1= listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended); **Red** = Red listed Bird of Conservation Concern Wales 4 (Wales BoCC4) (Johnstone et al, 2022); **Amber** = Amber listed Wales BoCC4; **Green** = Green listed Wales BoCC4; **S7** = Species of Principal Importance under Section 7 of the Environment (Wales) Act 2016; **Annex 1** = listed on the birds Directive Annex 1 under the European Union's Directive on the Conservation of Wild Birds (1979).

Annex A: Figures



Key:

- Site Boundary
- 10km Buffer
- River Usk/ Afon Wysg
- Severn Estuary/ Môr Hafren
- Wye Valley and Forest of Dean Bat Sites/ Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena



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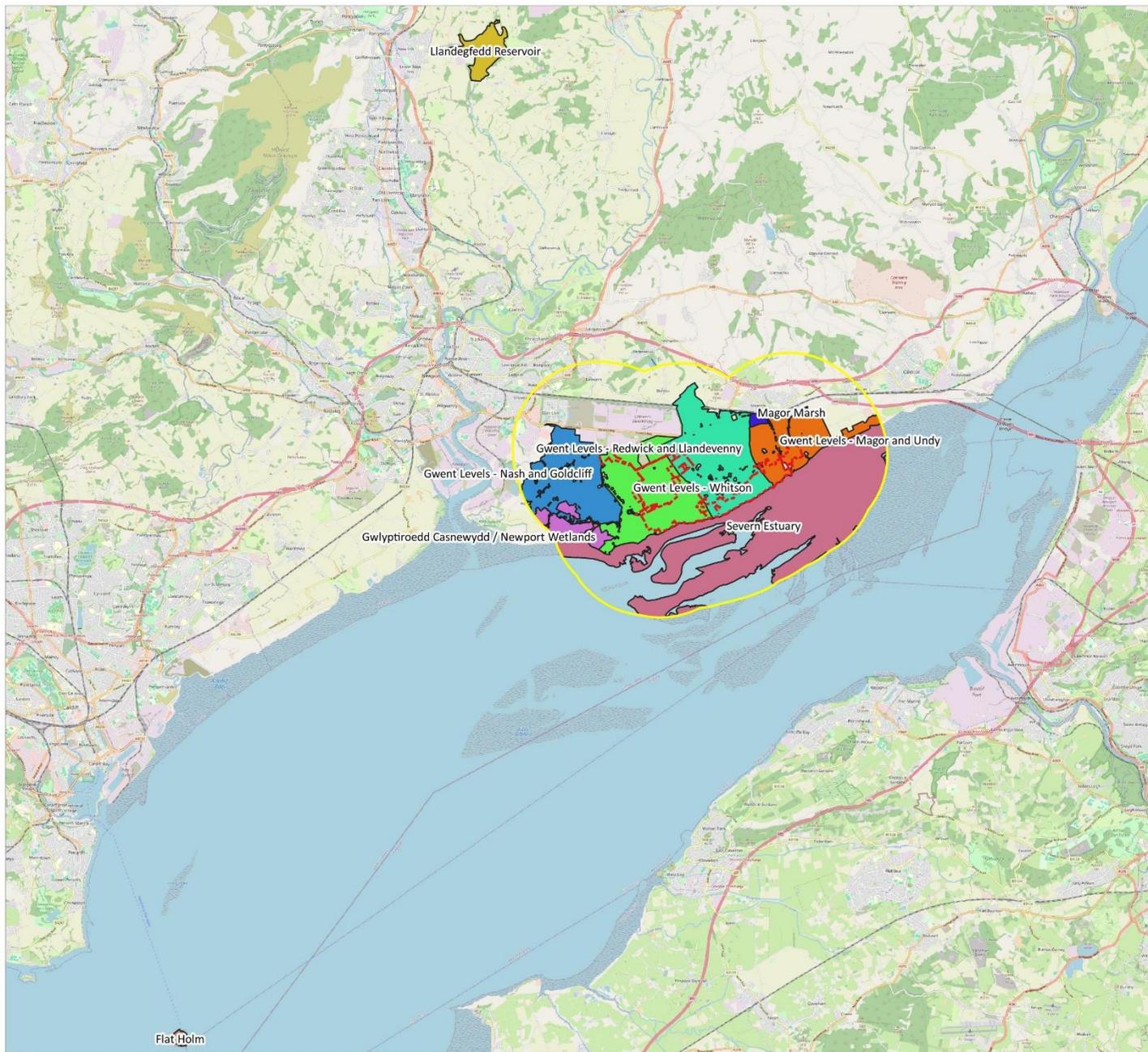
Figure 8.1.1:
National Site Network Sites Within 10km of Site

Project:
Future Energy Llanwern

Client:
Future Energy Llanwern Limited

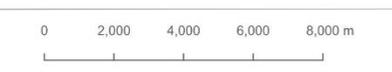
Date: 6/11/2025	Drawn: HS
Ref: 0840-ETA-8.1.1	Revision: -





Key:

- Site Boundary
- 3km Buffer
- Gwent Levels - Magor and Undy
- Gwent Levels - Nash and Goldcliff
- Gwent Levels - Redwick and Llandeenny
- Gwent Levels - Whitson
- Gwlyptiroedd Casnewydd / Newport Wetlands
- Magor Marsh
- Severn Estuary
- Flat Holm
- Llandegfedd Reservoir



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Figure 8.1.2: Sites of Special Scientific Interest (SSSI) Within 3km of Site and SSSIs Requested by Natural Resources Wales

Project:
Future Energy Llanwern

Client:
Future Energy Llanwern Limited

Date:
6/11/2025

Drawn:
HS

Ref:
0840-ETA-8.1.2

Revision:
-

