

Gwent Europarks - Ecological Appraisal

Final Report

September 2025

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Contract

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This report describes work commissioned by the CMF UK. Hannah Webster of JBA Consulting carried out this work.

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Abbreviations

AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CRoW	Countryside and Rights of Way Act
EPS	European Protected Species
HPI	Habitats of Principal Importance
HRA	Habitats Regulations Assessment
INNS	Invasive Non-native Species
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
MAGIC	Multi-Agency Geographic Information for the Countryside
NERC	Natural Environment and Rural Communities
NNR	National Nature Reserve
NRW	Natural Resources Wales
PEA	Preliminary Ecological Appraisal
PPW	Planning Policy Wales
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SINC	Site of Importance for Nature Conservation
SPA	Special Protection Area
SPI	Species of Principal Importance
SSSI	Site of Special Scientific Interest
WCA	Wildlife and Countryside Act
WWBIC	West Wales Biodiversity Information Centre

1 Introduction

1.1 Project Background

CMF UK engaged JBA Consulting to undertake a Preliminary Ecological Appraisal (PEA) in relation to the industrial development within the Gwent Europarks site in Magor, South Wales. Planning permission for the development of the western part of the site has been granted previously subject to conditions relating to the protection and monitoring of the ditch and reed network on the site through Newport City Council. Due to the time elapsed since planning permission was granted a walkover survey was carried out to establish the existing ecological baseline and identify any constraints in relation to the ecological receptors likely to be impacted as a result of the works for a planning application to complete phase 2 and 3 of the development. Details of mitigation and enhancements have been provided.

1.2 Site Location

The site is greenfield in nature and is located in an industrial area approximately 2km west of Magor and approximately 3.5km north of the South Wales coastline, at the central grid reference ST 40533 86739. The boundary of the site is shown in Figure 1-1.

Land directly to the west of the site has recently been developed as part of Phase 1 and 2 of the development.

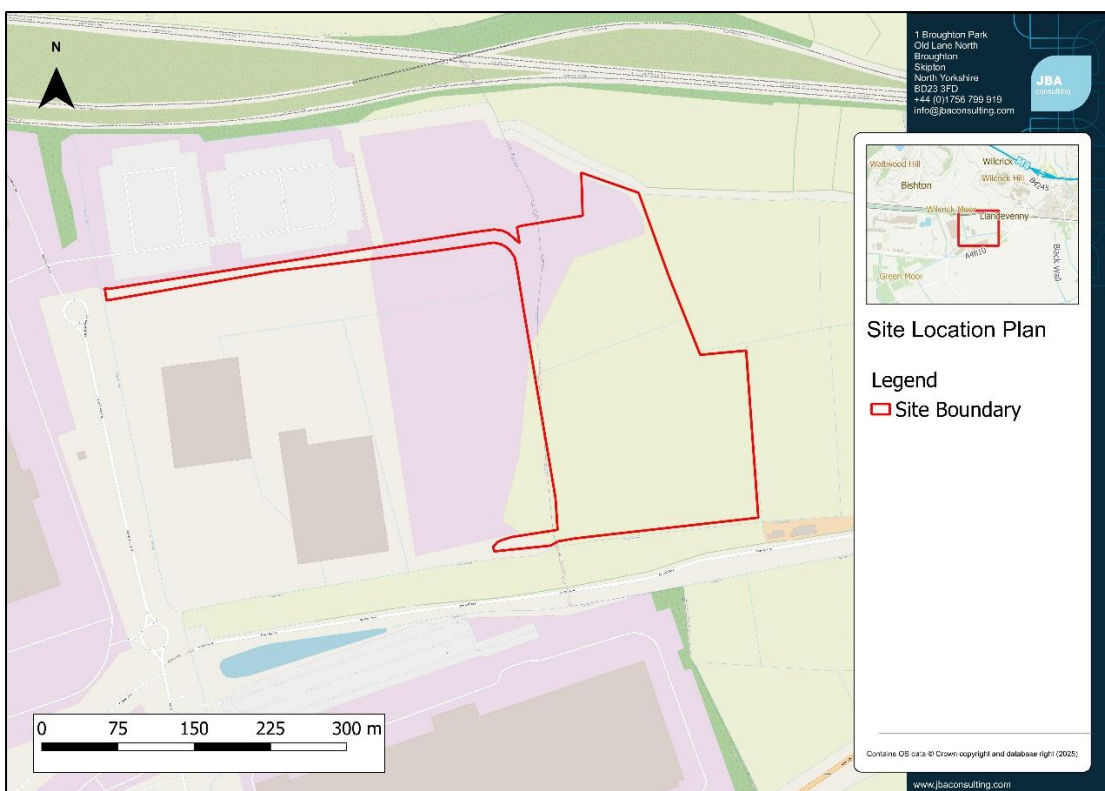


Figure 1-1. Site Location

1.3 Proposed Works

Development proposals are for the construction of an industrial development (B1, B2 and B8 use) and associated access, parking and swales comprising of three main elements:

- Northern plot comprising of 9 industrial and one office starter units (838m² industrial & 330m² office)
- Central plot comprising of 2,100m² industrial unit o 1,120m² open storage areas
- Southern plot comprising of 4,600m² industrial unit

Combined the development provides a total of 7,538m² of industrial floorspace, 1,120m² of open storage space and 330m² of office floorspace.

2 Methods

A PEA of the site has been undertaken in line with current best practice guidance (CIEEM, 2017) and included:

- A desk-based assessment to identify any records of protected and/or notable habitats and species, and designated nature conservation sites in the vicinity of the proposed works.
- A site survey comprising a UKHab Survey including an assessment of the possible presence of protected or priority species, and (where relevant) an assessment of the likely importance of habitat features present for such species.
- An assessment of the potential impacts of the works on the habitats and species present at the site and the surrounding areas.

2.1 Desk-Based Assessment

Prior to undertaking the site survey, searches of databases containing ecological records, priority habitats, and information on statutory and non-statutory designated sites were made. The following sources were included in these searches:

- MAGIC mapping service (www.magic.gov.uk)
- Natural Resources Wales GIS data
- South East Wales Biodiversity Records Centre (SEWBRc)

Due to the size of the site, it is considered that the zone of influence would be up to 2km radius from central grid reference ST 40617 86748 and therefore the desk-based assessment was conducted within this search area.

2.2 Site Survey

A site survey was undertaken on the 20th October 2024 by Jonathan Harrison, an ecologist at JBA Consulting. The PEA was based upon a UKHab Survey, conducted using the UK Habitat Classification (UKHab) methodology. The method was extended to identify any features suitable for use by legally protected or notable species and locate evidence for their presence or likely absence based on standard techniques.

2.2.1 Habitats

Habitats within and adjacent to the site boundary were surveyed using the UK Habitat Classification (UKHab) methodology. The survey was undertaken within the redline boundary shown in Figure 1-1. Habitats were mapped to level 4 of the UK Habitat Classification scheme (UK Habitat Classification Working Group, 2018_a) implemented using the field key (Carey & Butcher, 2018) with reference to the relevant definitions (UK Habitat Classification Working Group, 2018_b). All habitats within the site were recorded during the site survey and a description of each habitat type collected. Botanical names follow Stace (2010).

2.2.2 Protected and Notable Species

Habitats were also assessed for their potential to support any legally protected species or species of conservation concern and any incidental faunal sightings, or field signs discovered during the survey, were recorded. The following sections provide further details on the assessments undertaken in relation to specific species. Legislative guidance relating to protected species is outlined in Appendix A, along with details of other relevant policy and legislation.

2.2.2.1 Birds

Vegetation and habitats around the site were assessed for their suitability to support nesting birds. Special consideration was given to bird species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Furthermore, any birds seen or heard on site during the survey were recorded as incidental observations.

2.2.2.2 Badger

The survey area was searched for signs of Badgers *Meles meles*, and where evidence was found details were recorded following Harris *et al.* (1989). In addition to recording the presence of setts and the level of activity at them, the following signs of activity were also searched for: latrines, footprints, evidence of feeding activity and well-worn paths through vegetation. Badgers will use a number of setts throughout their territory at different times of year; any large holes with the potential to be used by Badgers, but not showing obvious signs of recent activity, were therefore also recorded.

2.2.2.3 Bats

The suitability of habitats across the survey area to support commuting and foraging bats was assessed in terms of habitat type, abundance, connectivity and distribution. These were categorised as having either 'negligible', 'low', 'moderate' or 'high' suitability for bats which was determined by applying the categories given within the BCT Guidelines (Collins, 2016) (Table 2-1).

Table 2-1. Definitions of Roost Suitability (From Collins, 2016)

Suitability	Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

Suitability	Roosting Habitats	Commuting and Foraging Habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts.

2.2.2.4 Otter

Watercourses and surrounding areas within the site were assessed for their potential to support Otter *Lutra lutra*, based on RSPB (1994) and Chanin (2003). This involved walking the survey section and recording any spraints (droppings), slides, feeding remains and footprints. A search was also made for possible holt and couch (resting) sites. Otters are extremely difficult to observe, and this method provides the most effective and efficient means of investigating presence or absence.

2.2.2.5 Great Crested Newts

Habitat features with the potential to support Great Crested Newt (GCN) *Triturus cristatus*, and other amphibians, were recorded. Such features can include: ponds with habitat suitable for breeding newts within 500m of the proposed works; piles of logs, stones or other debris; cracks in the ground; stone or rubble covered ground, and any other features that could support newts.

Where access was possible, any substantial waterbodies within 500m of the site, and which had ecological connectivity to the site, were assessed for their potential to support newts. This assessment was based on the Habitat Suitability Index (HSI) (Oldham *et al.*, 2000; ARG UK, 2010). This system involves assessment of ten suitability indices per waterbody and is an accepted method of assessing the likelihood for a particular pond to hold breeding GCNs.

2.2.2.6 Reptiles

As part of the site survey, an assessment of the habitat suitability for common reptiles was made. This involved inspection of the site for key habitat features/microhabitats which may be favoured by reptiles, such as embankments, log, brash or rock piles, dry stone walls, hedgerows, open sandy areas, woodland edges and rides and interfaces between different habitat types (Froglife 1999).

2.2.3 Other Notable Species and Environmental Constraints

During the site survey, any signs or sightings of other notable species were also recorded. In addition, any environmental features that might constrain the works were also recorded (e.g. access restrictions).

2.2.4 Invasive Non-Native Species

Any Invasive Non-native Species (INNS) observed during the survey were recorded. For stand-forming plant species, the extents of such stands were noted.

2.3 Limitations

The habitats and species present in a given area are subject to change over time. A single field visit of this nature captures and reports the situation at the time of survey. As such, the advice contained within this report is considered valid for a period of 18 months before a review on the need for an updated survey/assessment must be made by an ecologist (CIEEM 2019).

Data from online databases is historical information, and datasets might be incomplete, inaccurate or missing. It is important to note that even where data is held, a lack of records for a defined geographical area does not necessarily mean that the species is absent; the area may simply be under-recorded. As such, records cannot be relied on and serve only as an indication of what might/ might not be found.

3 Results and Evaluation

3.1 Desk-Based Assessment

3.1.1 Statutory Designated Sites

The Gwent Levels Site of Special Scientific Interest (SSSI) are an area of reclaimed wet pasture and constitute the lowlands between Chepstow and Cardiff. They are drained by an ordered network of drainage ditches and reens, some of which cross the site. The large variety of reen types and their management regimes results in a rich plant assemblage and provides conditions for submerged species such as Hairlike Pondweed *Potamogeton trichoides* and Arrowhead *Sagittaria sagittifolia* to flourish. Aquatic invertebrate fauna is also very diverse across the Gwent Levels with nationally rare or notable species present such as *Haliphus mucronatus* and *Hydrophilus piceus*. The Redwick and Llandevenny SSSI is a part of the wider Gwent Levels SSSI designation. Magor Marsh is the last natural area of fenland on the Gwent Levels. It contains a variety of habitats including haymeadows, sedge fen, reedbeds, wet woodland, scrub, open water, and a network of reens and ditches. Species known to be present include Kingfisher *Alcedo atthis*, Cetti's Warbler *Cettia cetti* and Water Vole *Arvicola amphibius*.

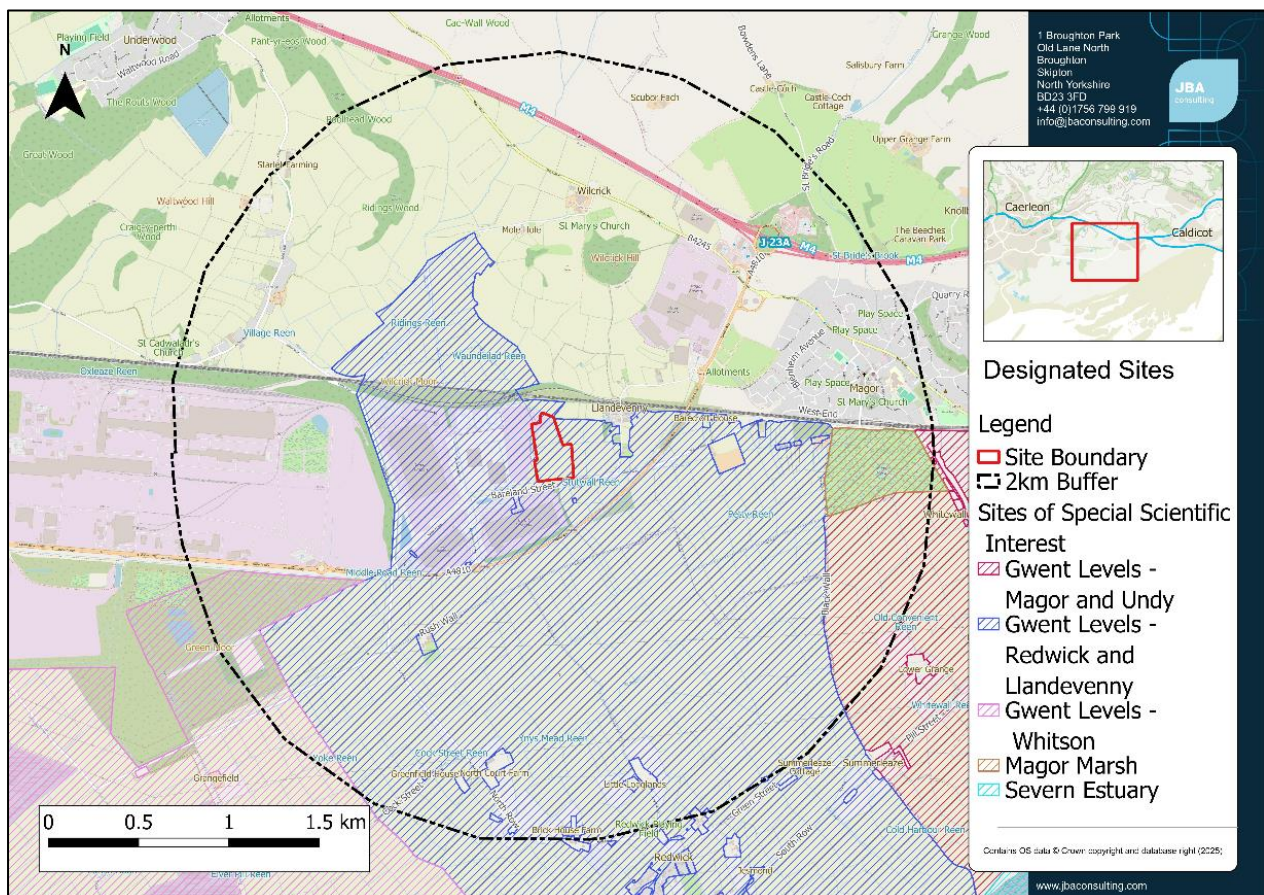


Figure 3-1. Location of Gwent Levels SSSI

3.1.2 Baseline Information on Gwent Levels - Redwick and Llandeenny SSSI

The reasons for designation of the Gwent Levels - Redwick and Llandeenny SSSI are outlined in Section 3.1.1 above. The reens (some of which are present within the red line boundary) are the key habitat feature of the SSSI and these support a variety of aquatic plants and a diverse aquatic invertebrate community. The available baseline information on the SSSI site consists of quarterly ecological monitoring surveys of the reens dating between May 2005 and January 2007 (AMEC, 2007), this includes a freshwater invertebrate and macrophyte survey in September 2005 (AMEC, 2005), and aquatic invertebrate sampling surveys conducted in 2011 (Boyce, 2012). Quarterly ecological monitoring surveys were undertaken by AMEC over a period of 20 months between 2005 and 2007, these surveys included assessments of aquatic flora and fauna across the site. The surveys found the diversity of aquatic flora within the reens on site to be variable over the surveying period, this was attributed to management activities including bank cutting. The effect of dumping arisings from bank cutting into the reens was considered to have had a particularly detrimental effect on the communities of submerged macrophytes in the reens, by reducing dissolved oxygen levels in the water and increasing shading. Over the 20-month survey period, the site supported 32 different species of aquatic plants, including five species that were considered to be locally rare- Pink Water Speedwell *Veronica catenata*, Greater Duckweed *Spirodela polyrhiza*, Hornwort *Ceratophyllum demersum*, Small Pondweed *Potamogeton berchtoldii* and Hair-like Pondweed *Potamogeton trichoides* (AMEC, 2005). Aquatic invertebrate monitoring surveys undertaken between 2005 and 2007 identified a total of 69 taxa in the reens within the site, including 14 taxa of water beetles, 13 of bugs and 18 of molluscs (AMEC, 2005). Generally, the results show a variable diversity of beetles and bugs and an increase in molluscs over the survey period (AMEC, 2007). No rare species of beetles were found in the reens, with the only species of particular note being Large Soldierfly *Odontomyia ornata* (a species of conservation concern but widespread on the Gwent Levels) and the bug *Corixa panzeri* (scarce in Wales). More recently, aquatic invertebrate sampling has been undertaken on the site in June 2011 (Boyce, 2012). These surveys found the main reen in the centre of the site had a Species Richness Score (SRS) of 33, a Species Quality Score (SQS) of 47, a Species Quality Index (SQI) of 1.42 and a Habitat Quality Score (HQS) of 4.55. These results indicate that 33 taxa of native aquatic invertebrates were represented on the site and the figures are comparatively low for grazing marsh ditches in southern Britain (Boyce, 2012). The relatively low aquatic invertebrate diversity within the reen was attributed in part to the growth of species of Duckweed *Lemna* sp. and the regular maintenance of the site. A macrophyte survey was undertaken in 2011 and 2017 by NRW. This found that large areas of the reens were free from vegetation.

3.2 Habitat Survey

The results of the extended UKHab survey are described in the following sections and mapped below.

3.2.1 Habitats

Lowland mixed deciduous woodland (w1f)

The southern boundary of the site is bordered by semi-natural broad-leaved woodland. Species present include Alder *Alnus glutinosa*, Oak *Quercus robur* and Hazel *Corylus avellana*.

Modified grassland (g4)

The majority of the site consists of semi-improved modified grassland. The internal part of the site has been cleared during initial clearances carried out for phase one of the development. At the time of the survey this appears to have been continually cut throughout the construction period resulting in a uniform short sward height. The dominant grass species found was *Deschampsia* sp. with Common Dandelion *Taraxacum officinale* and Marsh Thistle *Cirsium palustre* still dominant.

Native hedgerow (h2a)

There are hedgerows running along the east and west boundaries of the sites, on the far side of the respective reens. The hedgerow to the east is species poor and dominated by Hawthorn *Crataegus monogyna* with occasional broadleaved trees. The hedgerow to the west is gappy and in the gaps consists predominately of tall ruderal species such as Yarrow *Achillea millefolium*, Field Horsetail *Equisetum arvense*, and Ribwort Plantain *Plantago lanceolata*. There is one hedgerow running north/south in the centre of the site, dominated by hawthorn with occasional broadleaved trees such as Willow. These hedgerows will be left in place.

Other standing water (r1g50)

The Gwent Levels are a renowned area for lowland drainage habitat. The area is below high tide and the reens serve as a storage facility when outfalls are tide locked. The reens typically have 1 in 1 side slopes, and vary in depth and width, but are typically 3m in width at the top and 1m in width at the base. As the water levels are controlled by sluices there is typically very little flow. The field ditches are significantly smaller than these reens and are frequently dry. The ditches commonly run along existing hedgerows on the edge of fields and connect to the reens. There is a network of reens running throughout the site, these are a part of a larger network of reens and ditches which flow through, and are a feature of, the Gwent Levels SSSI - Redwick and Llandeenny. The reens within the site are homogenous and approximately 4m wide with steep grassy banks and limited marginal and submerged vegetation. Similar to historic site surveys, the current surveys found that broadleaved macrophytes were generally uncommon, and during this survey, were only found in the realigned Waun deilad Reen on the site's eastern boundary. These plants consisted of locally common False Water Cress *Apium nodiflorum* and a small amount of Hairlike

Pondweed. As with the previous surveys, these surveys found that arisings from maintenance of the reen/ditch banks had been left in or next to the channels, potentially having a detrimental impact. Two small reed beds were present in the south west corner and the north east corner of the development site.

The internal reen was moved in 2006/2007. This remains in the centre of the site running north south. Waterflow has been cut off from this ditch but it is considered that it is seasonally wet. At the time of the survey there was no flow along the ditch, however the soil was saturated and boggy.

Bramble scrub (h3d)

All areas of scrub within the area of the proposed works have been cleared during the previous phases of work. Scrub remains along the fringes of the site that will not be developed. This scrub is dominated by Bramble *Rubus fruticosus* agg. and Willow *Salix* sp. with occasional Alder.

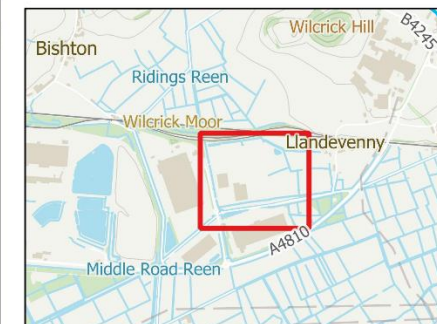
Developed land; sealed surface (u1b) and Artificial unvegetated unsealed surface (u1c)

Land directly to the west of the site has been cleared and developed as part of Phase 1 and 2 of the development. This area is made up of tarmacked roads, areas of concrete hardstanding and artificial soil surfaces that have not yet been sealed.

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UKHab Map

Legend

UK Hab

Habitat - Line

- h2a - Native hedgerow
- r1g50 - Other standing water; Ditch

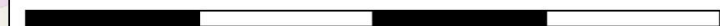
Habitat - Area

- g4 - modified grassland
- h3d - Bramble scrub
- r1g40 - Other standing water; Ponds
- u1b - developed land; sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- w1f - lowland mixed deciduous woodland

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3.2.2 Assessment for Protected and Notable Species

Invertebrates

The sediment and flora within the reens provide suitable habitat for a number of aquatic invertebrate species. These are discussed within the baseline information for the SSSI designation in Section 3.1.3. The semi-natural broad-leaved woodland, scrub and semi-improved grassland habitats within the site are likely to support a range of common and widespread terrestrial invertebrate species.

Fish

There are known populations of European eel and salmonids in the River Usk which is approximately 7.5 km to the west of site. However, Newcut reen lies immediately to the west of the site and this connects to the Severn estuary at its downstream extent. This potentially allows a passage route for eels and salmonids species to enter the site. However, no sign of the species has been recorded throughout the monitoring of the reens

Amphibians

There is low potential for GCN on site within the reens, with a small amount of suitable riparian habitat present. In addition to the reens there is one pond on adjacent land within 500m of the site. The reens on site and the adjacent ponds were previously surveyed in 2006 (AMEC, 2006) using bottle trapping and torch surveys after dark.

There are no records for other amphibians within 2km of the site, however there is potential for common and widespread amphibian species such as Common Frog *Rana temporaria* and Common Toad *Bufo bufo* to be present within the reens, broad-leaved woodland and scrub around the site.

There is one pond located to the south of the site, a subsequent site visit carried out in December 2019 found that it was stained blue from an unknown source.

Reptiles

The semi-improved grassland within the site has a low sward and appears to be well managed with frequent grazing. However, dense and scattered scrub habitats provide good opportunities for foraging and sheltering reptiles. No potential hibernacula were identified, however the areas of dense scrub to the western extent of the site were not accessible and may contain suitable features for hibernation. Overall, the mosaic of habitats present on the site are considered suitable to support a population of reptiles such as Slow Worm *Anguis fragilis*.

Birds

During the Extended Phase 1 Habitat Survey nesting Mute Swans *Cygnus olor* were observed on the banks of the reen running along the eastern boundary of the site. No other breeding birds were observed at the time of the survey.

The habitats present within the site are considered to be unsuitable for species of ground nesting birds, due to the short length of the semi-improved grassland, the frequency of grazing and the lack of winter stubble fields within and in the vicinity of the site. However, the areas of dense scrub and broad-leaved woodland within the site are likely to support several species of widespread and common breeding birds.

Bats

There are no trees within the site that have potential roost features, and therefore there is no potential for the site to support roosting bats. The broad-leaved woodland, scrub, flowing water in the reens and semi-improved grassland habitats on site provide good foraging opportunities for bats. In addition, the reens and narrow strip of broad-leaved woodland to the south of the site provide corridors for commuting bats to move around the wider landscape.

Dormice

Generally, the site is considered to have low potential to support Hazel Dormouse, the dense scrub within the site is separated from other areas of suitable habitat by reens and semi improved grassland. The scrub suitable for hibernating dormouse in the centre of the site has already been removed during the previous phase of works.

However, the strip of broad-leaved woodland adjacent to Bareland Street at the south of the site is well connected to treelines and scrub in the wider area and may be used by Dormice.

Water Vole

Water Vole burrows were observed within the reen at the northwest corner of the site. The reens represent suitable habitat for Water Vole and there is the potential for further sections of reen to be populated.

Otter

No signs of Otter *Lutra lutra* e.g. spraint, footprints etc. were observed during the survey. The reens within the site offer no potential to support resting places or holts due to their lack of bankside vegetation and trees. It is considered possible that the reens within the site are used by commuting Otter as part of a wider territory. Otter are known to be present within the River Usk, approximately 7.5km to the west of site.

Invasive non-native species

No INNS were observed during the survey. However, due to the dense scrub being inaccessible to surveyors there is the potential for INNS to be present within this area.

4 Assessment of Impacts and Recommendations

4.1 Designated Sites

The Gwent Levels- Redwick and Llandeenny SSSI falls within the site. The levels are an area of reclaimed wet pasture and constitute the lowlands between Chepstow and Cardiff. They are drained by an ordered network of drainage ditches and reens, some of which cross the site.

A biodiversity management plan (BMP) prepared for phase one of the development (JBA Consulting, 2020) has been used to outline details for enhancements and future management to achieve that objective. Impacts from construction pollution are considered below and a separate Drainage Strategy (JBA Consulting, 2019) has been developed to avoid impacts from the development. A Ditch and Reen Environmental Baseline and Monitoring Plan (JBA Consulting, 2020) has been developed to check that there are no direct impacts to the reen network. This has been implemented during the first phase of works and should continue throughout this phase.

4.2 Habitats

A BMP was developed to protect and enhance the remaining habitats on site. Specifically, for the reen network and remaining grassland habitat.

Reens

The reens will be protected throughout the construction works through the implementation of buffer zones around each reen, which are detailed in the proposed ecology and water quality monitoring sections of the Construction Environmental Management Plan (CEMP), which was developed for the first phase of the development.

All of the main reens within the site are currently actively managed by NRW acting as the internal drainage district (IDD). Therefore, the reens within the developed area of the site will remain under the management of the IDD post construction with access for maintenance retained. It is recommended that vegetation is cut back to ground level in year 1, making sure to remove all arisings. 'Hay' cuttings from the other reens can be added and it can then be left to develop. This has the potential to bring about improvements in species diversity allowing the natural seedbank to germinate.

Grassland

As the majority of terrestrial habitats on the site will be permanently lost through the development there is a requirement to improve other existing habitats or create additional habitats to compensate this loss. The southern strip of the site between Bareland Street Reen and the woodland consists of approximately 1.68ha and will be used as a biodiversity enhancement area. This area of land is comprised of semi-improved neutral grassland with a low sward diversity dominated by *Deschampsia* sp., Common Dandelion *Taraxacum*

officinale and Marsh Thistle *Cirsium palustre*. This provides opportunities for the grassland to be enhanced with a wildflower mix.

The current species-poor semi-improved grassland within the enhancement area should be sown with a wildflower mix. The composition of this should be agreed with NRW to match the target species within the SSSI.

Furthermore, it is recommended that this area is managed through low intensity grazing with cattle in the autumn months. This will allow a natural sward to develop and control the development of scrub within the site. Clean site won material can also be added to this area to increase the topographic heterogeneity. This should be agreed by an ecologist prior to placement.

4.3 Protected Species

The centre of the site has been continually cleared of vegetation since the first phase of works took place and is not of high value in its current state. Therefore, it is not expected that the loss of the area will have a further direct impact upon species outlined here. It is important that measures detailed in the BMP are installed and measures to avoid impacts during construction are adhered to.

Habitats adjacent to the site include semi-improved neutral grassland, semi-natural broadleaved woodland, hedgerows, dense and scattered scrub, running water and a seasonally wet ditch.

The majority of the terrestrial habitats adjacent to the site have been assessed as being in poor condition, however, the mosaic of woodland, scrub and grassland, in combination with the reens have the potential to support a number of species. In order to compensate for the loss of terrestrial habitats, areas that are not being developed will be enhanced for biodiversity.

Bird Species- Nesting and Feeding

There is potential for the scrub, broadleaved trees, and hedgerow at the site to be utilised by nesting and foraging birds. The CEMP, prepared for phase one of the scheme, suggests the management of impacts on ecology and water quality during construction phases. No further vegetation clearances are proposed and direct impacts upon nesting bird species are not anticipated. The measures detailed in the BMP to provide new nesting opportunities for birds should be installed prior to further works taking place.

Foraging and Commuting Bats

There are no trees within the site that have potential roost features, and therefore there is currently no potential for the site to support roosting bats. The broad-leaved woodland, scrub, flowing water in the reens and semi-improved grassland habitats on site provide good foraging opportunities for bats. In addition, the reens and narrow strip of broad-leaved woodland to the south of the site provide corridors for commuting bats to move around the wider landscape. As detailed in the BMP, the biodiversity enhancement area to the south of the site can be enhanced for foraging bat species. It should be ensured that there is no light

spill over this area from the development. As a site enhancement there will be provision of bat boxes on suitable trees in the southern enhancement area to provide new roosting opportunities for bats. If in use by bats, these boxes can only be maintained and inspected by a licenced ecologist. It is recommended that the local bat group is approached with a view to them including this site in their monitoring regime. It is recommended that a minimum of 10 no. bat boxes are installed. Recommended bat boxes are:

- Schwegler 2F bat box
- Schwegler 1FD bat box
- 1FW bat hibernation box

Invertebrates

The works have resulted in the loss of habitats suitable for a number of terrestrial invertebrates. The wet meadows of the Gwent Levels are known to support local populations of the Shrill Carder Bee *Bombus sylvarum*. Whilst the fields present in the site are heavily grazed and not in good condition, there is the potential for this species to be present. Provision for terrestrial invertebrates are included in the enhancements that are recommended in the BMP. The reens are not considered to provide good habitat for the freshwater invertebrates associated with the SSSI in their current condition. There is the potential for the reens habitat to be enhanced for freshwater invertebrates associated with the SSSI, and this will be reflected in this BMP. The associated Ditch and Reen Environmental Baseline and Monitoring Plan (JBA Consulting, 2020b) includes provision for the monitoring of invertebrate populations in the reens after completion of the works.

Amphibians

No further vegetation clearances are likely to be required for the development area of the site. For any clearances of the enhancement areas the following measures are required. All materials and equipment must be stored on paved or hardstanding areas, or else on pallets and only be brought into vegetated areas when needed.

All contractors on site are to be given a toolbox talk prior to any vegetation clearance works being undertaken within the site boundary. The toolbox talk will cover the legal protection given to GCNs, key identification features, where they are likely to be found and what to do if a GCN is found during the works.

Vegetation can only be cleared once permission has been given by the Ecological Clerk of Works (ECoW) for that area. A hand search for GCNs in areas of suitable habitat may be necessary prior to vegetation clearance.

It may be necessary for dense vegetation to be cleared in two stages, to allow the ECoW access to conduct a thorough search. Vegetation will be cleared in strips to allow disturbed animals a route back to suitable habitat. No works or access is permitted in areas of standing water.

If a GCN is found on site at any time, works must stop immediately. A licence is likely to then be required from NRW, including a suitable mitigation plan, before works can proceed.

Dormice

No further vegetation clearances of habitats suitable for dormouse will be permitted. The strip of woodland along the southern site boundary will not be disturbed at any time during the works.

An ecologist will be present on site throughout the vegetation clearance as an ECoW, to search for evidence of Dormice. The ECoW will advise the site manager or site foreman to stop works if they are concerned a Dormouse may be harmed or disturbed.

All contractors on site are to be given a toolbox talk prior to any vegetation clearance works being undertaken within the site boundary. The toolbox talk will cover the legal protection given to Dormice, what Dormice and their nests look like, where Dormice are likely to be found and what to do if evidence of Dormice is found during the works.

If a Dormouse or a Dormouse nest is found within the vegetation that requires clearing, works must stop immediately. A licence is likely to then be required from Natural Resources Wales, including a suitable mitigation plan, before clearance works can proceed further in areas of suitable habitat

Otter

No habitats within the development were deemed to have potential to support resting places or holts for Otter. However whilst no signs of Otter have been observed on the site it is considered possible that the reens may be used by commuting and foraging Otter as part of a wider territory. As part of Phase 1 and 2 of the development, ongoing construction has been taking place across the site and surrounding areas for a number of years with mitigation to reduce impacts to Otter in place. Therefore, it is not anticipated that works proposed in this stage of the development will cause any further impact to Otter populations. Any Otter using the reens for commuting will be habituated to the construction activities present on site throughout the previous stages and therefore it is not anticipated that the proposed works will result in any further noise or visual disturbance to commuting or foraging Otter. The CEMP table details measures to be taken during the construction works to avoid impacts on this species. The enhancement measures detailed for the reens within the SSSI will also provide benefits to the Otter population.

Water Vole

Suitable habitat for Water Vole is present within the reens running along the site boundary and burrows were observed within the reen at the northwest corner of the site. The reens will be protected throughout the construction works through the implementation of buffer zones around each reen. The CEMP table details measures to be taken during the construction works to avoid impacts on Water Vole during the construction phase. The enhancement measures detailed for the reens within the SSSI will also provide benefits to the Water Vole population.

Badger

It is considered unlikely that Badgers *Meles meles* will be encountered on site, as no setts were identified in the vicinity. The CEMP details general avoidance measures to be taken throughout the construction works to avoid potential impacts on this species.

Appendices

A Relevant Policy and Legislation

The legislation discussed below is intended as a guide only and does not replace formal legal advice.

A.1 Planning Policy

A.1.1 Planning Policy Wales (Edition 9, July 2016)

Planning Policy Wales (PPW) sets out the broad principles for the operation of the planning system in Wales. The document contains general commitments to sustainable development, the protection of biodiversity and protection of the environment as a whole. It is supplemented by a series of Technical Advice Notes (TAN) and Circulars. Together these documents comprise national planning policy in Wales, which should be taken into account by local planning authorities in the preparation of development plans and assessment of planning applications.

A.2 Legislation

A.2.1 Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 are the means by which the EC Habitats Directive (92/43/EC) is transposed in England and Wales and updates and consolidates previous legislation.

This has been updated by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. These Regulations provide protection for European Protected Species (EPS) (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, Dormice *Muscardinus avellanarius*, Great Crested Newts *Triturus cristatus* and Otters *Lutra lutra*. The Conservation of Habitats and Species (Amendment) Regulations 2012 placed new duties on public bodies to help “preserve, maintain and re-establish habitat for wild birds”.

The designation and protection of national site network sites e.g. Special Protection Areas (SPA) and Special Areas of Conservation (SAC) also falls within these Regulations.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in carrying out their duties i.e. when determining a planning application.

A.2.2 Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part 1 of the Act deals with the protection of wildlife.

Most European Protected Species are now covered under the Conservation of Habitats and Species Regulations (see above) but some activities are still covered by the WCA such as obstructing access to a bat roost.

All British birds, their nests and eggs are protected in law. It is an offence to deliberately take, kill or injure any wild bird or to take, damage, or destroy any nest or egg of any wild bird under Section 1 of the Act. In addition, certain species such as the Barn Owl *Tyto alba* are included in Schedule 1 of the Act and are protected against disturbance while nesting and when they have dependent young. Offences against birds listed on Schedule 1 are subject to special penalties.

A.2.3 Natural Environment and Rural Communities Act 2006 (NERC)

The Natural Environment and Rural Communities Act (NERC) requires all public authorities, including planning authorities to have regard to the purpose of conserving biodiversity whilst carrying out their normal functions. The NERC Act includes lists of Habitats and Species of Principal Importance (HPIs and SPIs) to the conservation of biodiversity (Section 42) which should be considered in the implementation of duties under the NERC Act. In line with government circular 06/2005 (ODPM, 2005) which provides supplementary guidance, the presence of a Priority species may be a material consideration when a planning authority is considering a development proposal.

The HPI and SPI listed under the NERC Act are largely also UK BAP Priority habitats and species. The UK Post-2010 Biodiversity Framework succeeds the UK BAP partnership; though its list of Priority species and habitats agreed under the UK BAP still form the basis of much biodiversity work in the UK. Although the UK BAP has been succeeded, Species Action Plans (SAPs) developed under the UK BAP still remain important and valuable reference sources for background information on Priority species under the UK Post-2020 Biodiversity Framework.

A.2.4 Biodiversity Strategies

Habitats and Species of Principal Importance (HPI and SPI) listed under the NERC Act are largely also UK BAP Priority habitats and species. The UK Post-2010 Biodiversity Framework succeeds the UK BAP partnership; though its list of Priority species and habitats agreed under the UK BAP still form the basis of much biodiversity work in the UK. The Welsh Biodiversity Strategy, 'Environment Strategy for Wales' was published in 2006 and explains how Wales will tackle the challenge it faces over the next 20 years. The Environment (Wales) Bill was introduced in May 2015 and creates legislation needed to plan and manage Wales' natural resources in

a more sustainable and joined-up way. Following on from the introduction of the Bill 'A Snapshot of the State of Wales' Natural Resources' was produced. This report was prepared to inform the passage of the Environment Bill through the National Assembly. Although the UK BAP has been succeeded, Species Action Plans (SAPs) developed under the UK BAP still remain important and valuable reference sources for background information on Priority species under the UK Post-2010 Biodiversity Framework.

A.2.5 Invasive Non-Native Species

Certain non-native invasive plant species are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to plant them in the wild or otherwise cause them to grow in the wild. The Wildlife and Countryside Act 1981 (Variation of Schedule 9) (England and Wales) Order 2010 added a number of plant species to the list including Himalayan Balsam *Impatiens glandulifera*, Montbretia *Crocasmia x crocosmiiflora*, Rhododendron *Rhododendron ponticum* and Wall Cotoneaster *Cotoneaster horizontalis*.

The Environmental Protection Act 1990 has limited provisions for non-native invasive species but is included here due to the classification of soil and other waste containing viable propagules of invasive non-native plant species as controlled waste. This has been applied to Japanese Knotweed *Fallopia japonica* and Giant Hogweed *Heracleum mantegazzianum* with the result that waste containing these species must be disposed of in accordance with the duty of care set out in section 34 of the Act.

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