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PARC PELENNA HOLIDAY RESORT ENVIRONMENTAL IMPACT ASSESSMENT: ECOLOGY CHAPTER

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PARC PELENNA HOLIDAY RESORT
ENVIRONMENTAL IMPACT ASSESSMENT: ECOLOGY CHAPTER

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1. SUMMARY

This report constitutes the ecology chapter of the ES and reports on the likely terrestrial ecological impacts which may arise from the demolition and construction stage and the completed development stage of the proposed development.

The chapter describes the ecological policy context; the methods used to assess the potential impacts and likely effects; the baseline conditions at and surrounding the site; the likely ecological effects taking into consideration embedded mitigation; the need for additional mitigation and enhancement; the significance of residual effects; and inter-project cumulative effects.

Numerous ecological surveys have been undertaken at the site over a period of several years, to support the current and previous planning applications for the site. A full suite of ecological surveys were carried out in 2020, with update surveys completed in 2021, 2022, 2023 and 2024 to ensure up-to-date data was assessed for the current chapter. These include Phase 1 habitat surveys, invertebrate surveys, reptile surveys, breeding bird surveys, targeted honey buzzard, barn owl, crossbill and nightjar surveys and bat roosting and activity surveys. Further surveys will be required prior to detailed design/construction to assess areas around the access track in the north of the site following an extension of the site boundary.

The proposed development is primarily for private holiday lodges, on land located between the settlements of Tonna and Resolven. The proposed scheme would create a premium holiday-resort development comprising those lodges, other supporting leisure, hospitality, and service facilities, as well as a new access road and associated infrastructure. This would lead to the loss of some habitat, with opportunities for creation of new and enhancing retained habitats.

The extended Phase 1 habitat surveys, invertebrate surveys, reptile surveys, bird surveys and bat surveys confirmed that the site is of nature conservation importance at up to the Local Level, and that there are no statutory/ non-statutory designated sites within the site, with land previously designated as Ancient Woodland on and adjacent to the site.

The design team have worked collaboratively throughout the design process, following the mitigation hierarchy, to ensure that development avoids the most sensitive habitats and woodland areas wherever possible. Landscape proposals would be developed at the detailed design stage to ensure that there is a net benefit of ecologically important habitats. Calculations show that there is sufficient space in retained areas of poorer quality habitat to enable this to occur.

By undertaking the work in accordance with the commitments made in this chapter, including provision of extensive landscape planting, working under method statements, in accordance with mitigation strategies for bats and implementing management plans to enhance and restore habitat, the proposed development is likely to be in conformity with relevant planning policy and legislation relating to ecology.

Following the implementation of mitigation, compensation and enhancements as prescribed in this report and on completion of construction, no significant negative residual effects on ecological features beyond the Site Level (which is negligible in EIA terms) are anticipated as a result of the proposed development, and there is potential for significant positive effects at the Site Level, and up to the County Level if blanket bog could be restored on peatland.

2. INTRODUCTION

This report constitutes the ecology chapter of the ES and reports on the likely terrestrial ecological impacts which may arise from the demolition and construction stage and the completed development stage of the proposed development.

The chapter describes the ecological policy context; the methods used to assess the potential impacts and likely effects; the baseline conditions at and surrounding the site; the likely ecological effects taking into consideration embedded mitigation; the need for additional mitigation and enhancement; the significance of residual effects; and inter-project cumulative effects.

2.1 Background

This chapter has been prepared by Ramboll UK Limited (Ramboll) as commissioned by Trivselhus UK Holdings Limited (the client). The 'site' is located at Parc Pelenna Holiday Resort, Fairyland Road, Neath, Port Talbot, SA11 3QE , OS grid reference SS 80198 99384, within the administrative boundary of Neath Port Talbot, as shown in Figure 2.1. The primary author of the report is Laura Sanderson. Laura is a Chartered Ecologist (CEcol) and a full member of CIEEM (MCIEEM), holds a BSc in Zoology and an MSc in Wildlife Management and Conservation, and has worked professionally as an ecological consultant since 2004.

Numerous ecological surveys have been undertaken at the site over a period of several years, to support the current and previous planning applications for the site. A full suite of ecological surveys were carried out in 2020, with update surveys completed in 2021, 2022, 2023 and 2024 to ensure up-to-date data was assessed for the current chapter.

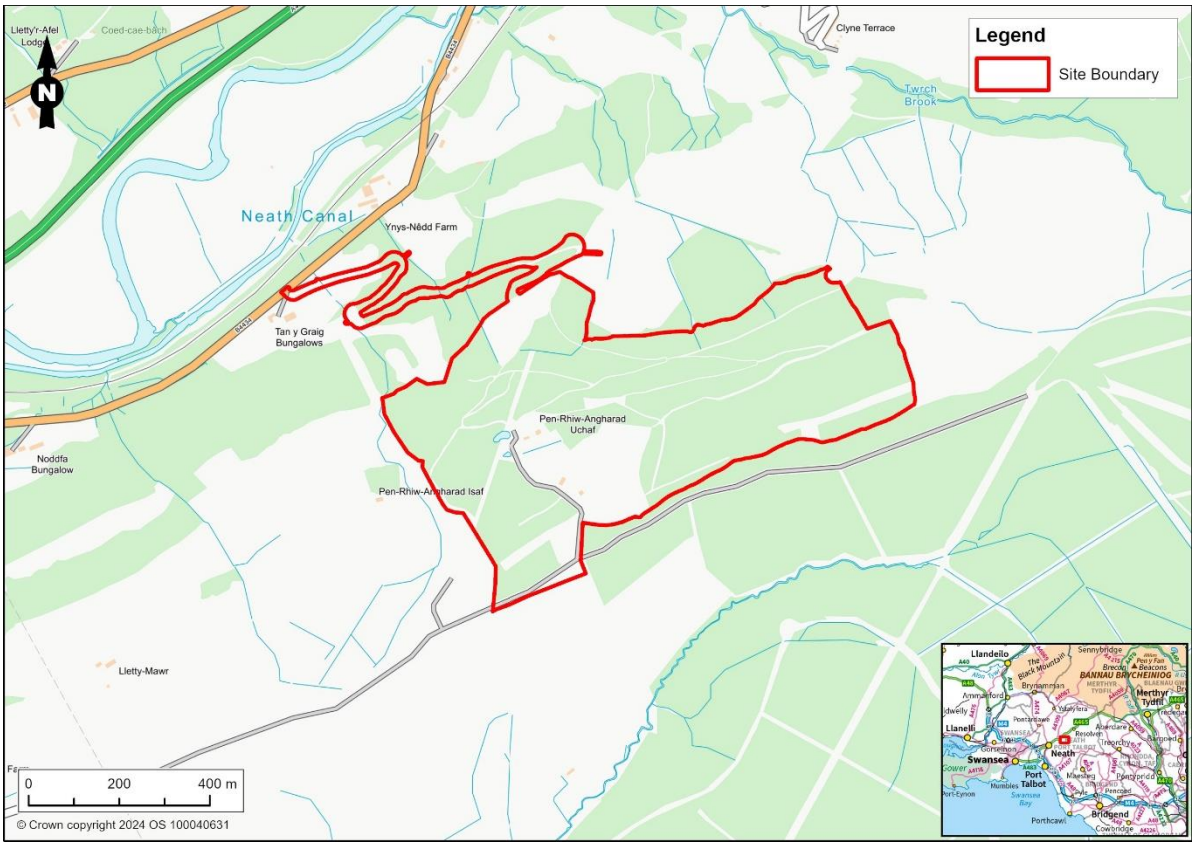


Figure 2.1: Site Location

2.2 Objectives

The aim of this chapter is to identify and consider the potential impacts on ecological receptors from the proposed development at the site and the zone of influence (ZOI) (CIEEM, 2019[1]). The chapter comprises a description of the existing on-site ecological conditions, as well as the ecological context of the site and its ZOI; an appraisal of the site's ecological importance; and an assessment of likely impacts in relation to the proposed development and is associated activities, taking into account the mitigation and enhancement measures incorporated into the proposed development. The structure and content of the report is based on current ecological report writing guidance (CIEEM, 2017[2] and BSI Standards Institution, 2013[3]).

The content of this report is based on the findings of:

- a desk study;
- extended Phase 1 habitat surveys;
- daytime inspections of buildings, structures and trees for bats;
- bat emergence and activity surveys;
- reptile surveys;
- bird surveys, including targeted cross-bill *Loxia curvirostra*, nightjar *Caprimulgus europaeus* surveys and honey buzzard *Pernis apivorus* surveys of the wider area;
- an invertebrate habitat assessment; and
- discussions with Neath Port Talbot County Ecologist's, Rebecca Sharp and Megan Price.

[1] Chartered Institute of Ecology and Environmental Management (CIEEM), 2019. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal and Marine. Chartered Institute of Ecology and Environmental Management, London.
[2] CIEEM (2017) Guidelines for Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
[3] BSI Standards Institution, 2013. BS 42020:2013. Biodiversity – Code of Practice for Planning and Development. BSI Standards Limited, London.

The objectives of this report are to:

- identify designated nature conservation sites located either within the site or the ZOI of the proposed development;
- assess the potential for the site and the ZOI of the proposed development to support populations of protected species or species of nature conservation importance[4];
- record the main habitats and features of ecological interest on the site;
- assess the ecological importance of the site;
- describe the proposed mitigation measures; and
- assess the potential impacts and likely residual effects of the proposed development.

The report is supported by the following appendices:

- Appendix 1: Figures;
- Appendix 2: Legislation and Policy Context;
- Appendix 3: Invertebrate Report;
- Appendix 4: Breeding Bird and Nightjar Survey Report;
- Appendix 5: Breeding Bird and Vantage Survey Report;
- Appendix 6: Nesting Bird Survey Report;
- Appendix 7: Honey Buzzard Report; and
- Appendix 8: Habitat Management Plan Heads of Terms

2.3 Site Location and Description

The site is located high on a hillside above the Vale of Neath and generally slopes downhill roughly from south to north. The majority of the site comprises a mixture of semi-improved grassland fields, clear felled plantations, regenerating scrub, semi-natural broadleaved woodland, buildings and hardstanding as shown on Figure A.1. Appendix 1. The site is bound by plantation woodland, natural woodland and farmland on all sides. The B33 and A465 roads, as well as the River Neath, are to the north of the site within 800 m.

2.4 Proposed Development

The 'proposed development' is primarily for private holiday lodges, on land located between the settlements of Tonna and Resolven. The proposed scheme would create a premium holiday-resort development comprising those lodges, other supporting leisure, hospitality, and service facilities, as well as a new access road and associated infrastructure.

2.5 Legislation and Policy Framework

Various legislation and planning policies refer to the protection of wildlife. These are summarised in Appendix 2 but should not be regarded as a definitive legal opinion. When dealing with individual cases, the full texts of the relevant documents should be consulted and legal advice obtained if necessary. The assessment has been informed by the following legislation and policies:

- International Legislation:

[4] The following species are considered to be of nature conservation importance i) listed as a national priority for conservation (such as those listed as habitats and species of principal importance for the conservation of biodiversity under Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006 and Section 7 of the Environment (Wales) Act 2016; ii) listed as a local priority for conservation, for example in the relevant local Biodiversity Action Plan (BAP); iii) assessed as a threatened or near-threatened species according to International Union for the Conservation of Nature (IUCN) red list criteria; iv) Red or Amber Listed species in national Species of Conservation Concern assessments; v) listed as a Nationally Rare or Nationally Scarce species (e.g. in one of the Species Status Project reviews) or a Nationally Notable species where a more recent assessment of the taxonomic group has not yet been undertaken; and/or vi) endemic to a country or geographic location (including endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place).

  - Directive 2014/52/EU of the European Parliament and of the Council, of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment[5];
- National Legislation and Policy:
  - Wildlife and Countryside Act (1981) (as amended)[6];
  - Countryside and Rights of Way Act (2000)[7];
  - Conservation of Habitats and Species Regulations (2019) (as amended)[8,9];
  - Environment (Wales) Act (2016)[10];
  - The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations (2017)[11]
  - Environment Act (2021)[12];
  - Protection of Badgers Act (1992)[13];
  - Well-being of Future Generations (Wales) Act (2015)[14];
  - Planning Policy Wales, Edition 12 (2024)[15];
  - Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009)[16].
- .Local Policy:
  - Neath Port Talbot Local Development Plan (2011-2016)[17];
  - Supplementary Planning Guidance: Biodiversity and Geodiversity (May 2018)[18]
  - Neath Port Talbot Biodiversity Duty Plan (2023-2026)[19]

[6] Secretary of State, 1981. Wildlife and Countryside Act. London. Her Majesty's Stationary Office (HMSO).

[7] Secretary of State, 2000. The Countryside and Rights of Way Act. London. HMSO.

[8] Secretary of State, 2017. The Conservation of Habitats and Species (Amendment) Regulations. London. HMSO.

[9] Secretary of State, 2019. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. London. HMSO.

[10] Environment (Wales) Act 2016. Available online: https://www.legislation.gov.uk/anaw/2016/3/notes/division/2/1

[11] The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. Available online: https://www.legislation.gov.uk/wsi/2017/567/contents

[13] Secretary of State, 1992. Protection of Badgers Act 1992. London. HMSO.

[14] Well-being of Future Generations (Wales) Act 2015. Available at: https://www.legislation.gov.uk/anaw/2015/2/contents/enacted

[15] Welsh Government, 2024. Planning Policy Wales. Edition 12. https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf

[16] Welsh Assembly Government, 2009. https://gov.wales/sites/default/files/publications/2018-09/tan5-nature-conservation.pdf

[17] Neath Port Talbot County Borough Council Local Development Plan (2011-2026). Adopted January 2016. Available at https://www.npt.gov.uk/PDF/ldp_written_statement_jan16.pdf

[18] Neath Port Talbot County Borough Council, 2018. Supplementary Planning Guidance: Biodiversity and Geodiversity.

[19] Neath Port Talbot County Borough Council, 2024. Biodiversity Duty Plan (2023-2026) Available at: https://democracy.npt.gov.uk/documents/s93462/Biodiversity%20Duty%20Plan%202023-2026.pdf

3. METHODOLOGY

The assessment has been undertaken in accordance with CIEEM Ecological Impact Assessment[1] guidance, although adapted to reflect Environmental Impact Assessment (EIA) approach (in accordance with The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations (2017)), and by application of professional judgement.

The assessment has taken account of applicable legislation, guidance and policy as detailed in the Methodology Section of this chapter.

3.1 Technical Scope

The technical scope of the assessment has considered the potential impacts and likely effects of the proposed development on terrestrial ecology in relation to designated sites, habitats and protected, notable and invasive species in respect of permanent and temporary loss, damage and disturbance to designated sites and habitats within and near the site and the direct or resulting effects on species.

The technical scope of the assessment has considered the following potential impacts and associated likely effects of the proposed development on ecology during the demolition and construction and completed stages of the proposed development:

- Permanent loss of habitat associated with site clearance;
- Temporary loss of habitat extent;
- Loss of habitat connectivity;
- Increased visitor pressure;
- Increased lighting;
- Indirect impacts upon habitats such as dust deposition, pollution events and accidental vehicle collisions;
- New habitat provision;
- Spread of non-native and invasive species;
- Killing/injury and disturbance of species;
- Destruction and degradation of nests, roosts and resting places of species; and
- Loss of foraging and commuting habitat for species.

3.2 Temporal Scope

The assessment has considered impacts arising during the demolition and construction stage which would be expected to be temporary and short- (less than 5 years) to medium- (5 to 10 years) in duration and during the completed development stage which would be expected to be permanent and long-term in nature (i.e. greater than 10 years).

3.3 Baseline Characterisation Method

3.3.1 Desk Study

The purpose of the desk study was to collect existing baseline data about the site and the ZOI, such as the location of designated sites or other natural features of potential ecological importance such as woodland and ponds. The following ZOI has been considered:

- all statutory designated sites up to 2 km from the site, including Special Areas of Conservation (SAC), Special Protection Areas (SPA), National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) and Local Nature Reserves (LNR);

- non-statutory designated sites: Sites of Importance for Nature Conservation (SINCs) up to 2 km from the site;
- records of protected species up to 2 km from the site;
- records of bats up to 5 km from the site;
- ancient woodland up to 2 km from the site; and
- international and national statutory designated sites with bats as a qualifying feature for designation, up to 10 km from the site.

South East Wales Biological Records Centre (SEWBReC) was contacted to provide details of designated sites and protected species within 2 km of the site. Due to data ownership restrictions in the reproduction of the SEWBReC report (Report Ref. 0234-748, dated January 2024) it is not appended to this chapter, but the information provided is summarised in the relevant sections. In addition, the Multi Agency Geographic Information for the Countryside (MAGIC) website[20] and Natural Resources Wales Interactive and Welsh Government's Lle Geo-Portal[21] [22] (Landmap, superseded by DataMapWales[23]) was searched for supplementary information on statutory sites, and the Welsh Government's DataMapWales Ancient Woodland Inventory 2021 map[24] was viewed to identify areas of ancient woodland. Supplementary information on the site and its surroundings were obtained from aerial images available from Google™ Earth.

In addition, various historical ecological surveys and assessments of a smaller part of the site have been undertaken to inform previous development plans for the site, and the reports for these have been used where appropriate. This includes:

- Parc Pelenna Ltd – Environmental Statement Ecology Chapter (2013)[25];
- Parc Pelenna, Neath Ecological Impact Assessment (2015)[26];
- Parc Pelenna, Neath Ecological Impact Assessment Addendum (2017)[27]; and
- Parc Pelenna Extended Phase 1 Habitat Survey (2019)[28].

3.3.2 Extended Phase 1 Habitat Survey

An extended Phase 1 habitat survey of the site was undertaken on 31 August 2023 and 20 September 2023 (split over two dates to cover all areas) by Sarah Dale MCIEEM, MRes, BSc (First Class Hons) to update the baseline habitat information on which this report is based. Sarah is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and has worked professionally as an ecologist since 2006. The weather conditions were dry and warm during both surveys. The weather during the August survey was warm, cloudy with some drizzle and mostly dry, and during the September survey was warm, cloudy with initial heavy rain followed by dry. An extended Phase 1 habitat survey of the site was previously undertaken by Matt Neale CEcol, MCIEEM, MSc, BSc on 6th May 2020. Matt has worked professionally as an ecological consultant since 2004. The weather during the survey period was warm, sunny and clear with little wind, and followed a period of extended dry weather.

The surveys involved a site walkover and preliminary assessment of key habitats, land use and ecological features, particularly focusing on areas of natural interest which will be affected by the

[20] www.magic.gov.uk
[21] http://lle.gov.wales/home?lang=en
[22] https://naturalresources.wales/evidence-and-data/maps/wales-environmental-information/?lang=en
[23] https://datamap.gov.wales/
[24] Welsh Government. DataMapWales: Ancient Woodland Inventory 2021. Available at: https://datamap.gov.wales/maps/new?layer=inspire-nrw:NRW_ANCIENT_WOODLAND_INVENTORY_2021#/
[25] Environ UK Ltd, 2013. R_UK1816094_2. Parc Pelenna Ltd – Environmental Statement Ecology Chapter.
[26] Ramboll Environ, 2015. RUK1421847_2. Parc Pelenna, Neath. Ecological Impact Assessment.
[27] Ramboll Environ, 2017. RUK1424822_3. Parc Pelenna, Neath. Ecological Impact Assessment Addendum.
[28] Ramboll, 2019. 1620007196-001/ENV/ECO/PH1. Parc Pelenna Extended Phase 1 Habitat Survey.

proposed development. The main habitats present were recorded using standard Phase 1 habitat survey methodology as described in the Handbook for Phase 1 Habitat Survey (JNCC, 2010[29]). Target notes were used to record habitats and features of particular interest. In addition to general habitat classification, a list was compiled of observed plant species (using the nomenclature of Stace, 2019[30], with common and Latin names referred to in the first instance after which only the common names are used). The abundance of each species was estimated for each habitat respectively using standard 'DAFOR' codes:

- D = Dominant
- A = Abundant
- F = Frequent
- O = Occasional
- R = Rare

The site was assessed for its potential to support protected and notable species such as reptiles, amphibians, birds, bats and badgers *Meles meles,* and was inspected for signs of any invasive plant species subject to legal controls. This was in order to identify potential ecological constraints and to guide recommendations for further survey requirements for these species.

An updated habitat assessment to confirm accurate habitat locations following topographical surveys was completed on 14 February 2024 by James Cunningham MSc BSc (Hons), Qualifying member of CIEEM, who has two years of professional experience as an ecologist, and Angela Ferguson MSc BSc (Hons), Qualifying member of CIEEM, who has two years of professional experience as a biodiversity consultant. The weather during the survey was cool, foggy and overcast with some periods of rain.

3.3.3 Invertebrate Assessment

An invertebrate survey and assessment of the site was undertaken on 6 September 2020 by Liam Olds of Colliery Spoil Biodiversity Initiative. The primary aim of the survey was to assess the suitability of habitats at the site for invertebrates, and whether these habitats have the potential to support species of 'conservation interest' (i.e. species considered Nationally Local, Nationally Scarce or Nationally Rare, and/or listed under Section 7 of Environment (Wales) Act 2016 as 'species of principal importance' in Wales).

The survey involved a site walk-over to become familiar with the habitats present at the site, and a visual assessment of the quality of these habitats for invertebrates based on professional opinion. Limited amounts of invertebrate sampling were deployed in areas considered to be of greatest value to invertebrates, in an attempt to locate any species of conservation interest that may be present. The invertebrate survey report with full methodology is presented in Appendix 3.

3.3.4 Reptile Surveys

Seven reptile survey visits of the site were undertaken during June to September 2022 and May to October 2020 by Sarah Dale, in accordance with the good practice guidance contained within the Herpetofauna Workers' Manual[31] and Survey Protocols for the British Herpetofauna[32].

The survey involved the deployment of artificial heat refuges (sections of roofing felt and corrugated iron) at densities of five refuges per hectare or more. A total of 95 refugia were deployed, in areas of suitable habitat (open areas of clear-fell woodland, adjacent to tracks and in

[29] Joint Nature Conservation Committee (JNCC), 2010. Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC Peterborough.
[30] Stace C, 2019. New Flora of the British Isles 4th Edition. Cambridge University Press.
[31] Gent T and Gibson S, 2003. Herpetofauna Workers' Manual. JNCC. Second Edition.
[32] Sewell et al, 2013. Survey Protocols for the British Herpetofauna Version 1.0. ARC Trust. Durrell Institute of Conservation and Ecology. University of Sussex.

grassland), as shown on Figure A.2 Appendix 1. Reptiles bask beneath or on these refuges, making them more visible to surveyors. Refuge deployment was combined with 'passive survey' in which vegetation tussocks, sunny banks and rubble piles were inspected. Refuges were checked during optimum weather conditions, i.e. when the temperature was neither too hot nor too cold, usually between 08:30 hrs and 11:00 hrs or between 16:00 hrs and 18:30 hrs and during periods of cloud with sunny spells and little wind. Incidental observations during other surveys were also recorded.

The reptile population size was assessed based on the criteria outlined in Froglife Advice Sheet 10,[33] whereby less than five slow worm *Anguis fragilis*, common lizard *Zootoca vivipara* or grass snake *Natrix helvetica* constitutes a Low population, five to 10 grass snake or five to 20 slow worm or common lizard constitutes a Good population and more than 10 grass snake or more than 20 slow worm or common lizard constitutes an Exceptional population. Furthermore, sites supporting three or more reptile species, two or more snakes or an exceptional population of one species would meet the criteria for 'Key Reptile Sites'.

3.3.5 Bird Surveys

Breeding Birds

Breeding bird surveys of the site and up to 150 m buffer around it were undertaken in 2020 and 2022, with additional incidental breeding records noted during targeted bird surveys in 2023. These comprised two visits by experienced ornithologist Mike Shewring MCIEEM, CEcol, on 4 June 2020 and 7 July 2020 (Appendix 4), four visits by experienced ornithologist Aurora Gonzalo Tarodo in July 2022 (Appendix 5), and four visits Aurora Gonzalo Tarodo in February to August 2023 (Appendix 6). The 2022 and 2020 surveys followed an amended common bird census (CBC)[34] visit methodology. During each visit all areas of the site were approached to within 100 m and all birds identified by song or observation were recorded along with their behaviour. The likely breeding status of birds identified was determined, with categories assigned being:

- Non-breeding;
- Possible breeding;
- Probable breeding; and
- Confirmed breeding.

Further details on the methodology and results are provided in Appendices 4, 5 and 6. Further observations of birds during other surveys were also incidentally recorded.

Nightjar

A nightjar survey of the site and up to 150 m buffer around it was undertaken by Aurora Gonzalo Tarodo during four visits in June to August 2023, two visits in July 2022 and by Mike Shewring during two visits on 6 July 2020 and 25 July 2020. These followed an amended BTO standard methodology (Gilbert et al 1999[35]). A single walked transect was undertaken between 21:00 hrs and 23:00 hrs through the site with regular listening stops in areas of suitable habitat. Details on all nightjar activity was recorded.

Further details on the methodology and results are provided in Appendices 4, 5 and 6.

Crossbill

Crossbill surveys of the site were undertaken by Aurora Gonzalo Tarodo during four visits in February to April 2023. These followed an amended BTO standard methodology (Gilbert et al 1999).

[33] Froglife Advice Sheet 10, 1999. Reptile Survey. HGBI.
[34] Marchant J. 1983. BTO Common Birds Census Instructions. Tring: British Trust for Ornithology.
[35] Gilbert G, Gibbons D W & Evans J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species. The Royal Society for the Protection of Birds, Sandy, Bedfordshire, England.

A single walked transect was undertaken through the site with regular stops in areas of suitable habitat. Details on all crossbill activity was recorded.

Further details on the methodology and results are provided in Appendix 6.

Honey Buzzard

Honey buzzard surveys of the wider region have been undertaken since 2006 on an annual basis by experienced ornithologist and honey buzzard specialist Steve Roberts. Steve is recognised as a national expert on honey buzzards. Steve's 2020 surveys included searches for nest sites in the Pelenna region and nearby and the relevant findings are discussed in this report. Additional details on survey methods are provided in Appendix 7.

In addition, Vantage Point surveys specifically targeting honey buzzards were carried out in July 2022 and during four visits in June to August 2023 by Aurora Gonzalo Tarodo. Further details on the methodology and results are provided in Appendix 5 and 6.

Barn Owl

A barn owl box within a Dutch barn at TN18 in Figure A.1 Appendix 1 was inspected on 4 June 2020 and 7 July 2020 by Natural Resources Wales licensed barn owl surveyor Mike Shewring (Appendix 4), and again in July 2022 by Natural Resources Wales licensed barn owl surveyor Aurora Gonzalo Tarodo (Appendix 5), for evidence of barn owls. Searches for barn owls or evidence of this species were also made during other bird and bat surveys.

3.3.6 Daytime Building and Tree Inspection for Bats

A daytime inspection of buildings, trees and structures was completed on 6 May 2020 during the extended Phase 1 habitat survey by Matt Neale, an experienced bat surveyor. Daytime inspections were also carried out by Daniel Hulmes during the update habitat survey on 7 July 2021 and Sarah Dale in September 2023. The exterior elevations of the site's buildings, structures and trees were visually inspected for field evidence of roosting bats including droppings, urine staining, feeding remains and potential roosting points. In accordance with the guidance outlined in Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (Collins, 2016[36][37]) each building was assessed for its potential to support bats. The following building types and features are considered to be of particular suitability to support roosting bats:

- Buildings of pre-20th or early 20th century construction;
- Agricultural buildings of brick, stone or timber construction;
- Large and complicated roof void(s) with unobstructed flying spaces;
- Large (>20 cm) roof timbers with mortise joints, cracks and holes;
- Entrances into buildings for bats to fly through;
- Poorly maintained buildings such that they provide access points for bats into roofs, walls, bridges, but at the same time not being too cool and draughty;
- Roof warmed by the sun e.g. south facing;
- Weatherboarding and/or hanging tiles with gaps;
- Undisturbed building roofs and structures;
- Buildings and built structures in proximity to each other providing a variety of roosting opportunities throughout the year; and
- Buildings and built structures close to good foraging habitat e.g. mature trees, parkland, woodland or wetland.

[36] Collins J, 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). Bat Conservation Trust (BCT).
[37] These guidelines were current at the time of the survey, with updated guidance published in September 2023.

The following tree features are considered of particular suitability to support roosting bats:

- Natural holes;
- Woodpecker holes;
- Cracks / splits in major limbs;
- Loose bark;
- Bat, bird or mammal boxes;
- Partially detached large-stemmed ivy; and
- Other hollows / cavities.

Each building, structure and tree has been classified into a category dependent on the presence of features suitable to support bat roosts. The categories assigned were: Confirmed Roost, High, Moderate, Low and Negligible Potential for use by bats. Table 3.1 below provides criteria for each of these categories. In addition, the suitability of the site for foraging and commuting bats was assessed.

Table 3.1: Building, Structure and Tree Bat Roost Potential Categories

Roost Potential	Description
Confirmed	A building, structure or tree that is confirmed to support a bat roost.
High	A building, structure or tree with one or more potential roost site that is obviously suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A building, structure or tree with one or more potential roost site 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.
Low	A building or structure with one or more potential roost site that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection and / or suitable surrounding habitat to be used on a regular basis or by a large number of bats (i.e. unlikely to be suitable for hibernation or maternity). Trees of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with very limited roosting potential.
Negligible	Negligible habitat features likely to be used by roosting bats and bats very unlikely to be present.

Notes: Category descriptions drawn from Collins (2016)

3.4 Bat Emergence /Re-entrance Survey

Evening bat emergence and dawn re-entrance surveys of buildings and trees suitable for use by roosting bats within the site boundary (as shown in Figure A.1, Appendix 1) were undertaken over several dates in 2020 to 2023, by surveyors as named in Table 3.2. The surveys were conducted in accordance with Collins (2016) guidelines[38]. Either one or two surveyors were used to survey each feature, which was considered sufficient to cover them adequately. The surveyors used ultrasonic bat detectors with inbuilt recorders allowing bat calls to be recorded and analysed at a later date, in order to identify the bat to species level. It is difficult to identify *Myotis* bats to species level due to their similar calls, and therefore calls of these species have not been assigned to species level. Incidental bat activity recordings were also made during the surveys. The surveys were conducted from 15 minutes before sunset and carried on for at least an hour and a half after

[38] Guidance was valid at the time of the surveys.

sunset. Table 3.2 summarises the bat emergence survey conditions. Offsite trees close to the access track were also identified but were not subject to further survey as they will not be affected by the proposed development.

Table 3.2: Summary of Bat Emergence Surveys

Feature	Survey Type	Survey Date	Sunset	Weather Conditions	Surveyor	Bat Detector Type
Gatehouse (TN17)	Evening Emergence	17/08/2020	20:33	Start 17°C, 100% cloud, 1B. End 14°C, 100% cloud, 1B. Rain shower from 20:30 hrs - 20:40 hrs. Light drizzle from 21:35 hrs, heavy rain at 21:46 hrs - survey stopped.	Sarah Dale	EM Touch, Batbox Duet
Chalet (TN16)	Evening Emergence	18/08/2020	20:31	Start 18°C, 100% cloud, 1B. End 15°C, 35% cloud, 1B. Rain shower until 12pm during day. Dry during survey.	Sarah Dale Richard Matthews	EM Touch, Batbox Duet, EM3+
Bungalow and shed (TN9 and TN10)	Evening Emergence	24/08/2020	20:18	Start 16°C, 100% cloud, 2B. End 14°C, 100% cloud, 2B. Rain until 19:00 hrs. Dry during survey.	Sarah Dale Richard Matthews Rebecca Sheahan-East	EM Touch x 2, Batbox Duet, EM3+
Bungalow (TN10)	Evening Emergence	23/09/2020	19:10	Start 10°C, 85% cloud, 0B. End 8°C, 50% cloud, 1B. Rain shower until 18:30 hrs. Dry during survey.	Sarah Dale Rebecca Sheahan-East	EM Touch, Batbox Duet, EM3+
Chalet (TN16)	Evening Emergence	16/09/2020	19:25	Start 18°C, 35% cloud, 1B. End 16°C, 0% cloud, 2B. No recent rain. Dry during survey.	Sarah Dale Rebecca Sheahan-East	EM Touch, Batbox Duet, EM3+
Mine entrance (TN19)	Dawn re-entrance	26/08/2020	06:17	Start 15°C, 75% cloud, 0-3B, no recent rain. End 15°C, 100% cloud, 1B, no rain.	Richard Matthews	EM Touch
Mine entrance (TN19)	Evening Emergence	22/09/2020	18:57	Start 16°C, 100% cloud, 1B, no recent rain. End 16°C, 100% cloud, 1B, no rain.	Rebecca Sheahan-East	EM Touch, Duet

Table 3.2: Summary of Bat Emergence Surveys						
TN11 Sycamore Tree - W clearing	Evening Emergence	07/09/2020	19:40	Start 16°C, 100% cloud, 2-3B. End 16°C, 100% cloud, 2-3B. Drizzle at start, stopped by sunset, rain again at 21:12 hrs.	Rebecca Sheahan-East	EM3+
TN11 Sycamore Tree - E clearing	Evening Emergence	07/09/2020	19:40	Start 17°C, 100% cloud, 2-3B. End 17°C, 100% cloud, 2-3B. Drizzle at start, stopped by sunset, rain again at 21:12 hrs.	Stephen Shutt	Elekon Batlogger M with Pulsar Helium XP28 Thermal Scope
TN11 Sycamore Tree x 2 - W of Path	Evening Emergence	24/09/2020	19:03	Start 12°C, 25% cloud, 2B. End 9°C, 25% cloud, 2B. No recent rain.	Sarah Dale	EM Touch and Batbox Duet
Chalet (TN16)	Evening Emergence	07/07/2021	21:33	Start 14°C, 100% cloud, 1B. End 14°C, 100% cloud, 1B. No recent rain.	Daniel Hulmes James Cunningham	EM Touch Pro 2
Bungalow (TN10)	Evening Emergence	08/07/2021	21:32	Start 14°C, 75% cloud, 1B. End 13°C, 75% cloud, 1B. No recent rain.	Daniel Hulmes James Cunningham	EM Touch Pro 2
Bungalow (TN10)	Evening Emergence	29/06/2022	21:37	Start 17°C, 50% cloud, 2B, no rain. End 15°C, 100% cloud, 2B, light drizzle from 22:30-22:40.	Rebecca Sheahan-East Tom Miles	EM Touch, EM3+
Chalet (TN16)	Evening Emergence	04/07/2022	21:36	Start 15°C, 85% cloud, 1B, no rain. End 13°C, 90% cloud, 1B, no rain.	Rebecca Sheahan-East Aurora Gonzalo Tarodo	EM3+ x 2
Bungalow and shed (TN10)	Evening Emergence	17/08/2022	20:35	Start 17°C, 50% cloud, 1B, no rain. End 15°C, 100% cloud, 1B, no rain.	James Cunningham Sarah Dale Tom Miles	EM Touch x 3, Batbox Duet

Table 3.2: Summary of Bat Emergence Surveys						
Chalet (TN16)	Evening Emergence	22/08/2022	20:25	Start 21°C, 100% cloud, 1B, no rain. End 19°C, 100% cloud, 1B, light rain at end.	Rebecca Sheahan-East Tom Miles	EM Touch, EM3+
Sycamore trees (TN11)	Evening Emergence	30/08/2022	20:08	Start 17°C, 0% cloud, 1B, no rain. End 14°C, 0% cloud, 1B no rain.	Tom Miles	EM Touch
Gatehouse (TN17)	Evening Emergence	30/08/2022	20:08	Start 16°C, 0% cloud, 0-1B, no recent rain. End 14°C, 0% cloud, 2B, no rain.	Sarah Dale	EM Touch, Batbox Duet
Chalet (TN16)	Evening Emergence	19/09/2022	19:20	Start 14°C, 100% cloud, 0B, no recent rain. End 12°C, 50% cloud, 0B, no rain.	Sarah Dale Tom Miles	EM Touch x 2, Batbox Duet
Bungalow and shed (TN9 and TN10)	Evening Emergence	20/09/2022	19:19	Start 14°C, 0% cloud, 0B, no rain. End 10°C, 0% cloud, 1B, no rain.	Sarah Dale Rebecca Sheahan-East Tom Miles	EM Touch x 2, EM3+, Batbox Duet
Sycamore trees (TN11)	Evening Emergence	21/09/2022	19:17	Start 16°C, 50% cloud, 0B, no rain. End 14°C, 35% cloud, 0B.	Sarah Dale Rebecca Sheahan-East	EM Touch, EM3+, Batbox Duet
Chalet (TN16)	Evening Emergence	23/08/2023	20:22	Start 19°C, 70% cloud, 0-1B, no rain. 70% cloud, 0B, no rain.	Sarah Dale James Cunningham	EM Touch, EM Touch 2 Pro
Sycamore trees (TN11)	Evening Emergence	29/08/2023	20:09	Start 14°C, 100% cloud cover, 1B, no rain. End 12°C, 100% cloud cover, 0B, no rain.	Sarah Dale James Cunningham	EM Touch, EM Touch 2 Pro
Bungalow and shed (TN9 and TN10)	Evening Emergence	30/08/2023	20:07	Start 14°C, 30% cloud cover, 0B, no rain. End 11°C, 0% cloud cover, 0B, no rain.	Sarah Dale James Cunningham	EM Touch, EM Touch 2 Pro, EM3+

Table 3.2: Summary of Bat Emergence Surveys

					Rebecca Sheahan-East	
Chalet (TN16)	Evening Emergence	13/09/2023	19:35	Start 18°C, 30% cloud cover, 1B, no rain. End 16°C, 5% cloud cover, 1B.	Sarah Dale James Cunningham	EM Touch, EM Touch 2 Pro
Sycamore trees (TN11)	Evening Emergence	18/09/2023	19:25	Start 15°C, 100% cloud cover, 3B. End 13°C, 100% cloud cover, 2B. Very light rain shower until 19:25, some drizzle throughout survey.	Sarah Dale James Cunningham	EM Touch, EM Touch 2 Pro
Bungalow and shed (TN9 and TN10)	Evening Emergence	20/09/2023	19:19	Start 15°C, 40% cloud cover, 2B. End 14°C, 5% cloud cover, 1B. Rain 3 hours before survey, no rain during survey.	Sarah Dale James Cunningham Rebecca Sheahan-East	EM Touch, EM Touch 2 Pro, EM3+, Batbox Duet

3.5 Bat Activity Surveys

Walked bat activity transect surveys were undertaken in August and October 2023, June to September 2022 and May to September 2020. These surveys are detailed in Table 3.3 and Figure A.3, Appendix 1. The surveys were undertaken at dusk or dawn and followed appropriate transect methodology as detailed in the Bat Conservation Trust's (BCT) Good Practice Guidelines[39]. Each of the survey visits involved one or two surveyors walking at a steady pace along a single pre-defined transect. The route was chosen to maximise coverage of the site and to ensure as many habitats as possible were included.

Whilst carrying out the walked transect, the surveyors carried an EM Touch bat detector to record bat passes for later analysis. Bat Box Duets were also used on most surveys to hear all bat passes in the field, though on two surveys in 2022 EM Touch detectors were used for this purpose instead. A bat pass was defined as an unbroken stream of echolocation calls, heard as a series of 'clicks' on a bat detector as the bat passes in and out of the detector's range. The number of bat passes, the species of bat, the location at time of recording and the flight direction (where seen) was recorded onto a recording sheet and map during the survey.

In addition, pre-determined Listening Station (LS) points were established, nine per transect route, at which the surveyors would make five-minute stops to record bat activity. The starting LS were staggered throughout the surveys, in order to capture bat activity at different parts of the site at different times in relation to sunset. During surveys in 2022 and 2023, LS6 was considered inaccessible due to overgrown conditions. As such only eight Listening Stations were used during these surveys.

Each survey commenced at sunset or two hours before dawn and lasted approximately two hours. The summary data for the surveys can be seen in Table 3.3.

[39] Collins J (ed), 2016. Bat Surveys for professional Ecologists: Good Practice Guidelines (3rd edn). BCT, London

Table 3.3: Summary of Meta Data Associated with Walked Transect Surveys

Transect Survey	Survey Date	Sunset/Survey Start Time	Sunrise/Survey End Time	Start Point	Weather Conditions	Surveyor	Bat Detector Type
1	28/05/2020	21:20	23:20	LS9	Start 18 °C, 0% cloud, 2B, no recent rain. End 18 °C, 0% cloud, 2B, no rain.	Sarah Dale	EM Touch, Batbox Duet
2	24/06/2020	21:37	23:37	LS4	Start 22 °C, 0% cloud, 1B, no recent rain. End 18 °C, 0% cloud, 1B, no rain.	Sarah Dale Rebecca Sheahan-East	EM Touch, Batbox Duet
3	15/07/2020	21:25	23:25	Between LS5-LS6	Start 16 °C, 75% cloud, 0-1B, no recent rain. End 15 °C, 75% cloud, 0B, no rain.	Sarah Dale Rebecca Sheahan-East	EM Touch, Batbox Duet
4	26/08/2020	04:17	06:17	LS1	Start 15 °C, 75% cloud, 0-3B, no recent rain. End 15 °C, 100% cloud, 1B, no rain.	Sarah Dale	EM Touch, Batbox Duet
5	22/09/2020	19:12	21:12	LS3	Start 16 °C, 100% cloud, 1B, no recent rain. End 16 °C, 100% cloud, 1B, no rain.	Sarah Dale Rebecca Sheahan-East	EM Touch, Batbox Duet
6	29/06/2022	21:39	23:39	LS9	Start 17 °C, 100% cloud, 3B, very light rain. End 15 °C, 95% cloud, 1B, no rain.	Aurora Gonzalo Tarodo Tom Miles	EM Touch
7	16/08/2022	20:37	22:44	LS7	Start 17 °C, 100% cloud, 0B, light rain. End 16 °C, 100% cloud, 0B, no rain.	Sarah Dale James Cunningham	EM Touch, Batbox Duet
8	21/09/2022	19:16	21:16	LS9	Start 16 °C, 35% cloud, 1B, no recent rain. End 14 °C, 40% cloud, 1B, no rain.	Tom Miles	EM Touch
9	31/08/2023	20:04	22:04	LS7	Start 13°C, 100% cloud, 1B, no rain. End 12°C, 100% cloud, 1B, no rain. Shower during day, no rain during survey.	Sarah Dale James Cunningham	EM Touch 2 Pro
10	09/10/2023	18:38	20:38	LS9	Start 17°C, 75% cloud, 1B, no rain. End 15°C, 50% cloud, 1B, no rain.	James Cunningham Jack Barry	EM Touch 2 Pro

3.6 Assessment Method

The ecological impact assessment has been undertaken by means of existing best practice tools and techniques in accordance with CIEEM guidance. As such, following defining the baseline, potential impacts and effects on ecological features (as defined by baseline conditions and proposals for the site) have been assessed taking into consideration mitigation measures integral to the proposed development; consideration has been given to the need for additional mitigation to reduce or off-set potential significant effects, and finally all residual effects have been assessed as either significant or not significant at the relevant geographic level. As part of this, consideration was given to the avoidance, mitigation, restoration, compensation and enhancement measures (the 'mitigation hierarchy') integral to the proposed development. Following the recommendation of additional mitigation measures to avoid and mitigate ecological effects, the significance of the residual effects (after mitigation) on ecological features were assessed.

Cumulative Stage

The likely impacts and resulting effects from the combination of the proposed development with other cumulative projects has been assessed using professional judgement.

3.6.1 Receptor Importance Criteria

The importance of ecological features (i.e. designated sites, habitats and species), identified within the zone of influence has been assessed using a scale that classifies ecological features within a defined geographic context in accordance with CIEEM guidelines. The following frame of reference has been used for the site:

- International and European Importance;
- National Importance (Wales);
- Regional Importance (south-west Wales);
- County Importance (Neath Port Talbot);
- Local Importance (within 2 km radius of the site including immediate areas of the Neath Valley);
- Site Importance (limited to the site boundary); and
- Negligible importance.

Various characteristics contribute to the importance of ecological features. These include recognised and published criteria (e.g. Ratcliffe, 1977[40], Wray *et al.* 2010[41]), where the ecological features are assessed in relation to their size, diversity, naturalness, rarity, fragility, typicalness, connectivity with surroundings, intrinsic value, recorded history and potential importance.

A wide range of sources can be used to assign importance to ecological features, including legislation and policy. In the case of designated sites, their importance reflects the geographic context of the designation. For example, sites designated as SACs are recognised as being of importance at an International level. Ecological features not included in legislation and policy may also be assigned importance, due to, for example, local rarity or decline, or provision of a

[40] Ratcliffe, D.A. (Ed)., 1977. A Nature Conservation Review. 2 vols. Cambridge University Press.

[41] Wray S., Wells D., Long E. and Mitchell-Jones, T., 2010. Valuing Bats in Ecological Impact Assessment, CIEEM In-Practice. 23-25.

functional role for other ecological features. Professional judgement is used to assign such importance.

Table 3.4 provides examples of how the importance of ecological features has been assigned at different geographical scales.

Table 3.4: Receptor Importance Criteria

Importance	**Example Criteria**
International	Internationally designated sites including SPAs, SACs, Ramsar Sites, Biogenetic Reserves, World Heritage Sites, Biosphere Reserves, Sites of Community Importance (SCIs), candidate SACs, potential SPAs and potential Ramsar Sites. Discrete areas which meet the published selection criteria for international designation, but which are not themselves designated as such.
National	Nationally designated sites including SSSIs, NNR, Marine Protected Areas; discrete areas which meet the published selection criteria for national designation (e.g. SSSI selection guidelines) but which are not themselves designated as such). Areas of irreplaceable habitats, such as ancient woodland, or blanket bog. Resident or regularly occurring populations of species which may be considered at the UK or National level, such as species listed in Schedules 5 and 8 of the Wildlife and Countryside Act (1981), the loss of which would adversely affect the conservation status or distribution of the species across Britain or the Country; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.
Regional	Designated sites (non-statutory) including heritage coasts. Viable areas of key habitat identified as being of Regional importance in the appropriate Natural Area Profile (or equivalent); or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Resident or regularly occurring populations of species which may be considered at an International/European level, or at the UK/National level, the loss of which would adversely affect the conservation status or distribution of the species across the region; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle. Species identified in regional plans or strategies.
County	Viable areas of key habitat identified as being of County importance in the appropriate Natural Area Profile (or equivalent); or smaller areas of

Table 3.4: Receptor Importance Criteria	
Importance	**Example Criteria**
	such habitat which are essential to maintain the viability of a larger whole. Resident or regularly occurring populations of species which may be considered at an International/European level, or at the UK/National level, the loss of which would adversely affect the conservation status or distribution of the species across the County; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle. Designated nature conservation sites at the county (or equivalent) level including statutory Local Nature Reserves (LNR) and non-statutory Local Wildlife Sites; or discrete areas which meet the published selection criteria for designation, but which are not designated as such. Areas of habitats identified in county or equivalent authority plans or strategies (where applicable). Resident or regularly occurring populations of species which may be considered at the local authority level, the loss of which would adversely affect the conservation status or distribution of the species across the local authority area. Species identified in a county or equivalent authority area plans or strategies.
Local	Wildlife / nature conservation sites designated at a local level. Features of local importance comprise areas of habitat or populations/communities of species considered to appreciably enrich the habitat resource within the local context, for example, species-rich hedgerows. Resident or regularly occurring populations of species which may be considered at an international level, or at the national level, or considered to appreciably enrich the habitat resource within the local context, the loss of which would adversely affect the conservation status or distribution of the species across the immediate surrounding area; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.
Site	Areas of habitat considered to appreciably enrich the habitat resource within a site. Comprises viable populations of species which are of importance within a site, and which contribute to the biodiversity of the site, but which are of limited importance in their own right.
Negligible	Areas of a site considered to have no or very limited ecological importance such as built development or hardstanding with no species of importance present or using the area.

The importance rating of a receptor is not necessarily directly related to their level of sensitivity to change. Geographic scale of effect has been determined based on professional judgement and for species informed by the following factors:

- Longevity;
- Reproductive success/fecundity;
- Habitat requirements;
- Pollution sensitivity;
- Extent of range;
- Population size and viability; and
- Geographic location.

3.6.2 CIEEM Significance of Effect Criteria

CIEEM defines a significant effect' as an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of geographical scales from international to local.

Within the context of this assessment, a significant effect may affect/change the integrity of the ecological feature at the geographic scale at which it is valued.

Where relevant, the impacts and effects have been characterised according to the following variables:

- Magnitude and extent – quantitative size of an impact (e.g. area of habitat/number of individuals) and geographical extent of the effect;
- Timing – when the impact may occur;
- Duration and reversibility – timescale of effect (days/weeks/months/years) until recovery. Permanent impacts are described as such, and likelihood of recovery is detailed where appropriate;
- Frequency – frequency of effect (if appropriate; described as low to high and quantified where possible);
- Complexity – whether the impact would directly or indirectly affect the feature; and
- Positive/Negative – if the effect would be beneficial or detrimental to the importance and integrity of the feature.

The assessment only describes those characteristics relevant to the ecological effect and determining the significance. For example, timing of when a habitat is removed may not be relevant in relation to the assessment of the effect on the habitat. However, it may be relevant to assessing the impact to the species that occur within the habitat (e.g. roosting bats).

In accordance with CIEEM guidelines, each impact has been assessed as having a significant effect or not having a significant effect upon each ecological feature by reference to the assessed geographic scale. The importance level of the ecological feature concerned may be a determinant of the geographical level at which the effect is significant. For example, a significant effect to a Site of Special Scientific Interest (SSSI), is likely to be significant at a National level. However, it

may be the case that the effect could be considered significant at a lower or higher geographical level than that at which the feature is important, depending on the magnitude of the impact and the resulting effect.

3.6.3 EIA Significance of Effects Criteria

An approach, as described in Box *et al*[42]*.* has been used to translate reported significant effects for each ecological feature to the EIA scale of effect terminology adopted across the EIA of the proposed development (Negligible, Minor, Moderate and Major), following completion of the assessment using the CIEEM guidelines. Table 3.5 presents the translation between the CIEEM geographical scale of effect and the EIA scale of effect terminology and has been derived based on professional judgement.

Table 3.5: CIEEM Significance vs EIA Significance of Effects

CIEEM Geographical Scale of Significant Effect	**EIA Scale of Effect Terminology**
International, European, National or Regional	Major
Regional, County	Moderate
Local	Minor
Site and Negligible	Negligible

Typically in EIA practice, effects of **Moderate** or **Major** scale are considered to be 'significant' in EIA terms and therefore a material consideration for decision-making purposes. This approach has been taken in this chapter.

While **Negligible** and **Minor** scale effects are typically not considered to be 'significant' in EIA terms, they could be ecologically significant at a **Local** and **Site level** and therefore may require further consideration and appropriate mitigation and/or compensation to be secured to avoid/off-set the significant effect or to satisfy legal requirements (for example in relation to protected species where legislation may require actions to protect populations or individuals).

3.7 Consultation

Discussions with Neath Port Talbot County Ecologist Rebecca Sharp were held by telephone on 14 May 2020 and by follow up emails, to agree the scope of surveys and level of assessment undertaken. Further consultation with Neath Port Talbot Council Ecologist Megan Price was undertaken by telephone on 15 November 2023 and by follow up emails. In addition, a screening opinion for EIA was sought (Application P2024/0186) which confirmed that an Environmental Statement was required and that biodiversity should be scoped in to this. Of particular relevance were comments relating to physical changes in the locality, cumulative biodiversity impacts, the potential for significant effects on important, high quality or scarce biodiversity resources including deep peat and woodland.

3.8 Limitations

It should be noted that availability and quality of the data obtained during desk studies is reliant on third party responses. This varies from region to region and for different species groups.

[42] Box, J., M. Dean and M. Oakley. 2017. An alternative approach to the reporting of categories of significant residual ecological effects in Environmental Impact Assessment. InPractice Issue

Furthermore the comprehensiveness of data often depends on the level of coverage, the expertise and experience of the recorder and the submission of records to the local recorder. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

Initial surveying was undertaken during the Covid 19 pandemic, which resulted in some limitations on surveying, with initial restrictions on travel and overnight stays. Some of the surveys were undertaken later in the year than guidelines recommend. Most of these have been updated in subsequent years. No significant constraints to the survey results were identified as a result of survey timing constraints, and it is considered that a robust assessment of the species and habitats present on the site has been completed.

The extended Phase 1 habitat survey provides a snapshot of ecological conditions and does not record plants or animals that may be present on-site at different times of the year. The surveys were undertaken during the optimum April to September Phase 1 habitat survey periods when plants are generally visible. Habitats in many areas of the site were too dense and the ground too uneven for access for a full survey to be achievable. The surveys were instead completed from vantage points with indicative habitat lists taken using observable and edge habitats. The site is an evolving landscape with habitats changing over time through natural succession, with limited ongoing management, and this has been captured through update surveys between 2020 and 2023. The dense scrub and woodland areas could not be searched thoroughly for evidence of badger setts, due to the dense nature of the vegetation. A hay/silage cut had been taken of grassland at the time of the 2023 survey, making grassland species identification more difficult. However, species composition appeared to be similar to those recorded in previous surveys.

The invertebrate survey was undertaken late in the season, in September 2020, missing the spring and summer season when invertebrates are most active, and for a limited amount of time (one day). The surveyor considered the invertebrate survey effort was sufficient to adequately assess the habitats present on the site, and these constraints were not considered to limit the assessment undertaken. Although the surveys are now several years old, the results are considered to be representative of the site, and update invertebrate surveys were therefore not considered to be necessary.

Breeding bird surveys commenced late in the season in 2020, with two surveys completed. This may have impacted on the identification of early breeding/ resident species and overall reduced the total number of species recorded. In addition, the completion of only two survey visits will have reduced the data quality for the delineation and quantification of territory numbers. As such, the estimation of territory numbers provided in the 2020 bird report was based on the data collected in combination with professional judgement. Given the habitat present, it is considered unlikely that rarer early season breeding bird species would have been missed from the survey, or that the recording of additional species would alter the assessment of the importance of the site for breeding birds or the mitigation recommended. Furthermore, the fact that further breeding bird surveys were undertaken at the correct time of year and with four surveys in subsequent years with relatively consistent results recorded indicates that a robust assessment of the breeding birds present on the site has been made.

The bat surveys were undertaken at an appropriate time of year and largely under suitable weather conditions. During the 2023 surveys, inclement weather conditions meant that it was not possible to complete three surveys of each suitable feature and transect, and only two were completed between August and October 2023. However, due to the number of surveys undertaken in previous years and the consistency of results, this is not considered to be a significant constraint, and it is considered that the use of the site by bats is well understood. The level of activity recorded at some of the buildings is consistent with use as a bat maternity roost, though surveys were not

conducted during the key June period which would confirm this. It is assumed that additional surveys would be undertaken prior to any licence application, and on a precautionary basis for planning purposes the presence of a maternity roost is assumed, with appropriate mitigation advised. Bats are very mobile creatures and can occupy buildings at any given time. Therefore, this survey does not take into account seasonal differences or the physical changes to a building after the survey date due to weathering, maintenance, deterioration or material replacements. The absence of a particular species cannot definitely be confirmed by a lack of field signs and only concludes that an indication of its presence was not located during the survey effort. Internal inspections of the buildings for evidence of bats were not possible. There was no access available to the gatehouse (TN17) which was partially boarded up, and the mine shaft which was bricked up, and no access to the bungalow and shed (TN9 and 10) was given by the landowner. The chalet did not have an internal loft space. Adequate emergence surveys of these features were undertaken, and this lack of internal inspection is not considered to be a constraint to the results of the surveys. The mine shaft is potentially suitable for use by hibernating bats. Access into the mine was not possible to assess hibernating suitability. However, as development near the mine is not proposed, no need for further surveys of this feature were considered necessary. Surveys were completed in accordance with BCT guidance which was valid at the time of the surveys. Guidance was updated in October 2023; however, the assessment undertaken to previous guidance is considered to be robust and fit for purpose. Update bat surveys are likely to be required prior to reserved matters applications, and these would be undertaken in accordance with up-to-date bat survey guidance.

Bat and reptile surveys were completed during variable and sometimes sub-optimal weather conditions, due to the location and exposure of the site and the weather conditions experienced during surveys. Moderate to strong gusts of wind and other inclement weather were often experienced at the site, particularly during the 2020 surveys. It is considered that this is representative of commonly occurring weather conditions at the site, and that wildlife species present would be tolerant of such conditions.

Surveying for reptiles was also difficult due to the terrain and habitats present, and the numbers recorded are likely to be under-estimates of the total number present. For this reason, the survey results are assessed on a conservative basis.

Although the February 2024 site visit for the updated habitat assessment was conducted outside of the optimal survey period, the aim of the survey was achieved, that was to confirm the accuracy of habitat locations determined during previous habitat surveys following topographical surveys received from the client. Certain sections of the site could not be accessed, including the access road which was overgrown, and habitats in the east of the site due to time constraints. However, these habitats are not expected to be affected by the works and therefore the results of the updated habitat assessment remain valid.

As per the updated Concept Masterplan (Reference number 2304/ 001 rev F, April 2024[43]), the site boundary has been extended to include some additional areas (total area 0.84ha) around the access track in the north of the site. These areas have not been surveyed or assessed as part of this chapter. Given that these are small areas of habitat on the edges of the access track area, that the habitats present are likely to be similar to those already identified, and update surveys of trees for bat roost potential prior to work commencing are already recommended, this is not considered to be a significant constraint to the current assessment. An extended Phase 1 habitat survey and any other ecological surveys required will need to be undertaken in these areas prior to detailed

[43] Ross Peedle Architecture Pelenna holiday resort. Drawing: Concept masterplan. Number: 2304/ 001 rev F. Date: 01.04.24

design and construction to assess potential ecological impacts and effects, with appropriate mitigation implemented.

Ramboll is satisfied that this report represents a robust appraisal of the site. If any action or development has not taken place on this land within 12 months of the date of this report, the findings of this survey should be reviewed by a suitably qualified ecologist and may need to be updated in line with CIEEM's 'Advice Note on the Lifespan of Ecological Reports and Surveys' (2019)[44].

[44] Chartered Institute of Ecology and Environmental Management (CIEEM), 2019. Advice Note on the Lifespan of Ecological Reports and Surveys. CIEEM, Winchester. Available online: https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf [Accessed 04/09/2019].

4. BASELINE CONDITIONS

4.1 Desk Study

4.1.1 Landscape Context

The site is located on a north-facing hillside with flatter land to the south. To the north is mixed farmland with trunk roads and the River Neath Valley beyond, to the east mixed woodland and semi-improved grassland, to the southeast plantation woodland, and to the south and west semi-improved grassland. The surrounding hillside shows a complicated patchwork of land parcels, much altered over the last century from a mixture of industrial, agricultural and forestry activity. The resulting mosaic of habitats include fields of improved grazing pasture, patches of Purple Moor-Grass and Rush Pasture (habitat meeting criteria for listing under Section 7 of the Environment (Wales) Act 2016), mature conifer plantation, semi-natural broadleaved woodland, dense scrub and stands of dense bracken *Pteridium aquilinum*.

4.1.2 Designated Sites

Statutory Sites

No SPAs, SACs, SSSIs, NNRs or LNRs are located within 2 km of the site, and no SACs designated for bats are present within 10 km of the site.

Non-Statutory Sites

SEWBREC identified five Sites of Importance for Nature Conservation (SINC), one Wildlife Trust Reserve and one B-line located within 2 km of the site. These are listed in Table 4.1. No further designated sites are present within 2 km of the site.

Table 4.1: Non-Statutory Sites within 2 km of the Site

Name	Designation	Location	Habitats Present	Notable Species Supported
Sarn Helen	SINC	Approximately 0.8 km northwest, on the opposite side of the Neath River Valley.	Heathland with cotton grass Native woodland Scrub communities Hedgerows Upland acid grasslands Upland heathland Purple moor-grass & rush-pasture Blanket bog Ffridd (mosaic of heath, acid grass, bracken, gorse and scattered trees)	Species recorded: ling (common heather) *Calluna vulgaris*, bilberry *Vaccinium myrtillus*, purple moor-grass *Molinia caerulea*, tussock grass, cotton grass *Eriophorum angustifolium*. Habitat suitable for: reptiles, brown hare *Lepus europaeus*
Neath Canal	SINC	Approximately 60 m northwest of entrance track, at closest point.	Standing open water and canals	Species recorded: Cetti's warbler *Cettia cetti*, reed warbler *Acrocephalus scirpaceus*, sedge warbler *Acrocephalus schoenobaenus*, reed bunting

Table 4.1: Non-Statutory Sites within 2 km of the Site				
				Emberiza schoeniclus, kingfisher *Alcedo atthis* grass snake, common lizard, slow worm, adder *Vipera berus*, water vole *Arvicola amphibius*, otter *Lutra lutra* Other species of note: common toad *Bufo bufo*, odonata including emperor dragonfly *Anax imperator*, hairy dragonfly *Brachytron pratense*, common blue damselfly *Enallagma cyathigerum*, blue tailed damselfly *Ischnura elegans*, common darter *Sympetrum striolatum*, broad bodied chaser *Libellula depressa*, four spotted chaser *Libellula quadrimaculata*
Tonmawr Minewater Treatment & Surrounding Habitats	SINC	Approximately 1.6 km south.	Scrub Communities Lowland Heathland Reedbeds	Species recorded: grass snake, adder, common lizard, common toad, otter, common weasel *Mustela nivalis*
Cwm Blaenpelenna	SINC	Approximately 1.7km south east.	Unknown.	Unknown.
NPT Watercourses	SINC	Unknown.	Unknown.	Unknown.
Coed Gawdir	Wildlife Trust Reserve	Approximately 1.9 km north-west.	Acidic pond Ancient woodland	Species recorded: Unspecified breeding amphibian population, wren *Troglodytes troglodytes*, long-tailed tit *Aegithalos caudatus*, great tit *Parus major*, coal tit *Periparus ater*, siskin *Spinus spinus* and robin *Erithacus rubecula*.
B-Line	B-Line	0 km - The site is located within a B-Line.	n/a	B-Lines are a series of wildflower-rich insect pathways running across the United Kingdom, with the aim of providing habitat connectivity for insect species.[45]

4.1.3 Ancient Woodland

Numerous woodland parcels which meet SINC criteria for Ancient Woodland occur within 2 km of the site. According to a plan provided by SEWBReC and as per the Ancient Woodland Inventory 2021[46], areas in the north-east and the west of the site and on the existing access track meet the SINC criteria for Ancient Woodland (Plantation on Ancient Woodland Sites within the main parts of

[45] Buglife (2022) *B-Lines*. Available at: https://www.buglife.org.uk/our-work/b-lines/ (Accessed: 12/05/22).

[46] Welsh Government. DataMapWales: Ancient Woodland Inventory 2021. Available at: https://datamap.gov.wales/maps/new?layer=inspire-nrw:NRW_ANCIENT_WOODLAND_INVENTORY_2021#/

the site, and [47] and Plantation on Ancient Woodland Sites, Ancient Semi Natural Woodland Site and Restored Ancient Woodland Site on the access track). These are shown on Figure A.4. However, as reported in ENVIRON (2013)[48] the landuse of the area to the north of the Site can be tracked using Ordnance Survey (OS) maps. The maps indicate that the hillside was woodland until early in the 20th century, at which time it was cleared and converted into agricultural fields. The degree of agricultural improvement is unclear, and the fields are shown as rough grassland. It appears that this new land use was maintained until at least the 1960s, most likely through grazing. The level of agricultural intensification was insufficient to remove some of the woodland plant species such as wood sorrel *Oxalis acetosella,* bluebell *Hyacinthoides non-scripta* and foxglove *Digitalis purpurea* which may have persisted within the seed bank. It appears that by the 1980s, grazing pressure had reduced which allowed scrub and eventually woodland to start to develop in places. Therefore, it is reasonably certain that the woodland is not ancient and that the existing stand of trees cannot be older than 30 to 40 years. Habitats in these areas within the north of the site now include scattered scrub with grassland, recently felled plantation woodland, semi-improved grassland, marshy grassland and areas of mixed woodland showing evidence of recent conifer plantation use. Ancient woodland which has been continuously wooded for at least 400 years is considered to be an irreplaceable habitat. The habitats within the site boundary are not considered to qualify as this for the reasons given above. On a precautionary basis, however, the currently wooded areas should be considered as having characteristics of ancient woodland, and therefore as potentially meeting SINC criteria. More open habitats would not qualify as SINC habitat.

4.2 Habitats

The following descriptions of habitats should be read in conjunction with Figure A.1: Phase 1 Habitat Plan.

4.2.1 General Site Description

The site is irregular in shape and occupies an area of 45.98 hectares (ha). The majority of the site is occupied by woodland in a variety of different successional phases. This includes mature coniferous plantation woodland, mixed semi-natural woodland and areas of early mature broadleaved semi-natural woodland, which has established in areas that were previously occupied by coniferous plantation woodland approximately 20 to 25 years ago. More recent felling of coniferous plantation woodland which was previously recorded by Ramboll in 2020 as bare ground and clear-fell is now a matrix of scrub and early-stage successional woodland. There is also a small pocket of regeneration coniferous woodland.

Elsewhere two large fields with poor semi-improved grassland are located in the south-central portion of the site. Access tracks extend throughout the site with the main access coming from the sites southern boundary, giving access to a chalet style building (TN16) and a large barn (TN18) as well as a bungalow and ancillary buildings (TN9 and 10) in the north of the site. A variety of other habitats are present in smaller areas across the site, including dense scrub, bracken, amenity grassland, standing water (within six ponds), streams (rivulets) and spring lines, small areas of bare ground and small exposed cliffs. Limited areas of introduced shrub (ornamental planting) are also present within the site boundary.

[47] Natural Resources Wales. Identifying Ancient Woodlands. Available at: https://naturalresources.wales/guidance-and-advice/environmental-topics/woodlands-and-forests/identifying-ancient-woodlands/?lang=en

[48] ENVIRON (2013). Parc Pelenna Ltd – Environmental Statement Ecology Chapter. UK18-16094

4.2.2 Poor Semi-improved Grassland

Poor semi-improved grassland is present in two large fields in the south and central area of the site. The larger field has a fence line running approximately east to west in the northern area of the field, though the habitats on both sides of the fence are the same. The smaller field is located approximately to the northwest of the larger field, down a slope at a slightly lower elevation. The fields have the appearance of paddocks. They appear to have received only limited improvement in recent years, such as occasional mowing. The underlying structure of the grassland is slightly tufted and species diversity is fairly low, being dominated by grasses with frequent herbs. Species present include abundant sweet vernal grass *Anthoxanthum odoratum* and red fescue *Festuca rubra*, frequent Yorkshire-fog *Holcus lanatus*, crested dogs-tail *Cynosaurus cristatus* and ribwort plantain *Plantago lanceolata*, occasional common bent *Agrostis capillaris*, meadow foxtail *Alopecurus pratensis*, soft rush *Juncus effusus*, spiked sedge *Carex spicata*, sorrel *Rumex acetosa*, creeping cinquefoil *Potentilla reptans*, yellow-rattle *Rhinanthus minor*, birds-foot trefoil *Lotus corniculatus*, white clover *Trifolium repens*, red clover *Trifolium pratense*, broad-leaved dock *Rumex obtusifolius*, creeping buttercup *Ranunculus repens,* eyebright *Euphrasia agg* as well as individual cuckoo flower *Cardamine pratensis* and bluebell *Hyacinthoides non-scripta .* A hay/silage cut had been taken in mid-August 2023 and the sward was less than 5 cm at the time of the survey, making identification more difficult. Species composition appeared to be similar to that recorded during previous surveys.

Smaller areas of semi-improved grassland are located beside parts of the access tracks and around neglected areas of the car park in the south of the site (TN1), and in the field through which the access track in the north of the site passes. In these areas the sward is short and appears to be restricted by a thin soil and from grazing by rabbits as well as regular mowing. Species present include abundant false oat grass *Arrhenatherum elatius*, sweet vernal grass, crested dog's-tail *Cynosurus cristatus*, common bent *Agrostis capillaris*, red fescue and Yorkshire-fog with frequent silverweed *Argentina anserina*, creeping buttercup, ribwort plantain, red clover, self-heal *Prunella vulgaris*, creeping cinquefoil *Potentilla reptans* and occasional daisy Bellis *perennis*, bird's-foot trefoil, eyebright, common cat's-ear *Hypochaeris radicata* and dandelion *Taraxacum officinale*.

The grassland is relatively species-poor, despite a high incidence of herbaceous species, and was not recorded to include minimum numbers of indicator species for SINC habitats. This habitat is not considered to qualify for SINC selection. On the same reasoning, the habitat does not meet criteria for listing under Section 7 of the Environment (Wales) Act 2016.

Two small areas of semi-improved neutral grassland were also identified during the site walkover in February 2024, located on the site's western edge and north of TN12. These areas were surveyed outside of the optimal survey season but were dominated by purple moor-grass.

The grassland is assessed to be of Site level importance.

4.2.3 Marshy Grassland

Three areas of marshy grassland are located on the site. Two small area are located near to the site entrance in the south and one at the site entrance at the beginning of the access track in the north. A larger area formerly identified as marshy grassland in the north of the site (TN13) has now become a matrix of scrub, scattered mature and colonising trees and ruderal vegetation, with small pockets of semi-improved grassland around the margins. This habitat type has a high proportion of soft rush within the grassland sward, indicating seasonal waterlogging or damp conditions. Other grasses are present include frequent red fescue and cock's-foot *Dactylis glomerata* and occasional purple moor-grass *Molinia caerulea*, tufted hair grass *Deschampsia cespitosa* and sweet vernal grass. Herbs include abundant silverweed and ribwort plantain, frequent tormentil *Potentilla erecta* and occasional marsh thistle *Cirsium palustre*. In addition, the woodland

ride in the southeast of the site (at TN26) has marshy vegetation present. There are also small pockets of wet areas on other rides and tracks throughout the site.

The marshy grassland does not qualify for SINC selection, as it is not considered to be 'species-rich' due to the dominance of soft rush and the low herb assemblage. SINC selection criteria for this habitat type states that *'all species-rich examples of other marsh and marshy grassland communities, including soft/sharp flowered rush - marsh bedstraw rush pasture (M23) and purple moor-grass - tormentil mire (M25)'* should be considered, which this habitat does not meet.

The marshy grassland is assessed as being of Local level importance.

4.2.4 Amenity Grassland

Areas of amenity grassland are present beside the access roads and tracks within southern and central areas of the site, as well as around the chalet building (TN16) and the bungalow and garage compound area (TN9 and 10). The amenity grassland areas appear to be mown regularly and have a uniform appearance. The grassland contains abundant perennial rye grass *Lolium perenne*, daisy, dandelion, silverweed, dock *Rumex* species, common cat's-ear, selfheal and white clover and also the occasional bluebell, wild strawberry *Fragaria vesca*, red fescue, Yorkshire-fog, bird's-foot trefoil and ribwort plantain. Mosses are also present throughout the grasslands.

Amenity grassland is not species-diverse or of conservation concern and does not qualify for SINC criteria. There is a relatively high abundance of herbaceous species and low cover by grasses indicating that restoration of semi-improved/good semi-improved grassland may be possible with changes in management regime.

The amenity grassland is assessed as being of Site level importance.

4.2.5 Mixed Semi-natural Woodland

Mixed semi-natural woodland areas are present in several blocks throughout the site.

The area at TN3 comprises of a dense growth of early mature deciduous woodland interspersed with blocks of remnant conifer plantation. Trees present include abundant early mature pedunculate oak *Quercus robur*, non-native oak *Quercus* sp., rowan *Sorbus aucuparia*, downy birch *Betula pubescens*, silver birch *Betula pendula*, goat willow *Salix caprea*, gorse *Ulex europaeus* and blocks of Norway spruce *Picea abies*, sitka spruce *Picea sitchensis,* logpole pine *Pinus contorta* and noble fir *Abies procera.* The ground is heavily shaded, particularly around the conifers. Near to the edge of the woodland are abundant rosebay willowherb *Chamaenerion angustifolium* and bracken *Pteridium aquilinum* and the occasional foxglove *Digitalis purpurea* and bluebell.

The area at TN7 is in the north of the site at the base of a slope. The woodland is dense and appears to have regenerated naturally since the clearance of the forestry plantation and includes abundant birch and young conifers including Norway spruce, lodgepole pine and noble fir with occasional rowan, alder *Alnus glutinosa,* willow *Salix* species and hazel *Corylus avellana*. The understorey is dominated by bramble (*Rubus fruticosus*). The northern boundary of the woodland, which abuts the site boundary consists of mature pedunculate oak and alder.

The area at TN8 is of a similar composition to that at TN3, comprising of remnant areas of conifer plantation and early mature downy birch and silver birch *Betula pendula* with occasional rowan and goat willow. Tree growth within this woodland is very dense, which has limited the under growth, which is species poor and dominated by bramble.

The area at TN12 also includes a dense block of early mature birch and remnant conifer plantation. The woodland also includes more open areas, where mature rowan *Sorbus aucuparia* and large sycamore *Acer pseudoplatanus* grow in abundance, as well as occasional mature ash *Fraxinus excelsior* and holly *Ilex aquifolium*. The ground flora is slightly more diverse than that found on

other areas of mixed semi-natural woodland on the site and includes locally abundant bilberry *Vaccinium myrtillus*, ivy *Hedera helix*, rosebay willowherb and foxglove as well as occasional tormentil, cross leaved heather *Erica tetralix,* dog violet *Viola riviniana*, bluebell, male fern *Dryopteris filix-mas* and common bent grass. Open areas in this block tend to be dominated by bramble.

The woodland at TN21 comprises a mix of native broadleaved species, dominated by downy birch, field maple *Acer campestre* and alder. The woodland is wet in places with uneven/rocky ground. There are dense bramble patches, areas of rush, common nettle *Urtica dioica*, male fern and soft shield fern *Polystichum setiferum.*

At TN22 the woodland is predominantly spruce and silver birch with occasional sycamore, goat willow, downy birch, rowan, gorse and pedunculate oak. The margins are more scrubby with colonising saplings and include rushes *Juncus* sp., rosebay willowherb, heather and bilberry. There is colonising Himalayan balsam *Impatiens glandulifera* along the track.

Photo 4.1: Woodland at TN12

Tracks present within the woodlands are largely stone tracks which have been colonised by a range of vegetation due to infrequent maintenance. Colonising species include bracken, bramble, grass species (same species as recorded elsewhere on site), creeping thistle *Cirsium arvense,* marsh thistle, eyebright, red bartsia *Odontites vernus*, heather, foxglove, ribwort plantain, rush species, silverweed and hemp agrimony *Eupatoria cannabinum*.

For qualification against SINC criteria, semi-natural woodlands are those woodlands containing a high proportion (80% or more) of native, locally indigenous tree and shrub species. The mixed semi-natural woodland on the site is largely derived from non-native plantation woodland with remnant conifers widely abundant within it, and therefore it does not meet the criteria. On the same reasoning, the habitats do not meet criteria for listing under Section 7 of the Environment (Wales) Act 2016.

The mixed woodland is assessed as being of Local level importance.

4.2.6 Broadleaved Semi-natural Woodland

Broadleaved semi-natural woodland is present in several blocks throughout the site.

Light (open) woodland dominated by mature birch with occasional goat willow and pedunculate oak, is present at TN4. The shrub layer includes abundant bramble and the herb layer includes abundant bracken, interspersed with occasional foxglove and bluebell as well as grasses, predominantly Yorkshire-fog.

The woodland at TN5 comprises an extensive dense growth of early mature goat willow and downy and silver birch with frequent pedunculate oak, and occasional yew *Taxus baccata*, hawthorn

Crataegus monogyna and rowan as well as occasional conifers including lodgepole pine and noble fir. The woodland appears to have regenerated naturally since the clearance of the Forestry Commission's coniferous plantation approximately 20 years ago. Parts of the woodland appear to be seasonally wet. The understorey comprises abundant bramble, growing densely, with occasional bracken, purple moor-grass, tufted hair grass and soft rush with frequent ling and occasional bilberry. The margins of the woodland include stands of rosebay willowherb and bracken.

The former woodland at TN2 appears to have been thinned since previous surveys and is now a shrub layer of dense and scattered scrub, with colonising trees (see Section 4.2.10 Scrub below).

The block of broadleaved woodland on the site's western edge is previously felled mixed woodland which has been reestablished by a variety of young broadleaved trees.

These areas of habitat have been regularly disturbed and have had a history of felling, with non-native coniferous species present within them. They are therefore not considered to qualify for SINC selection. On the same reasoning, the habitats do not meet criteria for listing under Section 7 of the Environment (Wales) Act 2016.

The broad-leaved woodland is assessed as being of Local level importance.

4.2.7 Coniferous Plantation Woodland

A large tract of the original forestry plantation woodland is present in the southwest of the site (TN14). Tree species include abundant Norway spruce, sitka spruce, lodgepole pine and noble fir. The trees cast a dense shade and needle loss from conifers also tends to acidify the underlying soils, which has resulted in a sparse ground flora, which includes occasional bilberry, bramble and male fern. Ground conditions in this area show evidence of peat deposits. There are occasional colonising birch around the margins. There is also regenerating young coniferous woodland with some broad-leaved species between TN7 and TN8.

Coniferous plantation woodland is not species-diverse or of conservation concern and does not qualify for SINC criteria.

The coniferous plantation woodland is assessed as being of Site level importance.

4.2.8 Recently Felled Woodland

At ground level, where some tree-felling has occurred over recent years, such as TN6 and TN20 (Figure A.1), the remains of numerous trees stumps and dead wood are present, as well as areas of brash. The ground layer, which formerly included areas of bare ground, has now been colonised by patches of scrub which dominates and small areas of semi-improved, rough/tussocky grassland. Species include frequently occurring bramble, soft rush, foxglove, bracken, Yorkshire-fog, common bent and mosses, and occasional gorse, goat willow, bluebell, field woodrush *Luzula campestris*, ivy and red fescue. With the exception of bluebell, the Site lacks ancient woodland indicator plant species. This species could either have persisted during the decades that the area was managed as agricultural grazing lands and forestry, or subsequently recolonized. Smaller areas of more-recently felled woodland are present. The recently felled woodland is not species-diverse or of conservation concern and does not qualify for SINC criteria.

The recently felled woodland is of limited importance in its own right, but due to its potential suitability to support rare birds including nightjar (which have not been recorded breeding on the site), is assessed as being of Local level importance.

4.2.9 Scattered Trees and Treelines

In addition, scattered broadleaved trees and treelines are present on the site, including mature trees in the scrub/ruderal area in the north of the site, young and mature trees adjacent to the

access track in the north, and young trees in gappy treelines within the semi-improved grassland on the access track in the north of the site, at TN30. Trees are relatively common in the wider landscape and are of Site to Local level importance.

4.2.10 Scrub

Scrub is present on some of the edges of woodland and recently cleared land and is generally dominated by a combination of bramble and sapling birch, goat willow or gorse, underlain by herbs including abundant nettle and occasional bracken, herb-Robert *Geranium robertianum*, broad-leaved dock, foxglove, rosebay willowherb, bilberry, heather and creeping thistle *Cirsium arvense*. Wild angelica *Angelica sylvestris* is frequent on the margins of some pockets of scrub. In areas, where scrub has established in areas where tree felling has occurred (TN6, TN15 and TN20) and the vegetation is regenerating, the species composition includes bramble and gorse as well as silver birch saplings and oak saplings.

A large area formerly identified as marshy grassland in the north of the site (TN13) has now become a matrix of scrub, scattered mature and colonising trees and ruderal vegetation, with small pockets of semi-improved grassland around the margins.

Several areas of felled woodland have become re-established by dense bramble and young broadleaved tree scrub, including around TN20 and east of TN15.

The southern margin of the site, south of the grassland, comprises scattered scrub with abundant bracken. The majority of areas recorded were dominated by bramble and showed little species diversity and did not include 6 woody species. Therefore, this habitat is not considered to qualify for SINC selection

Scrub woodland is assessed as being of Site level importance.

4.2.11 Bracken

A dense, continuous area of well-established bracken is located beside the access track in the southwest of the site, close to TN1. This area comprises predominantly bracken cover but also has scattered areas of scrub and grassland within it as well, primarily goat willow and bramble.

The bracken habitat does not have flowering plant species of interest within it and is therefore not considered to qualify for SINC selection.

The bracken is assessed as being of Site level importance.

4.2.12 Bare Ground

Limited bare ground is present at the site. The access track in the north of the site which was previously bare ground has now been colonised by a wide range of species including rosebay willowherb, creeping buttercup, bird's-foot trefoil, mint *Mentha* species, bracken, bramble, soft and hard rush, various grasses (same range of species as elsewhere on site), sedge *Carex* species, various tree saplings, lesser spearwort *Ranunculus flammula*, water pepper *Persicaria hydropiper*, selfheal, redshank *Persicaria maculosa*, marsh cudweed *Gnaphalium uliginosum*, common mouse-ear *Cerastium fontanun*, heather, tormentil and enchanter’s nightshade *Circaea lutetiana*. There are small patches of bare ground in some areas of this track, particularly towards the northern end which is wetter, and other access routes within the site. The sides of the track are dominated by bramble scrub and bracken, with occasional young trees.

Bare Ground is of limited ecological importance, though given the habitats immediately adjacent to it, is assessed as being of Site level importance.

4.2.13 Inland Cliff

In several places in the north of the site, as it slopes down toward the north, are exposed rock faces, which vary in height from 3 to 5m. These appear to be the remnant of former mineral workings. Vegetation is sparse and includes heather, red fescue and goat willow.

The inland cliff habitat does not meet the SINC selection criteria for 'inland rock outcrop and scree habitats'. This states that habitats considered for selection should include: S42 habitats or species, natural/man-made caves used for roosting bats or evidence of use for nesting by bird species of conservation concern. On the same reasoning, the habitats do not meet criteria for listing under Section 7 of the Environment (Wales) Act 2016.

The inland cliff is assessed as being of Site level importance.

4.2.14 Ffridd Zone

The ffridd zone is defined as a mosaic of semi-natural habitats, found where lowland and upland habitats meet, almost exclusively on slopes. The mosaic of habitats described above which are present on the northern slopes of the site, including recently felled woodland, scrub and inland cliff, meet the description of the ffridd zone and, although none were described as 'species-rich', the importance of ffridd for connectivity means that the combination of habitats can be considered to qualify as SINC habitat. As stated in their individual habitat descriptions above, the habitats comprising the ffridd zone on site are not listed under Section 7 of the Environment (Wales) Act 2016. Ffridd zone habitat is important for invertebrates, reptiles, birds, bats and other species. Frridd zone habitat is not shown on the Phase 1 habitat plan, as the constituent habitats forming the mosaic are mapped.

4.2.15 Introduced Shrub

An area of ornamental planting is present at the southern entrance to the site, close to TN17, containing predominantly cotoneaster *Cotoneaster sp*., which is somewhat overgrown and dense.

Introduced shrub is not of conservation concern and does not qualify for SINC criteria. It is further discussed in Section 4.2.18.

The introduced shrub is assessed as being of Site level importance.

4.2.16 Open Water

Six ponds are present on the site (Figure A.1).

Pond 1 is approximately 4m by 5m in size and is located towards the south of the site in the area of amenity grassland near to the chalet building (TN16). It is full of submerged and emergent vegetation including reedmace *Typha latifolia*, water lily *Nymphaeaceae* sp., water-soldier *Stratiotes aloides* and broad-leaved pondweed *Potamogeton natans*. The sides of the pond are constructed inside a gabion basket of rocks which has been colonised by goat willow and ferns.

Photo 4.2: Pond 1

Pond 2 is located to the west of the site. It has an area of 20 m by 10 m. The dominant vegetation comprises broad-leaved pondweed and water lily. It is surrounded by sparse woodland including sycamore, downy birch, goat willow and pedunculate oak, causing some shade on pond margins.

Photo 4.3: Pond 2

Pond 3 is located just to the south of Pond 2 and is of an irregular shape, approximately 7m long by 5m wide. The water clarity was poor and it appeared to contain a lot of suspended sediment; emergent vegetation was limited except around the margins, which included horsetail *Equisetum* sp. and floating sweet-grass *Glyceria fluitans*. There was running water within the pond at the time of survey in 2023. Himalayan balsam had colonised the edges.

Photo 4.4: Pond 3

Pond 4 is located in the south of the site in area of wet amenity grassland. It is small, at approximately 3 by 5 m, and triangular in shape. It is heavily dominated by reedmace *Typha latifolia* and other emergent vegetation (>90% coverage), with species such as bramble, soft-rush, Yorkshire fog and young willow trees growing around the pond edge.

Photo 4.5: Pond 4

Pond 5 is approximately 5m long x 4m wide and appears to have formed recently in an excavated gravel pit along the southern boundary of the site. There is limited ecological interest, with very little vegetation within the pond.

Photo 4.6: Pond 5

Pond 6 is located between Pond 2 and Pond 3 and comprises a 2m x 2m area of standing water colonised by rushes and reedmace.

Although the ponds could be considered to meet criteria to qualify as SINC and for listing under Section 7 of the Environment (Wales) Act 2016 under the category standing open water and canals, they are relatively small and are not species diverse or of importance beyond the Local level.

The ponds are assessed as being of Local level importance.

No streams or other watercourses are present within the site, although the north slopes become seasonally wet with a spring evident at wetter times of year, and drain water away from the site to the north. These are described as 'rivulets' in the previous (2015) EcIA of the site, and are believed to originate from mine adits. The western-most rivulet receives a significant proportion of its flow from a pipe and has previously shown signs of mineral staining. The rivulets are very small (< 0.5 m wide) and cascade almost vertically down the hillside. They are largely shaded and support little in the way of aquatic or wetland vegetation. Water was not present within them during the 2020 Phase 1 habitat survey.

Given that the rivulets have been modified and show evidence of contamination, they are not considered to meet criteria for watercourse SINC designation. They do not support diverse aquatic flora or fauna.

The rivulets are assessed as being of Site level importance.

4.2.17 Buildings and Structures

There are five permanent buildings present within the site, in addition to temporary structures including two shipping containers. The permanent building descriptions are provided in the table below. The modular temporary site office building is located adjacent to the double garage and is of metal construction and is glazed. The two shipping containers are of metal construction and are located side by side in the area of bare ground in the bunded area in the southwest corner of the site (TN12). In addition, there is a former mine shaft entrance in the east of the site at TN19.

Table 4.2: Buildings at the Site

Building Name	Description	Photo
Chalet (TN16)	Chalet style building of relatively modern construction. Two storeys with a slate roof and largely of wood construction, with hanging wood cladding. Roof in poor condition with slipped slates and gaps along ridge tiles.	
Barn (TN18)	Large modern barn building, open on one side. Stone base walls with corrugated sheeting on the sides and roof and some wooden cladding sections on the building ends. Two small breeze-block built office/storage buildings built at the north-end. Barn apparently used to store machinery.	
Bungalow (TN10)	Bungalow building with conservatory area built onto the south side. Tiled roof and of largely stone construction, with wood cladding. Large chimney structure at one end.	
Shed/Garage (TN9)	Large double garage with shallow-pitched corrugated roof with wood barge boards. Two large sliding doors present and a smaller access door present at the front of the building.	
Gatehouse (TN17)	A small gate house located at the southwest entrance to the site. A simple, flat roofed, stone-built structure. A large hole on the northern side had appeared in 2023, leaving the interior very open and draughty.	

The buildings are not of ecological conservation concern in their own right, and do not qualify for SINC criteria. They are of Negligible importance, though their importance to protected species is described in Section 4.3.

4.2.18 Invasive Species

The Wildlife and Countryside Act 1981 (WCA) Schedule 9 invasive species Himalayan balsam *Impatiens glandulifera* (also known as Indian balsam) is present in several areas on the site, recorded by the barn (TN18) in the central area of the site during 2020 surveys and at Target Note 25, where soil had been stored, during 2017 surveys. During 2023, Himalayan balsam had spread more extensively having colonised the access track between the chalet and the bungalow, the southern edge of the woodland at TN22, the woodland at TN5, the top (south) of the proposed new vehicle access track (near TN27) and around Pond 2.

The cotoneaster at the southern site entrance is potentially *Cotoneaster integrifolius*, which is listed on WCA Schedule 9.

No further WCA Schedule 9 invasive plant species were identified on site.

4.3 Faunal Species

4.3.1 Invertebrates

SEWBReC provided numerous records of protected invertebrate species within 2 km of the site, including 16 records of butterflies (including marsh fritillary *Euphydryas aurinia*), 17 records of moths, 30 records of beetles, 16 records of dragonflies and 3 records of other invertebrate species. The closest record was of a Beautiful Agrion (*Calopteryx virgo*) dragonfly 0.59 km from the site, recorded in 2017.

Brimstone butterfly *Gonepteryx rhamni* was observed in the woodland in the north of the site during the Phase 1 habitat survey. Ramshorn snails *Planorbarius corneus* were observed in Pond 1.

The invertebrate survey and assessment recorded 51 species of invertebrates on the site, detailed in Appendix 3. None of these were considered to be of conservation interest (i.e. species considered to be Nationally Local, Scarce or Rare, and/or are listed under Section 7 of the Environment (Wales) Act 2016 as Species of Principal Importance in Wales). The site is therefore not considered to qualify for SINC selection for invertebrates.

The habitats present and their importance to invertebrates are listed in Table 4.3.

Table 4.3: Habitats Present and Their Importance to Invertebrates

Habitat	Importance to Invertebrates	Notes
Coniferous plantation woodland	Local level	Supports densely packed trees, a closed canopy and with little ground flora.
Recently clear-felled coniferous plantation	Site Level	Dominated largely by grasses, rushes, bramble and/or bracken.
Mixed woodland	Local Level	Dominated by young, closely packed broadleaf trees (especially birches and willows) and with a dense bramble understory.
Scrub on northern extent of site	Unable to access for full assessment, but considered likely to be of no more than Local Level importance	Young, densely-packed broadleaved trees with little to no understory. North facing bracken slopes. Bracken covered slopes have limited potential to provide suitable breeding habitat for fritillary butterflies such as small pearl-bordered fritillary *Boloria selene* and dark green fritillary *Speyeria aglaja,* though considered unlikely.
Linear strip of broadleaf scrub towards the southeast of the site (TN22)	Site Level	Young, densely-packed broadleaved trees with little to no understory
Woodland glade and rocky cliff in southwest of site (TN24)	Local Level	This area was deemed to be among the most valuable locations for invertebrates at Parc Pelenna owing to its diverse woodland understory (in comparison to other woodland habitats at Parc Pelenna), supporting good stands of plants such as Bilberry *Vaccinium myrtillus*.

Table 4.3: Habitats Present and Their Importance to Invertebrates		
All grassland habitats	Negligible	Relatively species-poor.
Ponds	Local Level	Though not sampled for their invertebrate fauna, a visual assessment of the three ponds present at Parc Pelenna suggests that they are likely to be of moderate to high value to invertebrates.

Overall, the habitats on the site are considered to be of relatively poor quality for invertebrates, and the site is considered to be of Local level importance only for invertebrates.

4.3.2 Amphibians

SEWBReC returned several records of amphibians from within 2 km of the site, including eight records of common frog *Rana temporaria*, two records of common toad *Bufo bufo* and one record of palmate newt *Lissotriton helveticus* within 2 km of the site boundary, the closest being a record of common toad 1.10 km from the site, dated 2004. No results were returned for great crested newt.

The grassland and pond habitat on and immediately adjacent to the site provide habitat for amphibian species. Smooth newt *Lissotriton vulgaris* were noted during the Phase 1 habitat survey to be present in Ponds 1 and 2, and common newt and common toad were recorded on the site during reptile surveys. Common frog have been recorded on site during previous (2015) reptile surveys. Consultation with the Neath County Ecologist confirmed that great crested newts are considered absent from this area of Wales, with no records beyond the coastal belt of Neath Port Talbot, and are not likely to be present on the site. Although full surveys of common species were not conducted, due to the small size of the ponds it is not considered that they would be present in numbers large enough to meet criteria for SINC selection (for example, more than 50 adults being an exceptional population of smooth newt[49]).

The site is assessed as being of Site level importance for common amphibian species.

4.3.3 Reptiles

SEWBReC returned several records of reptiles from within 2 km of the site boundary, including five records of grass snake *Natrix helvetica*, 13 records of adder *Vipera berus* and two records of common lizard *Zootoca vivipara*. The closest record was a grass snake recorded in 2009, 1.33 km from the site.

Common lizards have been recorded on the site during previous (2015) surveys.

The results of the 2020 and 2022 reptile surveys and the location of reptiles recorded are provided in Table 4.3.

Table 4.3: Summary Reptile Surveys			
Date	**Results**		
	Grass Snake	**Common Lizard**	**Slow-worm**
17/06/2020	0	0	0
15/07/2020	1 x adult (north)	1 x adult (west)	0
18/08/2020	0	1 x adult (east)	0

[49] Neath Port Talbot County Borough Council (2018) *Local Development Plan 2011-2026 – Biodiversity and Geodiversity Supplementary Planning Guidance*. Available at: https://www.npt.gov.uk/media/9003/spg_biodiversity_geodiversity_may18.pdf (Accessed: 12/05/22).

Table 4.3: Summary Reptile Surveys			
26/08/2020	0	0	0
16/09/2020	0	0	1 juvenile (northwest)
26/09/2020	0	0	0
17/08/2022	0	6 (including 3 juvenile)	0
18/08/2022	0	6 (including 5 juvenile)	2
22/08/2022	0	7 (including 3 juvenile)	1
30/08/2022	0	9 (including 3 juvenile)	1 juvenile
20/09/2022	0	3 (including 2 juvenile)	1 juvenile
21/09/2022	0	2 (including 1 juvenile)	0
22/09/2022	1	2 (including 1 juvenile)	0

In addition, a common lizard was identified in the east of the site during invertebrate surveys.

Photo 4.6: Pile of Logs, Rubble and Tyres Adjacent to Track at TN30

Small numbers of individual grass snake, common lizard and slow-worm were recorded across the site, within suitable pockets of more open and dry habitat. Ground-level dead wood offers suitable refuges for reptiles, as well as artificial features such as the log, rubble and tyre pile at TN30. Surveying was difficult due to the terrain and habitats present, and the numbers recorded are likely to be under-estimates of the total number present. However, large areas of the site are unsuitable for reptiles with dense vegetation and heavy shade, and wet ground on north facing slopes reducing basking opportunities, and reptiles are unlikely to be present in significant densities. Slow-worm, common lizard and grass snake are listed under Section 7 of the Environment (Wales) Act 2016. In accordance with Froglife guidance, the numbers present represent a 'Low' population, though with three species present would be considered a 'Key Reptile Site'. This means the site could be considered for SINC selection. However, given the low numbers likely to be present and the scattered distribution of suitable habitat for reptiles, SINC selection specifically for reptile presence is not considered appropriate, though may form a supporting reason in combination with other factors. The site is considered to be of Local level importance for reptiles.

4.3.4 Birds

SEWBReC provided records of 33 Priority and Protected bird species within 2 km of the site boundary. These are shown in Table 4.4.

Table 4.4: Desk Study Bird Records within 2 km of the Site

Common Name	Species Name	Schedule 1 WCA[50]	BoCC Status[51]	Section 7 Env Act (Wales)[52]
Lesser redpoll	*Acanthis cabaret*		Amber	Y
Skylark	*Alauda arvensis*		Amber	Y
Kingfisher	*Alcedo atthis*	Y	Green	
Tree pipit	*Anthus trivialis*		Red	Y
Nightjar	*Caprimulgus europaeus*		Green	Y
Black-headed gull	*Chroicocephalus ridibundus*		Red	Y
Herring gull	*Larus argentatus*		Red	Y
Hen harrier	*Circus cyaneus*	Y	Red	Y
Honey buzzard	*Pernis apivorus*	Y	Red	
Goshawk	*Accipiter gentilis*	Y	Amber	
Kestrel	*Falco tinnunculus*		Red	Y
Peregrine falcon	*Falco peregrinus*	Y	Green	
Cuckoo	*Cuculus canorus*		Red	Y
Yellowhammer	*Emberiza citrinella*		Red	Y
Red kite	*Milvus milvus*	Y	Green	
Reed bunting	*Emberiza schoeniclus*		Green	Y
Linnet	*Linaria cannabina*		Red	Y
Red crossbill	*Loxia curvirostra*	Y	Green	
Red kite	*Milvus milvus*	Y	Amber	
Spotted flycatcher	*Muscicapa striata*		Red	Y
Pied flycatcher	*Ficedula hypoleuca*		Amber	Y
Wood warbler	*Phylloscopus sibilatrix*		Red	Y
Grasshopper warbler	*Locustella naevia*		Red	Y
Dunnock	*Prunella modularis*		Amber	Y

[50] Listed on Schedule 1 of the Wildlife and Countryside Act 1981

[51] I Johnstone, J. Hughes, D.E.Baler, A. Brenchley, R.J. Facey, P.J. Lindley, D.G. Noble, and R.C. Taylor. 2022. Birds of Conservation Concern Wales 4: The Population Status of Birds in Wales

[52] Listed on Section 7 of the Environment (Wales) Act 2016

Table 4.4: Desk Study Bird Records within 2 km of the Site				
Bullfinch	*Pyrrhula pyrrhula*		Amber	Y
Starling	*Sturnus vulgaris*		Red	Y
Redwing	*Turdus iliacus*	Y	Green	
Song thrush	*Turdus philomelos*		Green	Y
Fieldfare	*Turdus pilaris*	Y	Amber	
Ring ouzel	*Turdus torquatus*		Red	Y
Barn owl	*Tyto alba*	Y	Green	
Lapwing	*Vanellus vanellus*		Red	Y
House sparrow	*Passer domesticus*		Amber	Y

Nightjar favour heath habitats or pine plantations with sparse cover. Ring ouzel is a ground nesting species that tends to favour more rocky nesting sites. The proportion of these Priority and protected bird species have the potential to nest in the trees and dense scrub on site, including linnet, bullfinch, common cuckoo and red kite, or on the ground in more open areas of habitat, such as skylark.

The remains of a possible swift nest was noted in the apex of the roof of the chalet (TN16) during 2019 surveys. An alpine swift *Apus melba*, a rare vagrant, was recorded on site during the 2023 bird surveys.

Breeding bird surveys completed at the site in 2022 recorded a total of 39 species on the site. Of these species, four were listed on WCA Schedule 1 and five were listed in Section 7 of the Environment Act (Wales). Details are summarised in Table 4.5 below, with further details and map of territories in Appendix 5. Results were similar to 2020 results, with slightly more birds identified (39 in 2022 compared with 33 in 2020). Birds were incidentally recorded during the 2023 surveys. Full details of species identified on the site are provided in Appendix 4, 5 and 6.

Table 4.5: Breeding Bird Survey Summary							
Species	**Recorded on site 2023**	**Breeding Status 2022**	**Breeding Status 2020**	**No. of Territories**	**S1 WCA** [53]	**BoCC Status** [54]	**Section 7 Env Act (Wales)** [55]
Barn owl	Y	Confirmed breeder	Not breeding	0	Y	Green	
Blackbird	Y	Probable breeder	Confirmed breeder	7		Green	

[53] Listed on Schedule 1 of the Wildlife and Countryside Act 1981
[54] I Johnstone, J. Hughes, D.E.Baler, A. Brenchley, R.J. Facey, P.J. Lindley, D.G. Noble, and R.C. Taylor. 2022. Birds of Conservation Concern Wales 4: The Population Status of Birds in Wales
[55] Listed on Section 7 of the Environment (Wales) Act 2016

Table 4.5: Breeding Bird Survey Summary

Species	Recorded on site 2023	Breeding Status 2022	Breeding Status 2020	No. of Territories	S1 WCA [53]	BoCC Status [54]	Section 7 Env Act (Wales) [55]
Blackcap		Probable breeder	Confirmed breeder	8		Green	
Blue tit		Probable breeder	Confirmed breeder	2		Green	
Bullfinch		-	Possible breeder	2		Amber	Y
Buzzard		Probable breeder	Possible breeder	1		Green	
Carrion crow		Probable breeder				Green	
Chaffinch		Probable breeder	Probable breeder	2		Amber	
Chiffchaff		Probable breeder	Confirmed breeder	6		Green	
Coal tit		Probable breeder	Possible breeder	1		Amber	
Crossbill		Probable breeder	Possible breeder	1	Y	Green	
Dunnock		Probable breeder	Probable breeder	3		Amber	Y
Garden Warbler		-	Probable breeder	1		Amber	
Goldcrest	Y	-	Probable breeder	5		Red	
Goldfinch	Y	Probable breeder	Possible breeder	1		Green	
Goshawk		Confirmed breeder	-	-	Y	Amber	
Great spotted woodpecker		Probable breeder	Possible breeder	2		Green	
Great tit		Probable breeder	Possible breeder	1		Green	
Green Woodpecker		-	Possible breeder	1		Amber	
House Martin		Non-breeding	-	-		Amber	

Table 4.5: Breeding Bird Survey Summary

Species	Recorded on site 2023	Breeding Status 2022	Breeding Status 2020	No. of Territories	S1 WCA [53]	BoCC Status [54]	Section 7 Env Act (Wales) [55]
Jay	Y	Probable breeder	Possible breeder	2		Green	
Kestrel		Probable breeder	-	-		Red	
Linnet		Probable breeder	-	-		Red	
Lesser redpoll		-	Possible breeder	1		Amber	Y
Long-tailed tit		Probable breeder	Possible breeder	2		Green	
Magpie	Y	Probable breeder	-	-		Green	
Meadow pipit	Y	Confirmed breeder	Possible breeder	2		Red	
Mistle thrush	Y	Probable breeder	Probable breeder	3		Amber	
Pied wagtail	Y	Confirmed breeder	Possible breeder	1		Green	
Raven		Probable breeder	-	-		Green	
Red Kite		Probable breeder	-	-	Y	Green	
Redpoll		Probable breeder	-	-		Green	
Reed bunting		Probable breeder	-	-		Green	
Robin	Y	Probable breeder	Confirmed breeder	7		Green	
Siskin	Y	Probable breeder	Possible breeder	1		Green	
Skylark		-	Probable breeder	3		Amber	Y
Song thrush	Y	Probable breeder	Possible breeder	3		Green	Y
Stonechat		Probably breeding	-	-		Green	

Table 4.5: Breeding Bird Survey Summary

Species	Recorded on site 2023	Breeding Status 2022	Breeding Status 2020	No. of Territories	S1 WCA [53]	BoCC Status [54]	Section 7 Env Act (Wales) [55]
Swallow	Y	Confirmed breeder	Confirmed breeder	2		Green	
Swift	Y	Non-breeding	-	-		Red	
Tree pipit	Y	Confirmed breeder	-	-		Red	
Treecreeper		Probable breeder	-	-		Green	
Wood pigeon	Y	-	Possible breeder	2		Green	
Whitethroat		Probably breeding	Probable breeder	2		Green	
Willow warbler		Probable breeder	Probable breeder	9		Red	
Wren	Y	Probable breeder	Probable breeder	15		Green	

The barn owl box in the barn (TN18) was not identified as being used by breeding owls in 2020, though evidence of occasional roosting use was recorded. In 2022, use as a breeding site was confirmed.

Nightjar were recorded at two separate locations during the first nightjar survey visit on 6 July 2020. A total of three individuals were seen/ heard with birds recorded in areas of suitable breeding habitat and exhibiting territorial behaviour and display. No evidence of breeding nightjar were recorded during further extensive targeted surveys in 2023 or 2022. Nightjar are therefore not considered to be present breeding on the site, though they may make occasional use of the site and it has potential to become suitable for them in the future. The presence of breeding nightjar would likely qualify the site for SINC selection.

Crossbill were observed incidentally on the site during bird surveys in 2022. No crossbill were recorded on the site during the targeted crossbill surveys in 2023. Crossbill are therefore considered to make occasional use of the site, potentially whilst disbursing from nearby breeding locations, but are not considered to be breeding on the site.

No other birds or assemblage of bird species present are of significance to qualify the site for SINC selection.

The breeding bird surveys have confirmed the site supports a typical assemblage of ffridd, woodland fringe/scrub and urban fringe bird species, as would be expected from the habitats present on the site and its geographic location. This includes some species of conservation concern, with the red listed kestrel, linnet, meadow pipit, tree pipit and willow warbler and the amber listed chaffinch, coal tit, dunnock, goshawk and mistle thrush all considered likely to have bred on site or in close proximity to site.

No honey buzzard were recorded on or near the site during targeted honey buzzard surveys in 2023 and 2022. In 2020, a honey buzzard pair bred at Resolven, which is approximately 7 km northeast of the site, and single animals and a non-breeding pair were recorded within the Neath Valley closer to the site, and in particular in a Sitka spruce block approximately 4 km north of the site. The woodland on and adjacent to the site is suitable for use by honey buzzards, and whilst not nesting on site during the last surveys it is considered possible that honey buzzards may use the site for breeding and foraging in the future in a do-nothing scenario.

The site is therefore considered to be of Local level importance for its assemblage of breeding birds.

4.3.5 Bats

SEWBReC returned the following number of records: 35 noctules *Nyctalus noctula*, 90 common pipistrelles *Pipistrellus pipistrellus*, 49 soprano pipistrelles *Pipistrellus pygmaeus*, 49 unidentified pipistrelles, 13 Daubenton's bat *Myotis daubentonii*, four whiskered bat *Myotis mystacinus*, two Natterer's bat *Myotis nattereri*, two Brandt's bat *Myotis brandtii*, 30 unidentified *Myotis*, five brown long-eared bats *Plecotus auritus*, five unidentified *Plecotus* bats, two serotines *Eptesicus serotinus* and 24 other unidentified bats from within 5 km of the site. Of these records, 32 were identified as bat roosts. The closest record to the site was a roost of Brandt's bats, recorded 0.69 km from the site in 1993.

Roosting Bats

Several features with bat roost potential were identified on the site. The majority of trees are early mature and in good condition, lacking features that roosting bats could use. However, several mature trees are located in the mixed woodland in the northwest of the site (TN12). Within this area are four large mature sycamore trees (TN11). Three of the sycamore trees have a low potential to be used by roosting bats and one trees is of moderate potential, containing rot holes and splits towards the top of the main trunk.

Photo 4.6: Sycamore Trees in Northwest of Site with Low and Moderate Bat Roost Potential

The following buildings are suitable for use by roosting bats:

- The garage/shed (TN9) has wooden barge boards with gaps in that could support roosting bats. It is therefore of Low bat roost potential;
- The bungalow (TN10) has hanging wooden cladding with gaps in that bats could access. It is therefore of Low bat roost potential.
- The chalet (TN16) has a tiled roof and hanging wooden cladding on the walls with a small number if crevices. It is therefore of Low potential to support roosting bats.
- The gatehouse (TN17) has openings with no windows through which bats could enter, and a dark hollow interior. It is therefore of Low potential to support roosting bats.

- The mine entrance (TN19) is bricked-up with a ventilation entrance point large enough for bats to access. It is therefore of Moderate suitability for roosting bats, as well as being suitable for use by hibernating bats.

The barn (TN18) is open on one side and lacks locations for bats to roost and is therefore of negligible suitability for roosting bats, and the temporary buildings and shipping containers on the site are of negligible suitability for use by roosting bats.

Photo 4.7: Mine Shaft Entrance with Moderate Bat Roost Potential

Photo 4.8: Two Dead Trees Adjacent to Access Track, with Moderate Bat Roost Potential

Several trees adjacent to the access track in the north of the site were identified as being potentially suitable for use by roosting bats. These include a mature oak tree at TN27 with Low bat roost potential, two dead trees at TN28 with Moderate bat roost potential, and a hollow tree at TN29 with Low bat roost potential.

The chalet (TN16) is confirmed as being a bat roost, with at least three common pipistrelles *Pipistrellus pipistrellus* and 11 soprano pipistrelles *Pipistrellus pygmaeus* using it. On 23 August 2023, two common pipistrelles emerged from the south-west gable of the chalet, and one common pipistrelle, two soprano pipistrelles and four unidentified pipistrelles (calls around 50 kHz) emerged from the north-east gable. On 13 September 2023 three common pipistrelles, three soprano pipistrelles and three non-echolocating bats emerged from the south-west gable. One non-

echolocating bat emerged from the north-east gable. Further emergences were recorded during 2022, with maximum counts of 11 soprano pipistrelles and one common pipistrelle. Seven pipistrelles (including three common pipistrelle and four unidentified pipistrelle) emerged from the east gable apex of the chalet) on 18 August 2020, and three soprano and two non-echolocating unidentified pipistrelle bats (five total) emerged from the east gable apex on 16 September 2020. One soprano pipistrelle emerged from the south-west gable on 7 July 2021 with a further two possible soprano pipistrelles emergences from the north-east gable. Both common and soprano pipistrelles were recorded, indicating a mixed species roost. The numbers identified suggest that the building may be a maternity roost, or provide a social function e.g. as a transitional mating roost. It is not possible to identify pipistrelle bats to species level when they do not echolocate.

The bungalow (TN10) and adjacent shed/garage building (TN9) are also confirmed as bat roosts. On 30 August 2023, a total of 12 bats emerged from the bungalow. This included four soprano pipistrelles and three common pipistrelles emerging from the chimney, one common pipistrelle from the east gable, two common pipistrelles and a Natterer's bat *Myotis nattereri* from the south-east roof corner and one non-echolocating bat from the roof ridge. No bats were recorded emerging from the shed/garage during this survey. On 20 September 2023 a total of 10 bats emerged from the bungalow, including two soprano pipistrelles and one common pipistrelle emerging from the chimney, two soprano pipistrelles, one common pipistrelle, one unidentified pipistrelle (calls around 50 kHz) and one non-echolocating bat from beneath the fascia board, one myotis from under the south-east roof corner and one possible but unconfirmed soprano pipistrelle emergence from the south-west roof corner. Four common pipistrelles emerged from behind the fascia board of the shed/garage building on this survey. Three pipistrelle bats (non-echolocating) emerged from the bungalow on 2 August 2020, with two from the east gable apex (and possibly cladding) and one from near the near ridge. Two soprano pipistrelle bats emerged from the east gable, and one soprano and one common pipistrelle emerged from the west gable on the 23 September 2020. One soprano pipistrelle was observed approaching and possibly re-entering the east gable during this survey. Two common pipistrelles and one non-echolocating pipistrelle were observed emerging from the east gable on 8 July 2021. There was also a potential but unconfirmed emergence of a soprano pipistrelle from the west gable during this survey. Further emergences were recorded during 2022, with maximum counts of one soprano pipistrelle and four common pipistrelles. The roost may provide a mating or social function and may also be used during the winter hibernation period. In addition, the shed adjacent to the bungalow was recorded as a bat roost during 2022. Maximum counts of five soprano pipistrelle, two common pipistrelle and seven unidentified pipistrelle species were observed emerging from the southern fascia. The numbers identified suggest that the building may be a maternity roost, or provide a social function e.g. as a transitional mating roost.

The mine shaft is potentially suitable for use by hibernating bats. No swarming activity was recorded around it during the bat activity surveys (with no bat activity recorded at all in these locations), including during autumn surveys. Possible occasional roosting near here by pipistrelles was identified during static monitoring, based on timings of bat activity close to sunset. No regular activity by other species was recorded. As this feature is not being impacted by the proposed development, further targeted surveys were not considered necessary, and an assessment of its potential SINC qualification is not considered appropriate.

No bats were recorded emerging from the sycamore trees at TN11.

The bungalow (TN10) is of limited suitability for use by hibernating bats, with potential features difficult to inspect due to the structure of the buildings. Based on this, it is assumed that small numbers of common bat species may use the buildings for hibernating. The gatehouse (TN17) is not considered to be suitable for hibernating, due to its exposed nature.

Bat Activity

A moderate level of bat activity was recorded during the bat activity transect surveys in 2020. Regular pipistrelle (common and soprano) and *Myotis* bat passes were recorded across the site, with occasional noctule passes in the east and the central grassland area, and a single brown-long-eared pass in the northwest of the site. Very occasional possible barbastelle *Barbastellus barbastellus* passes were recorded in the broad-leaved woodland at the lower (northern) part of site. Activity was largely focused on the woodland margins, under and around mature trees, and around buildings. The more open grassland areas were less well-used, likely due to the exposed, windy conditions of the site. Bat activity levels in September towards the end of the active bat season continued to be high, with a large amount of activity around the bungalow (TN10), potentially mating activity. The species recorded and levels of activity on the site are consistent with previous (2015) bat survey results.

During the 2022 surveys, similar moderate levels of activity were recorded. These were almost entirely common and soprano bats, with one noctule pass recorded. No *Myotis* activity was recorded.

Moderate levels of activity were recorded during the 31 August 2023 survey, with species recorded including common pipistrelles and soprano pipistrelles. Activity recorded during this survey included many foraging calls (feeding buzzes) and social calls. Low levels of activity were recorded on 9 October 2023, with species recorded including common pipistrelles, soprano pipistrelles and a single foraging myotis bat. Numerous pipistrelle social calls were also recorded during this survey.

Foraging pipistrelle and *Myotis* bat activity was recorded close to the sycamore trees (TN11) during the emergence surveys.

Barbastelle, common pipistrelle, soprano pipistrelle, noctule and brown long-eared *Plecotus auritus* bats are listed under Section 7 of the Environment (Wales) Act 2016.

Based on the survey results, it is not considered that the site would meet criteria for SINC selection for bats, with no significant bat roosts (more than 50 common pipistrelles or 120 soprano pipistrelles) in a maternity roost.

The site is considered to be of Local level importance for foraging and commuting bats, with the woodland edge habitats being most suitable. The confirmed roost sites are of Local level importance for roosting bats.

4.3.6 Otter

SEWBReC returned 45 records of European otter *Lutra lutra* from within 2 km of the site boundary, with the closest record approximately 0.91 km away at the closest point. The River Neath and Neath Canal are within 800 m to the north of the site.

Whilst otters are present in the wider landscape, the site lacks suitable habitat for this species and so they are considered to be likely absent and the site is assessed as being of negligible importance to otter. Otters are not considered further in this report.

4.3.7 Badger

SEWBReC returned six records of badgers *Meles meles* from within 2 km of the site, with the closest record 0.89 km from the site boundary.

No signs of badgers were observed on site during the surveys, however it is considered that the semi-natural mixed woodland, areas of grassland, dense scrub and wider areas of the site are potentially suitable as badger habitat (setts and foraging), and it was not possible to exhaustively search the site for evidence of badger setts due to the density of vegetation.

As badgers are not of conservation concern, their presence on a site does not meet criteria for SINC selection.

The site is considered to be of importance to badger at the Site level.

4.3.8 Other Mammals

SEWBReC returned five records of hedgehogs *Erinaceus europaeus* within 2 km of the site boundary, with the closest record 1.32 km from the site. Hedgehogs are listed under Section 7 of the Environment (Wales) Act 2016.

It is considered that the semi-improved grassland and scrub areas of the site provide suitable habitat for hedgehogs. None were recorded on site during the surveys. This suitable habitat is replicated elsewhere in the local area, and the site is assessed as being of Site level importance to this species.

SEWBREC returned three records for polecat *Mustela putorius*, the closest being 1.69 km from the site. The Site provides suitable habitat for this species, although it would only form a small part of an individual territory (territory sizes typically vary between 16-500 ha)[56] of this wide-ranging and elusive species. The site is assessed as being of Site level importance to polecat.

SEWBReC returned no records of water vole within 2 km of the site. This in combination with a lack of suitable habitat for the species on site mean the site is assessed as being of negligible importance to water vole. Water vole are not considered further in this report.

SEWBReC returned no records for hazel dormouse *Muscardinus avellanarius* within 2 km of the site. This in combination with a limited amount of suitable habitat for the species on site, and confirmation from consultation with the county ecologist[57] that dormice are considered to be absent from this area of Wales, mean the site is assessed as being of negligible importance to hazel dormouse. Hazel dormouse are not considered further in this report.

SEWBReC returned three records for brown hare *Lepus europaeus* within 2 km of the site. Numerous brown hare sightings were made across the site during the surveys, and open areas of grassland, scrub and tracks are suitable for use by brown hares. Brown hares are listed under Section 7 of the Environment (Wales) Act 2016. Sites of importance for breeding brown hares may qualify for SINC selection. The site is considered to be of Local level importance to brown hares.

[56] http://www.mammal.org.uk/sites/default/files/factsheets/polecat_complete.pdf
[57] Rebecca Sharp, Pers Com

4.4 Target Notes

TN1: Smaller areas of poor semi-improved grassland in south of site.

TN2: Scattered Scrub close to southern site entrance.

TN3: Early mature mixed woodland.

TN4: Open, birch-dominated broad-leaved semi-natural woodland.

TN5: Dense broad-leaved semi-natural woodland.

TN6: Recently felled woodland in 2020, with numerous trees stumps and dead wood present, which had succeeded to dense scrub by 2023.

TN7: Dense mixed woodland.

TN8: Early mature mixed woodland.

TN9: Garage/Shed (Confirmed bat roost).

TN10: Bungalow (Confirmed bat roost).

TN11: Four large mature sycamore trees with Moderate and Low bat roost potential.

TN12: Dense block of early mature mixed woodland.

TN13: Area of scattered scrub with scattered mature and colonising trees and ruderal vegetation, with small pockets of semi-improved grassland around the margins.

TN14: Large tract of coniferous plantation woodland.

TN15: Scrub established over clear-fell.

TN16: Chalet Building (Confirmed bat roost).

TN17: Gatehouse at southwest entrance to the site (Low bat roost potential).

TN18: Dutch barn with barn owl box.

TN19: Mine entrance (Moderate bat roost potential).

TN20: Recently felled woodland, with numerous trees stumps and dead wood present. Now dominated by mixed dense scrub.

TN21: Broadleaved woodland block at the northern entrance to the site, of Local importance to invertebrates

TN22: Large block of mixed woodland of Local level importance to invertebrates.

TN23: Linear strip of broadleaf scrub of Site level importance to invertebrates

TN24: Natural cliff face in woodland, of Local importance to invertebrates, and most important area of site for invertebrates.

TN25: Himalayan balsam rerecorded in this location.

TN26: Forestry ride in east of site, dominated by marshy vegetation.

TN27: Mature oak tree at south end of access track, with Low bat roost potential.

TN28: Two dead trees adjacent to access track, with Moderate bat roost potential.

TN29: Hollow tree adjacent to access track.

TN30: Pile of logs, rubble and tyres adjacent to track.

TN31: Young tree line on access track. No bat roost potential.

4.5 Ecological Importance

Table 4.4 presents the ecological importance of habitats and species present on the site, in accordance with CIEEM guidance. Species assessed as being unlikely to be present on the site are not considered further in this assessment.

Table 4.4: Ecological Importance of Features Present on the Site

Feature	Ecological Importance	Rationale
Poor Semi-Improved Grassland	Site Level	Contributes to biodiversity importance of the site, and provides potential habitat for common invertebrates, birds, hares and bats but has fairly low diversity. Importance is unlikely to extend beyond the Site Level.
Marshy Grassland	Local Level	Uncommon habitat in wider area, providing diversity of plant species potentially of use by a range of species.
Amenity Grassland	Site Level	Provides relatively low species diversity and is a common habitat type. Intensive management practices, such as mowing, reduces its species diversity.
Mixed Semi-natural Woodland	Local Level	Largely dense, naturally regenerating young woodland with conifers and limited understorey. Some more open areas provide wider diversity of plant species and habitat niches. Majority of existing woodland on-site is unlikely to be ancient, however ancient woodland indicator species such as wood sorrel, bluebell and foxglove may have persisted within the seed bank in some areas.
Broad-leaved Semi-natural Woodland	Local Level	Not common in the local landscape and provides habitat potentially used by a range of species. Majority of existing woodland on-site is unlikely to be ancient, however ancient woodland indicator species such as wood sorrel, bluebell and foxglove may have persisted within the seed bank in some areas.
Coniferous Plantation Woodland	Site Level	Non-native plantation habitat casting dense shade and with acidified soils and sparse ground flora, of use by a limited range of animal species.
Recently Felled Woodland	Local Level	Provides relatively low species diversity and is a common habitat type but has potential to support rare birds.
Scattered Trees and Treelines	Site to Local level	Common feature in local area, which contributes to biodiversity importance of the site, and provides potential habitat for a variety of faunal species, but importance is unlikely to extend beyond the Site Level except for large and older specimens.
Scrub	Site Level	Common habitat which contributes to biodiversity importance of the site and provides potential habitat for a variety of faunal species, but importance is unlikely to extend beyond the Site Level.
Bracken	Site Level	Provides relatively low species diversity and is a common habitat type.

Table 4.4: Ecological Importance of Features Present on the Site		
Bare Ground	Site Level	Limited ecological importance in own right, but adjacent to areas of higher ecological importance.
Inland Cliff	Site Level	Sparsely vegetated exposed rock faces provide varying topography and micro-climate, potentially suitable for use by invertebrates and reptiles amongst other faunal species.
Introduced Shrub	Site Level	Common habitat which contributes to biodiversity importance of the site and provides potential habitat for a variety of faunal species, but importance is unlikely to extend beyond the Site Level.
Bare Ground	Site Level	Recently disturbed ground with vegetation beginning to regenerate, providing micro-topography suitable for use by a variety of faunal species.
Open Water	Local Level	Ponds not common in the local landscape and provides habitat potentially used by a range of species. Rivulets are small in size, with very low diversity and of semi-artificial mine origin (low naturalness). However, as a tributary source of water to more important habitats lower in the valley, they are valued as Local importance.
Buildings and Structures	Negligible	Does not contribute to biodiversity importance of the site (but see Bats below).
Invertebrates	Local Level	Woodland glades and rocky cliffs, together with ponds, provide habitat of importance at the Local Level for invertebrates. Other habitats present are of Site level importance.
Amphibians	Site Level	Common amphibian species including smooth newt present on site. Great crested newt not identified on site and likely absent.
Reptiles	Local Level	Site supports small numbers of common lizard, slow worm and grass snakes. Unlikely to represent significant proportion of local population but considered 'Key Reptile Site' and potential SINC due to presence of three species.
Birds	Local Level	Site may form part of breeding territories of a number of species of conservation concern, including barn owl. No rarer species such as crossbill, nightjar or honey buzzard have been found to be breeding on the site.
Bats	Local Level	Woodland, scrub and grassland habitats on site used by foraging and commuting bats. Bungalow (TN10), shed (TN9) and chalet (TN16) used by roosting common and soprano pipistrelle bats, with numbers indicating maternity colonies. Potential occasional use of northern part of site by barbastelle bats. Other rarer bat species not recorded.
Badger	Site Level	Likely to be used for foraging as part of a wider resource. No setts identified on the site.

Table 4.4: Ecological Importance of Features Present on the Site		
Hedgehog	Site Level	Potential to support small numbers across the site.
Polecat	Site Level	Potential to support small numbers as part of a larger resource.
Brown Hare	Local Level	Open areas of site support population of brown hare.

Whilst habitats making up the Ffridd Zone (including recently felled woodland, scrub and inland cliff on slopes in the north of the site) are of Site or Local Level importance individually, they can collectively be considered to qualify as SINC habitat and thus be of County Level importance.

5. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION MEASURES AND RESIDUAL EFFECTS

This section describes potential impacts that could arise from the proposed development on the application site and outlines mitigation measures for inclusion into redevelopment proposals to avoid significant impacts on ecological features and maximise biodiversity enhancement. The results relate to areas within the site that have been surveyed and does not cover small areas not yet surveyed around the access track in the north of the site (included following an extension of the site boundary). Further surveys will be required to assess these areas for their ecological importance prior to detailed design and construction.

The proposed development would result in the clearance of areas of vegetation to provide private holiday lodges and the other supporting leisure, hospitality, and service facilities, as well as a new access road and associated infrastructure. New habitat would be created as part of the development as well as existing habitat enhanced, which would constitute embedded mitigation. This would include:

- Creation of species-rich grassland and purple moor-grass habitat around lodges;
- Strategic native tree planting, including replacement tree planting applied in accordance with Planning Policy Wales Edition 12 (PPW12);
- Pond enhancement with additional marginal vegetation planting and new pond creation;
- Creation of a foraging trail with fruiting species;
- Incorporation of Sustainable Drainage Systems (SuDS) including vegetated swales, retention ponds and run-off management;
- Incorporation of biodiverse roofs on buildings, using native plant species and providing habitat for invertebrates;
- Woodland management to create glades and rides within mixed woodland areas;
- Retained grassland areas enhanced with additional wildflower planting and management to reduce nutrient levels and encourage species diversity;

The design team have worked collaboratively throughout the design process, following the mitigation hierarchy, to ensure that development avoids the most sensitive habitats and woodland areas wherever possible. Landscape proposals would be developed at the detailed design stage to ensure that there is a net benefit of ecologically important habitats, with any loss of important habitats to the development footprint replaced with habitat of equal or better ecological importance.

In line with planning policy, any development would aim for a net gain in biodiversity.

5.1 Potential Effects

This section outlines the potential effects of the proposed development in the absence of additional mitigation.

5.1.1 Designated Sites

No designated sites occur within the site boundary and therefore there will be no direct impacts from habitat loss. No statutory designated sites are situated in the area of potential influence or with direct ecological connectivity likely to be impacted by indirect impacts such as disturbance and run-off, or longer term from increased visitor pressure. The entrance track in the north of the site is within 100 m of the Neath Canal SINC, and there is potential for unmitigated pollution such as dust and run-off to affect this feature. It is considered unlikely that visitor pressure would

significantly affect the Neath Canal SINC, as most visitors are likely to use the upper parts of the site and surrounding area away from the canal.

In the absence of additional mitigation, the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

5.1.2 Ancient Woodland

The proposed development design has evolved to avoid wherever possible areas of habitat previously designated as Ancient Woodland. In the north-east of the site, the development has been designed to entirely avoid this habitat. In the north and north-west, development of the access road through small areas of habitat previously designated as Ancient Woodland cannot be avoided, due to the steep slope of the bank meaning that some deviation from the existing access track is necessary to facilitate road bends. The habitats in this area of previously designated Ancient Woodland are conifer woodland and scrub as well as bare ground and semi-improved grassland of the existing tracks. Areas of existing broad-leaved semi-natural woodland and mixed semi-natural woodland on previously designated Ancient Woodland would not be directly affected. As the habitat is not considered to be irreplaceable ancient woodland, for reasons discussed in Section 4.1.3, and as very small areas would be directly impacted, the effects in the absence of additional mitigation are considered to be at the Local Level. Areas of retained habitat previously designated as Ancient Woodland would be appropriately managed to restore native woodland habitat to a favourable condition, and there would be a presumption against felling of trees in these area for glade creation. There is potential for adjacent off-site areas of Ancient Woodland habitat to be affected by unmitigated pollution such as dust and run-off, and as a result of increased visitor pressure in the operational stage.

In the absence of additional mitigation, the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**; and
- Operational Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**.

5.1.3 Habitats

The proposed development will lead to the loss of areas of habitat of up to Local level importance, including potential SINC and Section 7 of the Environment (Wales) Act 2016 habitats which in combination may be of County Level importance. However, the development aims to retain large areas of habitat, with lodges built sympathetically into the landscape, and the landscape proposals include retention and enhancement of habitats. Mature trees, ponds and rivulets will be retained, enhanced and protected. Whilst areas of habitat would be lost, additional areas of habitat would be replanted, enhanced and managed in the long term to maintain ecological importance. No net loss of habitats of Local Level importance is anticipated. There is potential for invasive species to be spread across the site, without implementation of appropriate mitigation, and potential for increased visitor pressure to cause disturbance and trampling of habitats at the operational stage.

In the absence of additional mitigation, the removal of habitats would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**; and
- Operational Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**.

5.1.4 Species

Invertebrates

The site is considered to be of importance at the Local Level for invertebrates. The loss of habitats including scrub, ffridd and broad-leaved woodland used by invertebrates would have negative impacts in the short term, although with the implementation of landscape planting it is unlikely that longer term effects would be significant beyond the Site level. In the absence of additional mitigation, the loss of habitats used by invertebrates would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**; and
- Operational Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**.

Amphibians

The site is considered to be of importance at the Site Level for amphibians. The ponds on site would be retained, protected and enhanced, and therefore there would be no direct impacts to breeding amphibians. However, there would be some loss of suitable terrestrial habitat which could affect widespread species of amphibians (e.g. common frog and common toad). There is the risk of harm to amphibians during construction. The associated access roads could cause some fragmentation and increase the risk of road kills in operation.

In the absence of additional mitigation, the loss of habitats used by amphibians and increased fragmentation would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and
- Operational Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**.

Reptiles

The site is considered to be of importance at the Local Level for reptiles. Common reptiles are protected from intentional killing and injury under the Wildlife and Countryside Act 1981 (as amended). Without suitable mitigation, the proposals are likely to result in killing or injury to common lizard, slow-worm and grass snake during clearance of areas where reptiles were found to be present and adjacent suitable habitat. Management of habitats for amenity purposes may also have a negative impact on the common lizard population.

Much of the habitats affected by the development are dense scrub, woodland and conifer plantation of limited importance for reptiles. There remains a risk that individual reptiles could be affected by construction works in suitable habitat along the tracks and small patches of tussocky grassland through loss of habitat or killing/injury of individuals. These impacts are unlikely to be significant at the local population level. In the absence of additional mitigation, the loss of habitats used by reptiles would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and

- Operational Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**.

Birds

The application site is considered to be of importance at the Local Level for birds. All wild birds, their nests and eggs are protected under the WCA, with WCA Schedule 1 bird species (including goshawk, red kite, honey buzzard, common crossbill and barn owl) further protected from disturbance. In the absence of additional mitigation, vegetation clearance during the construction stage could destroy active nests and lead to the killing or injury of birds. Disturbance at the construction and operational stages may result in barn owl (and honey buzzards in the event they become active on the site in the future) abandoning nesting activity. The loss of some of the scrub, woodland and conifer plantation on-site is likely to slightly reduce the overall number of breeding birds on-site, although many of the species present are likely to utilise the remaining soft landscaping. There may be some additional impacts as a result of increased visitor pressure and disturbance, if not mitigated. Should they become active on the site in the future, honey buzzards would be able to utilise the site during the operational stage, with potentially suitable nesting habitat retained and foraging habitat retained and created. Therefore, in the absence of additional mitigation the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**; and
- Operational Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**.

Bats

The site is of importance at up to the Local level for roosting, foraging and commuting bats. Bat roosts, defined as a 'place of rest or shelter', are protected from destruction, modification or obstruction under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). Bats are protected from deliberate or reckless killing or injury. Bats are also protected from disturbance whilst in a roost or significant disturbance to their ability to survive or reproduce.

The works have the potential to remove or disturb common and soprano pipistrelle roosts (including small maternity colonies) and likely individual/small tree roosts for relatively widespread bat species. Loss of bat roosts would have a negative effect of importance at a local scale to roosts of relatively low conservation significance. If bats are present at the time, they could be killed or injured.

Use of the site would require some external lighting in the operational stage. This can alter the distribution of invertebrates and some bat species, such as long-eared and *Myotis* species, would actively avoid well-lit areas. Therefore, indiscriminate external lighting would also lead to loss of foraging habitat for some species, although it should be noted that pipistrelle species would feed around streetlights. This would likely have an overall adverse impact at the Local level in terms of loss of foraging opportunities for bat species. Loss and modification of habitat may affect the ability of bats to forage over the site, though it is likely new landscape planting would provide additional foraging opportunities. In the absence of additional mitigation, the development of the application site would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**; and
- Operational Stage: **Significant Negative effect at the Local Level (Minor in EIA terms)**.

Badger

The site is suitable for use by badgers, and although no evidence of this species was identified during the surveys, it was not possible to exhaustively search the site for evidence of badger setts. Badgers are considered to be of no more than Site Level importance. Impacts on badgers could include damage or destruction of an active sett, disturbance (contrary to legislation) and temporary loss of foraging habitat. At the operational stage, significant effects are considered unlikely due to the majority of the habitat on the site continuing to be suitable for use by badgers, and as traffic is likely to be limited in nature and relatively slow moving. In the absence of additional mitigation, the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

Hedgehog

The site is of importance at the Site level for hedgehogs. Whilst the site provides suitable habitat for hedgehogs, it is unlikely that the changes in habitat on-site would significantly reduce the population. There is a risk that vegetation clearance could cause mortality of individuals. There is also a slight increased risk from roadkill. In the absence of additional mitigation, the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

Polecat

The site is of importance at the Site level for polecats. Whilst the site provides potentially suitable habitat for polecats, as part of a larger resource, it is unlikely that the changes in habitat on-site would significantly reduce the population size on site. There is a low risk that vegetation clearance could cause mortality of individuals. An increase in open areas of habitat may result in a higher abundance of rabbits, increasing the prey availability for polecats. There is also a slight increased risk from roadkill. In the absence of additional mitigation, the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

Brown Hare

Brown hares have been recorded on the site and it is considered to be of Local level importance to them. Potential effects of the proposed development include mortality during vegetation clearance (particularly of leverets), a slight increased risk of roadkill, and changes in habitat with a larger area of open habitat overall, but smaller individual areas of grassland. It is likely that following development, more open areas of habitat would continue to be suitable for use by brown hares. There is potential for disturbance as a consequence of increased visitor pressure, and potentially disturbance and predation from dog walkers. In the absence of additional mitigation, the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and

- Operational Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**.

5.2 Mitigation and Enhancement Measures

A range of additional mitigation measures are proposed to avoid and reduce the potential effects described in Section 5.1 and to provide ecological enhancement. This section describes these in outline, with additional detail to be provided in a range of management documents, which it is anticipated would be secured through Planning Conditions for the proposed development.

5.2.1 Management Plans

The proposed redevelopment would be subject to a Construction Environmental Management Plan (CEMP), which would include measures to reduce run-off, noise, lighting and dust impacts caused during the demolition and construction period, to avoid impacts on surrounding designated sites, and nearby and on-site habitats and species.

The CEMP would include the following:

- Specifications for the appropriate timing of works. For example, demolition and vegetation clearance works would be undertaken between September and February, outside of the bird nesting period wherever possible;
- Pollution prevention measures to prevent work causing run-off, pollution or hydrological changes to habitats;
- Details on toolbox talks to be given to site workers, providing information on the biodiversity importance of the site, the species present and the applicable legislation;
- Measures to ensure exposed excavations would be secured (with appropriate fencing), or provided with mammal ladders and capping of pipework and services, at night time to prevent animals becoming trapped;
- Action in the event that unexpected protected or notable species are identified on the site;
- Fencing provision to restrict working areas to minimum footprint;
- Site vehicle speed limits and restrictions; and
- Measures to reduce construction impacts on amphibians, reptiles, bats and birds, such as appropriate timing of works, minimising night time lighting of the sites, and provision of ramps within any excavations to allow mammals to escape.

A Habitat Management Plan (HMP) would be produced for the site. This document would detail management activities necessary to cover (as a minimum) the first 10 years of site operation, with recommendations for longer term management, and would contain, among other detail; information on planting regimens, enhancement of retained habitat, mowing schedules and what to do should habitats fail.

The habitat management would focus on the following objectives:

- Maintaining remaining woodland habitat in good condition, through the removal of regenerating conifers and the thinning of the remaining birch woodland to achieve a well-structured, well connected and healthy stand of maturing trees; and
- Creating and maintaining purple moor-grass and rush pasture habitat; and
- Maintain and creating ffridd habitat.

A detailed draft Heads of Terms for the Habitat Management Plan (HMP) is provided in Appendix 8. The HMP broadly comprises the following objectives:

- To identify key priorities for management, linked to LBAP, UK BAP and S7 priorities and identify important habitats and species within the site context;

- To detail management prescriptions for retained habitats as well as establishment and management specifications for created and enhanced habitats;
- To provide a 10-year schedule of works including habitat management and maintenance;
- To detail constraints (including legalities);
- To clarify roles and responsibilities for management works; and
- To provide a monitoring schedule, including timetable for renewal of the plan.

Biodiverse roofs are proposed and a Biodiverse Roof Strategy (BRS) would be produced to detail management practices associated with biodiverse roofs. The aim of the document would be to ensure favourable condition of the roofs and maximise their potential ecological importance. The BRS would be implemented in conjunction with the roof maintenance information provided by the specialist roof contractor.

It is envisaged that the CEMP, HMP and BRS can be produced at a later date, being secured via a suitably worded planning condition.

5.2.2 Interpretation

Visitors would be provided with a welcome pack highlighting the area's ecological value and promoting appropriate recreational access, whilst avoiding harm to wildlife (including areas and times where dogs should be kept on leads). In addition, interpretation boards would be erected around the site, highlighting important areas of wildlife and species present and areas of habitat which should not be accessed. Fencing would be implemented to prevent access to off-site areas.

5.2.3 Protection and Enhancement of Existing Habitats, and Creation of New Habitat

The development would aim to retain as much habitat as possible through minimizing the extent of new hard and artificial landscaping. Within the development footprint, cleared vegetation would be allowed to regenerate naturally, or re-planted using native species of local provenance only. A detailed landscaping plan, showing areas to be retained and restored would be developed at the Reserved Matters stage and secured through a suitably worded planning condition. The aim of the landscape plan would be to create a mosaic of diverse habitat types suitable to support a range of species including invertebrates, reptiles and breeding birds. Areas of native woodland would be enhanced and allowed to mature, whilst more open areas of species-rich grassland and scrubby edge habitats would be developed. This would include the creation of new glades and rides. Coniferous plantation would be targeted for removal as part of rotational felling, or enhancement to allow it to develop into native woodland, with intermediary cleared habitats of benefit to nightjar and reptiles. Areas of retained habitat previously designated as Ancient Woodland would be appropriately managed to restore native woodland habitat to a favourable condition, and there would be a presumption against felling of trees in these area for glade creation.

Existing areas of purple moor-grass would be protected, and new areas provided through the creation of small clearings around each of the lodges. The management of these clearings would balance the nature conservation value of the habitat with low-intensity recreational usage. The clearing of habitats would be undertaken with the aim of retaining the existing ground flora. Any disturbed areas would be sown with a suitable mixture of locally native wildflowers. This should increase the overall area of purple moor-grass and rush pasture on the Site, although it would reduce the area of woodland by the same amount. However, the sheltered clearings would provide additional benefits to species such as invertebrates, amphibians, reptiles and foraging bats.

Retained grassland areas in the central and southern areas of the site would be enhanced with additional wildflower planting and management to reduce nutrient levels and encourage species diversity, and a reduced mowing regime to encourage wildflowers to develop.

Lodges and other buildings would have biodiverse roofs, using native plant species and maximising value for biodiversity through inclusion of features such as log, sand and stone piles for nesting invertebrates.

Root protection zones would be included around any retained trees close to development areas, in accordance with BS 5837:2012 – '*Trees in relation to design, demolition and construction. Recommendations*'[58].

Watercourses and ponds would be retained and protected through the works with appropriate fencing. Suitable culverts and ditches would be installed to minimise fragmentation and maintain function of the rivulets in the north of the site.

New watercourses and wetland features would be provided within the proposed development, including new ponds around the existing central ponds. Sustainable Drainage Systems (SuDS) would be created, including vegetated swales and retention ponds.

Wherever possible, construction would not be undertaken in areas of habitat previously designated as Ancient Woodland. These are shown in Figure A.4. Where this is unavoidable, tree removal would be avoided and soil would be carefully stockpiled and reused within other wooded areas of the site, ensuring that the seedbank is retained.

To ensure that the works are compliant with WCA Schedule 9, the Himalayan balsam present on the site in small areas would be managed. The plant may be disturbed during enabling works and balsam is likely to spread within the site if not controlled. Control of the plant would be detailed within the CEMP and would include:

- Clearance of balsam must not take place when plants are in seed;
- The plants identified should be regularly cut every two to three weeks down to ground level during April to October inclusive to prevent flowering. Alternatively, plants can be pulled individually by their roots;
- Balsam seeds can survive up to 18 months in the seed bank so cutting/pulling should be undertaken for two years;
- The soil in this area should be retained undisturbed for at least two years or disposed of in an appropriate contaminated waste stream to minimise the spread of seeds. The area should be demarcated using warning tape or similar;
- The wider site should be regularly monitored for evidence of Himalayan balsam and management initiated if the species is found.

An invasive species specialist should be engaged to undertake the work. The specialist would also assess the cotoneaster present at the southern site entrance, and if this is confirmed to be an invasive species it would be treated in a similar manner to the Himalayan balsam. Even if not found to be an invasive species, as a non-native species it would be targeted for removal.

If further invasive species are identified during the planting process, the plants would be removed and disposed of appropriately.

New native woodland habitat would be provided within the proposed development, to provide compensation for the areas of woodland lost in creating access roads and the new grass and heath habitats within clearings around the lodges. A 3:1 replacement tree planting strategy would be applied in accordance with PPW12. The new planting would be completed in and amongst areas of existing lower-quality habitat, including the central and southern grassland areas. The new woodland would be planted with locally native broadleaved species and managed to maximise its value to wildlife as part of the HMP. Consideration would be given to utilising young trees removed

from other areas of the site as part of ongoing management, as well as planting using off-site native and local tree stock. Any new trees or other plants showing signs of disease or invasive species would be removed prior to planting and responsibly disposed of. Plants imported from outside the UK would be avoided to prevent introducing invasive species. Fruit trees would be included in planting. In addition to providing fruit suitable for use by people and wildlife, fruit trees age faster than other trees, in time providing niches for nesting birds, roosting bats and invertebrates.

Conifer plantation in the south-west of the site has been shown to have peat deposits beneath it. Consideration would be given to removal of conifer plantation in this area and restoration of blanket bog.

Table 5.1: Baseline Habitats Lost and Retained

	Broad habitat Type	**Phase 1 Habitat Type**	**Baseline Habitat Total**	**Baseline Habitat Lost**			**Baseline Habitat Retained**		
			Area (ha)	**Area (ha)**	**Combined Area Lost**		**Area (ha)**	**Combined Area Retained**	
Habitats of higher ecological importance	Woodland	A1.1.1 Broadleaved woodland - semi-natural	2.82	0.10	0.33	**2.01**	2.71	24.24	34.49
		A1.2.2 Coniferous woodland - plantation	1.54	0.01			1.53		
		A1.3.1 Mixed woodland - semi-natural	20.22	0.21			20.00		
	Scrub	A2.1 Scrub - dense/ continuous	3.85	0.84	1.56		3.01	9.59	
		A2.2 Scrub - scattered	7.30	0.72			6.58		
	Diverse Grassland	B2.2 Neutral grassland - semi-improved	0.05	0.00	0.12		0.05	0.55	
		B5 Marsh/ marshy grassland	0.61	0.11			0.50		
	Water	G1 Standing water	0.11	0.00	0.00		0.11	0.11	
Poor grassland	Poor grassland	B4 Improved grassland	0.06	0.04	2.03	2.03	0.02	3.86	**3.86**
		B6 Poor semi-improved grassland	5.82	1.99			3.83		
Urban	Urban	J1.2 Cultivated/ disturbed land - amenity grassland	0.90	0.21	0.46	0.46	0.69	3.20	**3.20**
		J3.6 Buildings	0.05	0.02			0.04		

Table 5.1: Baseline Habitats Lost and Retained									
		J4 Bare ground	2.67	0.23			2.44		
		J1.4 Introduced shrub	0.03	0.00			0.03		
Not surveyed	Not surveyed	Not surveyed	0.84	0.24	0.24	0.24	0.61	0.61	0.61
Total			**46.89**	**4.73**	**4.73**	**4.73**	**42.16**	**42.16**	**42.16**

Table 5.1 shows the total areas of baseline habitats present on the site, the area of these which would be lost to the development (i.e. within the 'landscape masterplan outline' indicated on Figure A.5 Appendix 1), along with those areas which would be retained. This is based on the proposed outline development footprint, and does not include habitat gains which can be expected to occur with the implementation of landscape proposals. The total area to be lost to the development footprint is 4.73 ha. Of this, 2.01 ha includes habitats of higher ecological importance (woodland, scrub, diverse grassland and standing water), including habitats (ffridd) potentially suitable for SINC designation. In order to achieve no net loss of habitat and a net gain of habitat in area terms, a minimum of 2.01 ha of similar or better-quality habitat would need to be introduced within the retained areas of the site. 2.03 ha of habitat lost is poorer quality grassland, and 0.46 ha is urban habitat.

Of the retained habitats, 3.86 ha is poorer quality grassland and 3.20 is urban habitats. These habitats would be suitable for enhancement to better quality grassland and creation of new habitats, including replacement of 2.01 ha of habitats of higher ecological importance. Although this assessment does not constitute a full biodiversity net benefit analysis, it shows that there is sufficient space within the site to enable habitat enhancement and introduction to replace those habitats being lost. Landscape proposals would be developed at the detailed design stage to ensure that these minimum areas of replacement habitat are met and exceeded. This will ensure there is a net benefit of ecologically important habitats. Furthermore, retained and new habitats would be managed long term for the benefit of biodiversity through the implementation of the HMP, bringing quantitative as well as qualitative benefits for biodiversity.

5.2.4 Species

Invertebrates

Measures to provide invertebrate habitats would be incorporated into the HMP. This would include the retention of large woody material from felled trees into log piles and the provision of sources of nectar and pollen within landscape planting including wildflower meadows (specifically purple moor-grass) and biodiverse roofs.

Invertebrate boxes or 'bee hotels' and bee bricks are proposed and would provide additional interest and enhancement for invertebrates such as bees. The exact number and type of box would be agreed following consultation with an ecologist prior to the build stage. These can be included on biodiverse roofs and be built into lodges. Features of interest for invertebrates would also be included on the biodiverse roofs, including sand and stone piles, and log piles.

Recommendations from the invertebrate report would also be implemented. These include:

- Allow areas of recently felled woodland to naturally regenerate into an interesting mosaic of semi-natural habitats (e.g. ffridd) of value to invertebrates and wider wildlife;
- Targeted tree/scrub removal from mixed woodland areas to create woodland rides and glades in some areas. Such rides and glades would open up the woodland canopy, bringing sunny

conditions into the heart of the woodland and encourage more flowery conditions that are particularly valuable for pollinator foraging. It is important to note, however, that shaded wet woodland is also important to invertebrates (especially as breeding locations for some pollinators) and so it is useful to maintain both open and shaded areas. As such, any woodland ride or glade creation should ideally target dry areas. It would also be beneficial to create wetland features within the woodland (e.g. a new pond or non-draining ditch) where such features are currently absent;

- The broadleaved woodland block in the northeast of the site (TN21) was also found to support smaller sections of other habitats such as grassland and heathland. Efforts should be made to conserve these habitats by preventing further scrub encroachment, and ideally looking to enhance and extend these habitats through targeted woodland/scrub clearance in and around them;
- The broadleaved woodland block at TN21 has young, densely packed trees (predominately willows) with a dense bramble understorey. This woodland could benefit from similar interventions as those described above to open up areas within it;
- A natural cliff face exists within the scrub block at TN24. Here, the rocky substrate has seemingly limited natural regeneration, hindering tree establishment and creating somewhat of a woodland glade amongst the scrub, with a diversity of vegetation. Development in this area would be avoided. The removal of young trees is advisable in this area to maintain and further extend this woodland glade. Either side of this woodland glade, targeted scrub removal and thinning is advised to open-up the woodland canopy and ensure the bilberry understorey is not lost – heavy shading caused by the densely packed trees is evidently resulting in the decline of woodland flora. Without management intervention, this woodland understorey is likely to be lost in future years;
- Opportunities exist to enhance the central grassland areas. The implementation of better grassland management (such as a reduction in the frequency of mowing or leaving some areas uncut for much of the year) would likely boost invertebrate interest. Should the soil nutrient levels be too high to encourage a diverse and flower-rich sward, turf stripping or topsoil removal (approximately the upper 20 cm) may be needed to reveal the nutrient-poor subsoil. These areas can then be seeded with native, 'pollinator-friendly' plants or simply left to encourage the natural seed bank (whilst controlling Himalayan balsam or other invasive or injurious weeds). Should any seed sowing be implemented, native plants of local provenance should be selected as these better reflect the local area;
- Strategic planting of native blossoming tree and shrub species to boost floral resources for invertebrates. This would be best implemented in areas currently devoid of blossoming plants such as amenity grassland areas. Spring blossoming trees and scrubs such as willows, blackthorn, hawthorn and wild cherry should be used as these are important for pollinating insects. Other 'pollinator friendly' plants can also be used;
- Incorporation of sparsely-vegetated, south-facing banks and slopes (i.e. bee banks) into development plans to provide invertebrate nesting, hunting and basking opportunities – this would also benefit reptiles; and
- Incorporation of biodiverse roofs, as a means of providing additional forage habitat for flower-visiting insects.

Implementation of the additional mitigation and enhancement described here would contribute to the B-Line identified on the site, providing opportunities for pollinators through restoring and connecting habitats including ffridd habitat, and linking existing off-site wildlife areas to create a wildflower-rich network.

Amphibians

The mitigation measures proposed for reptiles, including a reptile method statement, would also protect amphibians during vegetation clearance works. The design of the new roads will allow free passage of amphibians across the road in the operational phase (i.e. avoidance of curb stones that could trap amphibians on the road). Signs would be erected to warn drivers of the potential of crossing frogs and toads. The creation of new wetland and water features would provide additional habitat for use by amphibians.

Reptiles

A small population of reptile species has been recorded on the site, present in more open areas of habitat. The denser woodland, scrub and poor semi-improved grassland are not used by reptiles. The existing reptile population at the site is likely to be vulnerable due to fragmentation of suitable habitats and distance between areas where they are present and use of the site for woodland, including disturbance and changes to habitat distribution from management practices. Small numbers of three species were recorded, although this is not necessarily considered to be indicative of population size due to the difficulty of surveying the habitats present. There are opportunities within the landscaping proposals to provide better connected and larger-scale suitable habitat for reptiles, resulting in an overall positive impact and net gain in habitat for common lizard and other reptile species.

A detailed Reptile Method Statement would be produced prior to vegetation clearance (and this could form part of the CEMP). Due to the low density of animals identified, and because there is sufficient habitat into which animals can disperse, the most appropriate method for vegetation clearance is likely to be habitat manipulation. This process would be detailed within the Reptile Method Statement, and would involve:

- carefully removing the suitable habitats in stages, thereby encouraging reptiles to move on their own accord into adjacent undisturbed habitats, which offer suitable conditions and are likely to fall within the home range of the individuals recorded;
- completing hand searches before the initial cut to ensure that reptiles are not harmed, including dismantling potential refugia; and
- vegetation clearance during optimum weather conditions and when reptiles are not hibernating to allow the reptiles to move off Site i.e. during the middle of the day during warm conditions, ideally September or October; and
- all work that could affect reptiles would be undertaken by, or in the presence of and following the instruction of, a suitably experience Ecological Clerk of Works (ECoW).

In the event that habitat manipulation is not appropriate for certain areas due to all suitable habitat within the area being removed, or because larger populations of reptiles are encountered during habitat manipulation, a reptile translocation would be undertaken. This would also be detailed in the Reptile Method Statement, and may involve creation of an on-site reptile receptor area, using habitat of lower ecological importance such as coniferous woodland, or an off-site area close to the site, with a suitable trapping regime implemented, in accordance with current guidance[5960]:

The HMP would include management of the habitat suitable for reptiles (and if necessary, including the Receptor Area) and overall reptile habitat creation, establishment and management to benefit reptiles. Optimal habitats including areas of tussocky or long grassland, stone/rubble/log piles, rock faces and scrub-grassland edge would be included within the soft landscape design to provide an

overall net gain for reptile species, especially common lizard. At least two reptile hibernacula would be created during the works, either in the Receptor Area and/or within the development site.

Breeding Birds

All wild nesting birds are protected under the WCA, with birds list on WCA Schedule 1 subject to additional protection. As a general precaution, any operations that may disturb bird-nesting habitat, such as clearance of trees and undergrowth, and grassland where ground-nesting birds may be present, or works directly next to these habitats, would be undertaken between September and February, which is outside of the bird-breeding season. Where this is not possible, limited vegetation clearance can be undertaken in areas not considered to be suitable for use by WCA Schedule 1 species nightjar, goshawk, red kite, crossbill or honey buzzard, and following checks for nesting birds by a suitably experienced ecologist. Where active nests are identified, work would be delayed until chicks have fledged.

Although breeding crossbill have not been recorded on the site, there is potential for them to make use of the site in the future. The breeding season for this species starts in January, and it is therefore recommended that clearance of conifer trees is undertaken between September and December.

In order to mitigate for the net loss of suitable breeding bird habitat, habitat enhancement in retained and creation of habitats in compensation areas would be undertaken, with new and enhanced areas of habitat including ffridd, scrub, open heath mosaic. Woodland habitat removal would be minimised, other than removal of plantation woodland.

A variety of bird nest box types would be provided at suitable locations on the site, attached to or built within lodges and other infrastructure as well as on trees in woodland, as mitigation for loss of habitat and additional enhancement. Boxes suitable for a variety of bird species including passerines, swifts, swallows and barn owls would be included. The exact type, number and location of bird boxes would be agreed following consultation with an ecologist prior to the build stage, and would be detailed within the HMP. Barn owl boxes could be erected within open-fronted infrastructure in service areas, and in open locations in trees or as stand-alone features.

New landscape planting habitat would include native species of fruiting and seed-producing tree and shrub species, as well as dense scrub, to provide foraging and nesting opportunities for birds.

Nightjar have not been recorded breeding on the site, and therefore mitigation for this species is not required. Should they become active on the site in the future and likely to be impacted by development, appropriate mitigation would be required. The potential to incorporate nightjar habitat mitigation into the development would largely depend on the space available and the proposed levels of recreational access within these areas. Nightjar require a large area of heath/scrub grassland/woodland clear-fell mosaic habitat (~minimum 1ha) in which to nest and they require generally low levels of disturbance to breed successfully. Recreational access and in particular dog walking is associated with low breeding success and nest failure (e.g., Langston *et al.,* 2007[61]). Habitat cleared for reptiles would also be suitable for use by nightjars, if of sufficient size. It would need to be managed long term for these species, potentially through rotational clearance of areas of woodland.

Honey buzzard are not currently known to use the site, but are present in the wider area, and the woodland habitat on the site is suitable for breeding and foraging, and therefore the species could commence breeding on or near the site in the future. Clearance of vegetation, particularly woodland, would not commence during the honey buzzard nesting season (mid-May to end of August) to avoid direct impacts or disturbance, unless breeding honey buzzards are confirmed to

be absent or only present in an off-site area that would not be disturbed by clearance at the site. A specialist honey buzzard surveyor would be required to confirm this in any given breeding year. Clearance of vegetation outside this period is not likely to impacts honey buzzards.

In the long term, provision of new broad-leaved woodland, management of ponds and creation of new wetland areas would benefit honey buzzard, creating additional new foraging areas for them.

Bats

As bat roosts have been identified within buildings on the site, a European Protected Species (EPS) licence would be required for the proposed development to proceed, following planning permission being granted. As part of the EPS licence application, a detailed bat mitigation method statement would be required. Possible measures that would be required to protect bats are removal of potential roosting feature / a 'soft strip' of the roofs and soffits and cladding by hand in the presence of a licensed bat ecologist, between mid-March to end of October, and avoiding the bat breeding season of May to August inclusive. Before demolition of roosts can take place, replacement roosting opportunities, such as suitable bat boxes, must be provided in advance and shown to be in use, as specified in the mitigation method statement. Further surveys to confirm the status of the roosts would likely be required in the season before demolition of the buildings.

It is currently anticipated that the trees identified as being suitable for use by roosting bats, which have not been confirmed as roosts following surveys, would be retained within the development. At the detailed design stage, an update walkover survey should be undertaken to identify all trees likely to be removed, and assessing them for bat roost suitability. In the event that these trees would be removed, further surveys (emergence/re-entrance or climbing surveys) would be undertaken prior to felling to confirm the absence of bats. If bat roosts are found to be present in trees, an EPS licence would be required before proceeding and a methodology agreed with Natural Resources Wales would need to be followed.

The bungalow has been identified as being suitable, though sub-optimal, for use by hibernating bats. A precautionary method to demolition of these buildings should be undertaken, with demolition in October to March avoided, and alternative hibernation sites should be included, with suitable sheltered crevices built into north-facing stone walls on buildings, any underground cavities having bat access included, and at least five bat hibernation boxes being included within the development.

The HMP and landscape layout for the site would include maintaining connected corridors of habitat e.g. woodland, tree lines and hedgerows. In particular, pockets of dense tree planting or small copses would continue to provide habitat for woodland bats and sheltered foraging opportunities during windy conditions. Beneficial planting for bats would include species listed in *Landscape and Urban Design for Bats and Biodiversity* (Gunnell et al, 2012$_{10}$[62]) which are appropriate given the rural and geographical context of the site. Provision of new native woodland and wetland, creation of new woodland edges around clearings, as well as new landscape planting and green infrastructure with native vegetation and evening flowering species, and bat boxes built into new buildings, would mitigate for loss of habitat and provide an enhancement opportunity for bats once established. At least 40 bat roost features such as the Schwegler 2FR bat tube (www.nhbs.com/title/162812/2fr-schwegler-bat-tube) or Habibat (www.habibat.co.uk) would be inbuilt into the external walls of the lodges and affixed to trees. These would be sited at least 4 m above ground level but within reach using a ladder at a range of elevations. They should avoid trees earmarked for management. The exact type, number and location of bat boxes would be

agreed following consultation with an ecologist prior to the build stage and would be detailed in the HMP. They would include boxes suitable for summer, maternity and winter hibernating roosts.

Night-time lighting of the site would be minimised. An appropriate lighting strategy would be devised to limit light spill onto bat roosts and areas of bat habitat and thus allow their continued functionality as bat foraging and commuting routes. This would be devised with input from lighting specialists and experienced bat ecologists and in accordance with the Bat Conservation Trust (BCT) and Institution of Lighting Professionals (ILP) guidance[63]. There would be an assumption against lighting of areas of important retained and new habitats, and where unavoidable light spill onto habitat potentially used by bats should be kept below 3 lux and ideally below 1 lux as far as possible It would adhere to the following parameters:

- Implementation of "dark sky hours";
- Using low or high-pressure sodium lights or LEDs instead of mercury or metal halide lamps where possible;
- Directing lighting to where needed and avoiding spillage, including the use of hoods, cowls, shields etc. to avoid spillage onto sensitive areas;
- Only lighting areas which need to be lit, and using the minimal level of lighting required to comply with building regulations;
- Using where possible movement sensors or timers on security lighting;
- Consideration of use of red light where appropriate; and
- Avoiding the use of lamps greater than 150 W.

Monitoring of bat boxes would be detailed within the HMP.

Brown Hares

Measures would be put in place to prevent killing and injury of brown hares. The brown hare breeding season runs from February to August inclusive and vegetation clearance in open grassland areas during this period would be avoided where possible. Where this is not possible, vegetation clearance would be preceded by checks for forms (scrapes within which hares reside) containing leverets (young) by the ECoW. Any forms with young would be protected within an appropriate buffer until they disperse. These measures would be detailed in the CEMP.

New habitats provided by the development including new areas of open habitat (including purple moor-grass and rush pastures) would be suitable for use by foraging and breeding brown hares. Dog walkers would be encouraged to keep dogs on leads to avoid disturbing brown hares.

Other Mammals

Depending on the timing of the proposed site clearance works there is scope for killing or injuring hedgehogs. Measures would be put in place to prevent this, and these would be detailed in the CEMP. This would include checking log piles and other suitable hibernating and resting sites for hedgehogs in advance of clearance, and moving any animals to a suitable alternative site, out of harm's way.

The provision of new areas of habitat including new purple moor-grass and rush pastures, broadleaved woodland edges and landscape planting would provide new habitat suitable for use by hedgehogs and badgers. In addition, hedgehog nest boxes would be included within the development, to be detailed in the HMP.

Update walkovers of areas of vegetation would be undertaken prior to vegetation clearance by the ECoW to check for the presence of badger setts. If identified, work would proceed in accordance

with an agreed method statement and may involve obtaining a licence to close the sett. These measures would be included within the CEMP.

The sensitive removal of vegetation as detailed in the reptile and bird sections above would also ensure that small mammals would not be harmed during vegetation clearance.

Polecats may be present on site. Loss of small parts of their large territory is unlikely to result in significant negative effects, beyond disturbance at the construction stage. Specific mitigation for this species is not required, but they may benefit from new habitat creation.

5.2.5 Ecosystem Resilience

In line with Environment (Wales) Act 2016 requirements, an Ecosystem Resilience Assessment (ERA) has been undertaken, as shown in Table 5.2, showing habitat areas gained and lost. The areas lost to the proposed development are those within the 'landscape masterplan outline' indicated on Figure A.5 Appendix 1.

Table 5.2: Proposed Ecosystem Resilience Assessment (ERA)

Development proposals		**Ecosystem**		**Resilience Factors**			
Parc Pelenna Holiday Resort (South Wales)		**NEA Broad Habitat (or equivalent)**	**Practical Habitat Unit**	**Diversity**	**Extent**	**Condition**	**Connectivity**
Risks	Work affecting 0.32 ha of woodland (3169 m2 removed). Increased visitor pressure leading to species disturbance and potential for increase in invasive species.	Woodlands	Broadleaved woodland - semi-natural (2.82 ha)	Loss of extent, may lead to loss of diversity.	4% loss of extent	Moderate to good condition, potential for habitat to degrade if not properly managed.	Well connected to surrounding habitats including woodland in wider area. Potential for fragmentation.
			Mixed woodland - semi-natural (20.22 ha)	Loss of extent, may lead to loss of diversity.	1% loss of extent	Moderate condition, potential for habitat to degrade if not properly managed.	Well connected to surrounding habitats including woodland in wider area. Potential for fragmentation.

Table 5.2: Proposed Ecosystem Resilience Assessment (ERA)

Development proposals		**Ecosystem**		**Resilience Factors**			
Parc Pelenna Holiday Resort (South Wales)		**NEA Broad Habitat (or equivalent)**	**Practical Habitat Unit**	**Diversity**	**Extent**	**Condition**	**Connectivity**
	Loss of 1.56 ha of scrub habitat.		Scrub habitat - dense/continuous and scattered (11.15 ha)	Loss of extent, may lead to loss of diversity. Potential for increase in non-native and invasive plant species.	14% loss of extent	Moderate condition, potential for habitat to degrade if not properly managed, will succeed to woodland in time if not managed.	Well connected to surrounding habitats including woodland in wider area. Potential for fragmentation.
	Felling of ~0.01ha of woodland. Habitat loss, loss of habitat potentially suitable for crossbill in the future, changes in hydrological regime.		Coniferous woodland - plantation (1.54 ha)	Loss of extent. No loss of diversity.	1% loss of extent	In poor to moderate condition with limited diversity of native species.	Potential for fragmentation from other habitats in adjacent area.

Table 5.2: Proposed Ecosystem Resilience Assessment (ERA)

Development proposals		**Ecosystem**		**Resilience Factors**			
Parc Pelenna Holiday Resort (South Wales)		**NEA Broad Habitat (or equivalent)**	**Practical Habitat Unit**	**Diversity**	**Extent**	**Condition**	**Connectivity**
Opportunities	Effective habitat management, removal of invasive and non-native species. Creation of habitat variation with glades, open areas and variation in age of woodland.		Broadleaved woodland - semi-natural (2.82 ha)	Potential for long term increase in species mix diversity and age and structure diversity, with glades and rides opened up to provide a mosaic of habitats.	Potential increase.	Management leading to increase to good condition throughout.	Habitat links to woodland in wider area created and buffered with additional tree planting
	Effective habitat management, removal of invasive and non-native species. Creation of habitat variation with glades, open areas and variation in age of woodland.		Mixed woodland - semi-natural (20.22 ha)	Potential for long term increase in species mix diversity and age and structure diversity, with glades and rides opened up to provide a mosaic of habitats.	Potential increase (or succession to broad-leaved woodland)	Management leading to increase to good condition throughout (or succession to broad-leaved woodland).	Habitat links to woodland in wider area created and buffered with additional tree planting

Table 5.2: Proposed Ecosystem Resilience Assessment (ERA)

Development proposals		**Ecosystem**		**Resilience Factors**			
Parc Pelenna Holiday Resort (South Wales)		**NEA Broad Habitat (or equivalent)**	**Practical Habitat Unit**	**Diversity**	**Extent**	**Condition**	**Connectivity**
	Improvement in diversity through effective habitat management, removal of invasive and non-native species.		Scrub habitat - dense/continuous and scattered (11.15 ha)	Potential for increase in species and structural diversity.	Potential increase.	Management leading to increase to good condition throughout.	Habitat links to woodland in wider area created and buffered
	Removal of non-native tree species and invasive ground flora. Habitat restoration, effective habitat management. Reinstatement/ blocking of historic drainage in peat. Hydrological design to maintain and re-connect natural hydrological regime.		Coniferous woodland - plantation (1.54 ha)	Conversion to semi-natural habitats likely to increase diversity.	Potential for increase in semi-natural habitat extent	Improvement in diversity leading to improved condition.	-

Table 5.2: Proposed Ecosystem Resilience Assessment (ERA)							
Development proposals		**Ecosystem**		**Resilience Factors**			
Parc Pelenna Holiday Resort (South Wales)		**NEA Broad Habitat (or equivalent)**	**Practical Habitat Unit**	**Diversity**	**Extent**	**Condition**	**Connectivity**
Risks	Potential for degradation due to increased visitor pressure and pollution, potential for introduction of invasive species.	Freshwaters	Standing Water (0.11 ha)	Potential for decrease in diversity with inappropriate management.	-	Potential for degradation due to increased visitor pressure and pollution.	-
Opportunities	Increase in extent and enhanced management leading to increased diversity. Provision of foraging resource for rare species such as honey buzzard and bats.			Increase in extent and enhanced management leading to increased diversity. Provision of foraging resource for rare species such as honey buzzard and bats.	Increase in extent	Increase in extent and enhanced management leading to increase in condition.	Potential for increased connectivity aquatic habitats through provision of new ponds.
Risks	Loss of extent (2.14 ha).	Semi-natural Grasslands	Neutral grassland - semi-improved; Improved grassland; Marsh/marshy	-	Loss of extent of 33% due to increase in other habitat areas.	-	-

Table 5.2: Proposed Ecosystem Resilience Assessment (ERA)							
Development proposals		**Ecosystem**		**Resilience Factors**			
Parc Pelenna Holiday Resort (South Wales)		**NEA Broad Habitat (or equivalent)**	**Practical Habitat Unit**	**Diversity**	**Extent**	**Condition**	**Connectivity**
Opportunities	Opportunity for greater distribution across site and increase in species.		grassland; and Poor semi-improved grassland (6.55 ha)	Increase in distribution across site (though reduction in total extent) and diversity through additional planting/seeding and appropriate management. Increase in species present through appropriate management.	-	Increase in condition through appropriate management.	Increase in distribution across site, with new grassland areas around lodges, leading to increase connectivity to grassland habitat in wider area.
Risks	Loss of extent (0.46 ha).	Urban	Cultivated/disturbed land - amenity grassland; Introduced shrub; Buildings; and Bare ground (3.66 ha)	Loss of extent around existing dwellings. Loss of some planting areas.	12% loss of extent around existing dwellings	-	-
Opportunities	Opportunity for addition of biodiverse landscaping and green infrastructure.			Increase in green infrastructure (including living roofs) and biodiverse native landscape planting around lodges and new communal facilities.	Increase in extent of biodiverse green infrastructure and landscaping.	Increase in condition through provision of biodiverse features and effective management.	Increased connectivity of new biodiverse features linking to other habitats in wider area.

Table 5.2: Proposed Ecosystem Resilience Assessment (ERA)							
Development proposals		**Ecosystem**		**Resilience Factors**			
Parc Pelenna Holiday Resort (South Wales)		**NEA Broad Habitat (or equivalent)**	**Practical Habitat Unit**	**Diversity**	**Extent**	**Condition**	**Connectivity**
Risks	Loss of extent (0.24 ha) around new access track.	Unknown, not yet surveyed. (Likely to be Semi-natural grasslands, and Woodlands.)	Habitat type(s) unknown (0.84 ha). To be confirmed once surveyed. (Likely Poor semi-improved grassland; Marsh/marshy grassland; Scrub – scattered; and or Mixed woodland – semi-natural)	Loss of extent, may lead to loss of diversity. Potential for increase in non-native and invasive plant species.	28% loss of extent around new access track.	Unknown	Well connected to surrounding habitats including woodland in wider area. Potential for fragmentation.
Opportunities	Unknown			Unknown	Unknown	Unknown	Unknown

5.3 Residual Effects

The following text shows the residual effects of the Proposed Development on ecological receptors, once mitigation and enhancement as described in Section 5.2 has been taken into account.

5.3.1 Designated Sites

With the application of mitigation, including a CEMP to reduce the likelihood of pollution during construction on the Neath Canal SINC, the proposed development would likely result in the following effects at the construction and operational stages:

- Construction Stage: **No Significant effects (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

5.3.2 Ancient Woodland

With the application of mitigation, including a CEMP to reduce the likelihood of pollution on off-site habitats during construction, retention of habitats wherever possible, retention of stockpiled soil, replacement tree planting, removal of invasive species, education of visitors about the importance of habitats on the site, enhancement of retained habitats, and long term ecological management of habitats on the site, the proposed development would likely result in the following effects on areas previously designated as Ancient Woodland at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

5.3.3 Habitats

With the application of mitigation, including retention and enhancement of habitats wherever possible, removal of invasive species, creation of new habitats and green infrastructure, education of visitors about the importance of habitats on the site and long term ecological management of habitats on the site, the proposed development would likely result in the following effects on habitats at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site** Level **(Negligible in EIA terms)**; and
- Operational Stage: **Significant Negative effect at the Site Level in the short term**, with potential for **Significant Positive effects at the Site Level in the longer term (Negligible in EIA terms).** With the restoration of blanket bog, there is potential for Significant Positive effects at the County Level and beyond in the long term.

5.3.4 Species

Invertebrates

The site is considered to be of importance at the Local Level for invertebrates. The loss of habitats including scrub, ffridd and broad-leaved woodland used by invertebrates would have negative impacts in the short term, although with the implementation of landscape planting it is unlikely that longer term effects would be significant beyond the Site level. With the implementation of mitigation including new habitats, management of existing habitats to create more diversity, and green infrastructure such as biodiverse roofs and SUDs, the proposed development would likely result in the following effects on invertebrates at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and

- Operational Stage: **Significant Negative effect at the Site Level in the short term**, with potential for **Significant Positive effects at the Site Level in the longer term (Negligible in EIA terms)**.

Amphibians

There would be some loss of suitable terrestrial habitat to the proposed development which could affect widespread species of amphibians (e.g. common frog and common toad), particularly in the shorter term. Implementation of an appropriate CEMP, including an ECoW on site during work, would reduce the risk of harm to amphibians during construction. The associated access roads could cause some fragmentation and increase the risk of road kills in operation, though this is likely to be offset by the provision of new habitat including ponds and wetland features.

With the implementation of mitigation, the proposed development would likely result in the following effects on amphibians at the construction and operational stages:

- Construction Stage: **No Significant effect (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effect (Negligible in EIA terms)**.

Reptiles

With the implementation of appropriate mitigation for reptiles, including a detailed Reptile Method Statement which would include exclusion and/or translocation of individuals from construction areas, work in the presence of an experienced ECoW, and creation of new habitat suitable for reptiles around lodges and in woodland glades, the proposed development would likely result in the following effects on reptiles at the construction and operational stages:

- Construction Stage: **No Significant effect (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effect**, with potential for **Significant Positive effects at the Site Level in the longer term (Negligible in EIA terms)** once new habitats become established.

Birds

With the implementation of appropriate mitigation, including undertaking work at suitable times of year, presence of an ECoW during vegetation clearance, provision of new habitat including bird boxes and wetland features, and long term ecological management of the site, the proposed development would likely result in the following effects on birds at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effect**, with potential for **Significant Positive effects at the Site Level in the longer term (Negligible in EIA terms)** once new habitats become established.

Bats

The loss of the existing bat roosts cannot be avoided within the proposed development. Replacement roost features would be included, with additional features of a variety of types included across the site to provide further enhancement for roosting bats. By undertaking work under licence to NRW, no effect on the conservation status of bats would occur, though disruption and disturbance at the constructions stage is likely to result in some short-term effects on foraging and commuting bats. Habitat enhancement and management including provision of new ponds and creation of glades and woodland rides would enhance foraging opportunities for bats. With the implementation of mitigation, including work under licence to NRW, update surveys of trees due

for felling, provision of new roosting and foraging habitat, and a sensitive lighting strategy, the proposed development would likely result in the following effects on bats at the construction and operational stages:

- Construction Stage: **Significant Negative effect at the Site Level (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effect (Negligible in EIA terms)**.

Badger

With the implementation of appropriate mitigation, including a walkover by an ecologist prior to the start of construction, the proposed development would likely result in the following effects on badgers at the construction and operational stages:

- Construction Stage: **No Significant effects (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects**, with potential for **Significant Positive effects at the Site Level in the longer term (Negligible in EIA terms)** once new habitats become established.

Hedgehog

With the implementation of appropriate mitigation, including removal of vegetation in a sensitive manner and provision of new habitat, the proposed development would likely result in the following effects on hedgehogs at the construction and operational stages:

- Construction Stage: **No Significant effects (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

Polecat

With the implementation of appropriate mitigation, including removal of vegetation in a sensitive manner, the proposed development would likely result in the following effects on polecats at the construction and operational stages:

- Construction Stage: **No Significant effects (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

Brown Hare

With the implementation of appropriate mitigation, including removal of vegetation in a sensitive manner, the proposed development would likely result in the following effects on brown hares at the construction and operational stages:

- Construction Stage: **No Significant effects (Negligible in EIA terms)**; and
- Operational Stage: **No Significant effects (Negligible in EIA terms)**.

5.4 Cumulative Effects

Mynydd Fforch Dwm Wind Farm is a proposed renewable energy development of up to six wind turbines and associated infrastructure, including up to approximately 10.0 hectares of solar PV panels, mounted on frames fixed to the ground, with associated inverters, security fencing and CCTV system located approximately 1.6km south and south-east of the site. A planning application was submitted to Planning and Environment Decisions Wales (PEDW) (Reference DNS/3255801) in December 2023. Due to the distance of Mynydd Fforch Dwm Wind Farm from the site and as it is in a different hydrological catchment significant negative effects beyond the site level are not expected from that proposed development. With appropriate ecological

mitigation expected to be delivered at the Mynydd Fforch Dwm Wind Farm to minimise its ecological effects, it is not considered that cumulative effects on ecological receptors beyond those expected for each site individually would occur as a result of these two developments. Due to the rural location of the proposed development away from other likely developments in the wider area, cumulative effects of the proposed development with other developments are considered unlikely to occur.

6. CONCLUSIONS

The extended Phase 1 habitat surveys, invertebrate surveys, reptile surveys, bird surveys and bat surveys confirmed that the site is of nature conservation importance at up to the Local Level, and that there are no statutory/ non-statutory designated sites within the site, with land previously designated as Ancient Woodland on and adjacent to the site.

The design team have worked collaboratively throughout the design process, following the mitigation hierarchy, to ensure that development avoids the most sensitive habitats and woodland areas wherever possible. Landscape proposals would be developed at the detailed design stage to ensure that there is a net benefit of ecologically important habitats. Calculations show that there is sufficient space in retained areas of poorer quality habitat to enable this to occur.

By undertaking the work in accordance with the commitments and recommendations made in this report, including provision of extensive landscape planting, working under method statements and implementing management plans, and in accordance with method statements for bats under licence to NRW, the proposed development is likely to be in conformity with relevant planning policy and legislation relating to ecology having suitable opportunities to create a net biodiversity benefit.

Following the implementation of mitigation, compensation and enhancements as prescribed in this report and on completion of construction, no significant negative residual effects on ecological features beyond the Site Level are anticipated as a result of the proposed development, and there is potential for significant positive effects at the Site Level, and up to the County Level if blanket bog could be restored on peatland. Table 6.1 summarises the ecological features present, their importance levels, and the potential effects, mitigation and residual effects anticipated. Further surveys will be required prior to detailed design to assess areas around the access track in the north of the site.

Table 6.1: Summary of Ecological Receptors, Potential Effects, Mitigation and Residual Effects

Feature	**Ecological Importance**	**Significance of Potential Effects** (negative unless indicated otherwise)		**Mitigation**	**Significance of Residual Effects** (negative unless indicated otherwise)	
		Construction Stage	**Operational Stage**		**Construction Stage**	**Operational Stage**
Designated Sites	Local	Local (Minor in EIA terms)	Local (Minor in EIA terms)	CEMP implementation	No Significant effects (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)
Ancient Woodland	Irreplaceable to Local	Local (Minor in EIA terms)	No Significant effects (Negligible in EIA terms)	CEMP implementation, retention of habitats wherever possible, retention of stockpiled soil, replacement tree planting, removal of	Site (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)

Table 6.1: Summary of Ecological Receptors, Potential Effects, Mitigation and Residual Effects

				invasive species, education of visitors about the importance of habitats on the site, enhancement of retained habitats, and long term ecological management of habitats on the site		
Habitats	Up to Local Level	Local (Minor in EIA terms)	Local (Minor in EIA terms)	Retention and enhancement of habitats wherever possible, removal of invasive species, creation of new habitats and green infrastructure, education of visitors about the importance of habitats on the site and long term ecological management of habitats on the site	Site (Negligible in EIA terms)	Site, potential for positive effects (Negligible in EIA terms)
Invertebrates	Local Level	Local (Minor in EIA terms)	Site (Negligible in EIA terms)	Provision of new habitats, management of existing habitats to create more diversity, and green infrastructure such as biodiverse roofs and SUDs	Site (Negligible in EIA terms)	Site, potential for positive effects (Negligible in EIA terms)
Amphibians	Site Level	Site (Negligible in EIA terms)	Site (Negligible in EIA terms)	Implementation of an appropriate CEMP, including an	No Significant effects (Negligible	No Significant effects (Negligible in EIA terms)

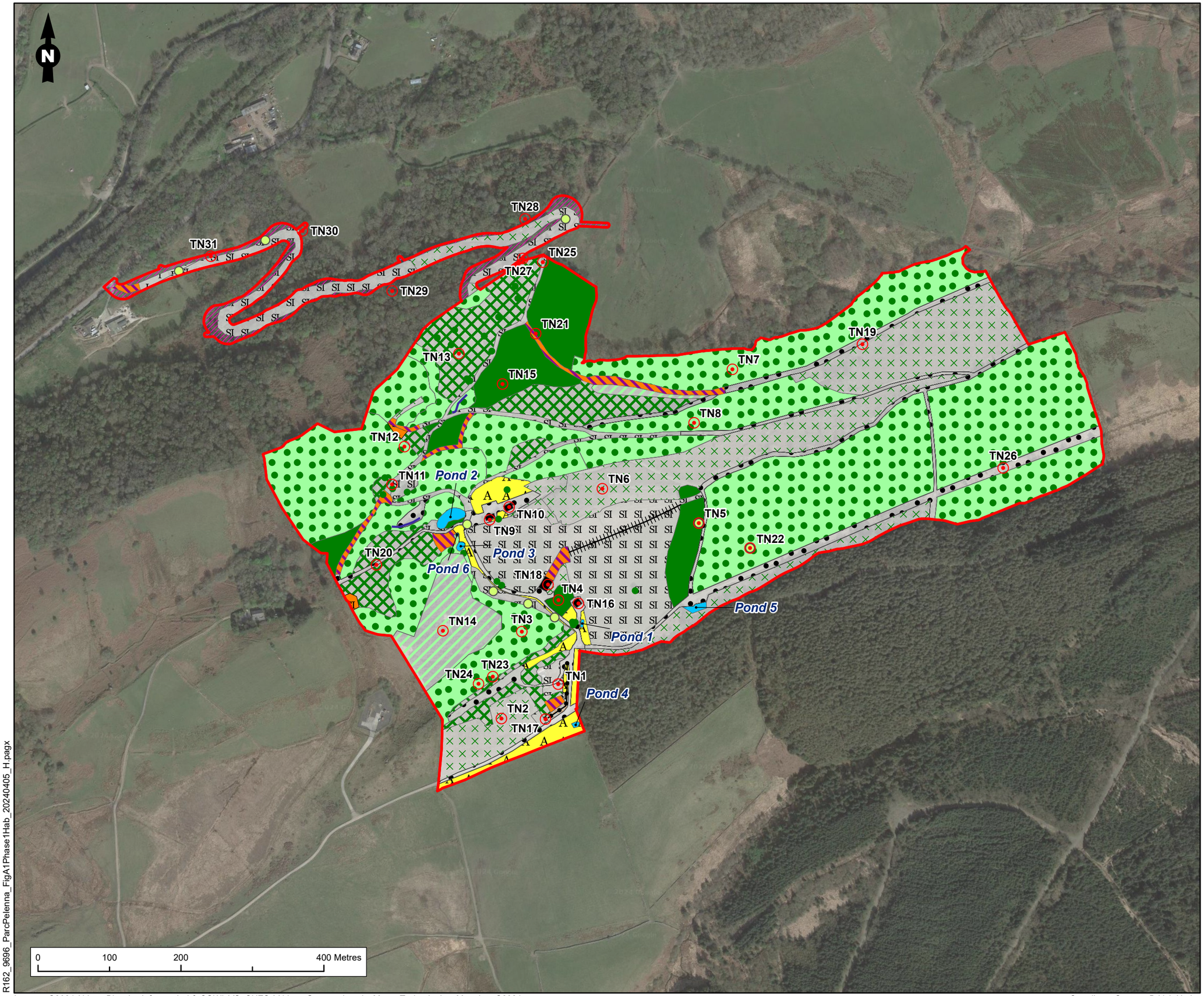
Table 6.1: Summary of Ecological Receptors, Potential Effects, Mitigation and Residual Effects

				ECoW on site during work, provision of new habitat including ponds and wetland features.	in EIA terms)	
Reptiles	Local Level	Site (Negligible in EIA terms)	Site (Negligible in EIA terms)	Detailed Reptile Method Statement mitigation strategy which would include exclusion and/or translocation of individuals from construction areas, work in the presence of an experienced ECoW, and creation of new habitat suitable for reptiles around lodges and in woodland glades	No Significant effects (Negligible in EIA terms)	No Significant effects, potential for positive effects (Negligible in EIA terms)
Birds	Local Level	Local (Minor in EIA terms)	Local (Minor in EIA terms)	Undertake work at suitable times of year, presence of an ECoW during vegetation clearance, provision of new habitat including bird boxes and wetland features, and long term ecological management of the site	Site (Negligible in EIA terms)	No Significant effects, potential for positive effects (Negligible in EIA terms)
Bats	Local Level	Local (Minor in EIA terms)	Local (Minor in EIA terms)	Work under licence to NRW, update surveys of	Site (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)

Table 6.1: Summary of Ecological Receptors, Potential Effects, Mitigation and Residual Effects

				trees due for felling, provision of new roosting and foraging habitat, and a sensitive lighting strategy		
Badger	Site Level	Site (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)	Walkover by an ecologist prior to the start of construction, habitat enhancements	No Significant effects (Negligible in EIA terms)	No Significant effects, potential for positive effects (Negligible in EIA terms)
Hedgehog	Site Level	Site (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)	Removal of vegetation in a sensitive manner and provision of new habitat	No Significant effects (Negligible in EIA terms)	No Significant effects(Negligible in EIA terms)
Polecat	Site Level	Site (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)	Removal of vegetation in a sensitive manner	No Significant effects (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)
Brown Hare	Local Level	Site (Negligible in EIA terms)	Site (Negligible in EIA terms)	Removal of vegetation in a sensitive manner	No Significant effects (Negligible in EIA terms)	No Significant effects (Negligible in EIA terms)

APPENDIX 1
FIGURES



Legend

- Site Boundary
- A3.1 Broadleaved Parkland/ scattered trees
- Target note
- Himalayan Balsam
- I1.1.2 Inland cliff - basic
- J2.4 Fence
- J2.8 Earth Bank
- A1.1.1 Broadleaved woodland - semi-natural
- A1.2.2 Coniferous woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A2.1 Scrub - dense/continuous
- A2.2 Scrub - scattered
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- G1 Standing water
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.4 Introduced shrub
- J3.6 Buildings
- J4 Bare ground
- Not surveyed

Figure Title
Figure A.1. Phase 1 Habitat Survey

Project Name
Parc Pelenna Holiday Resort

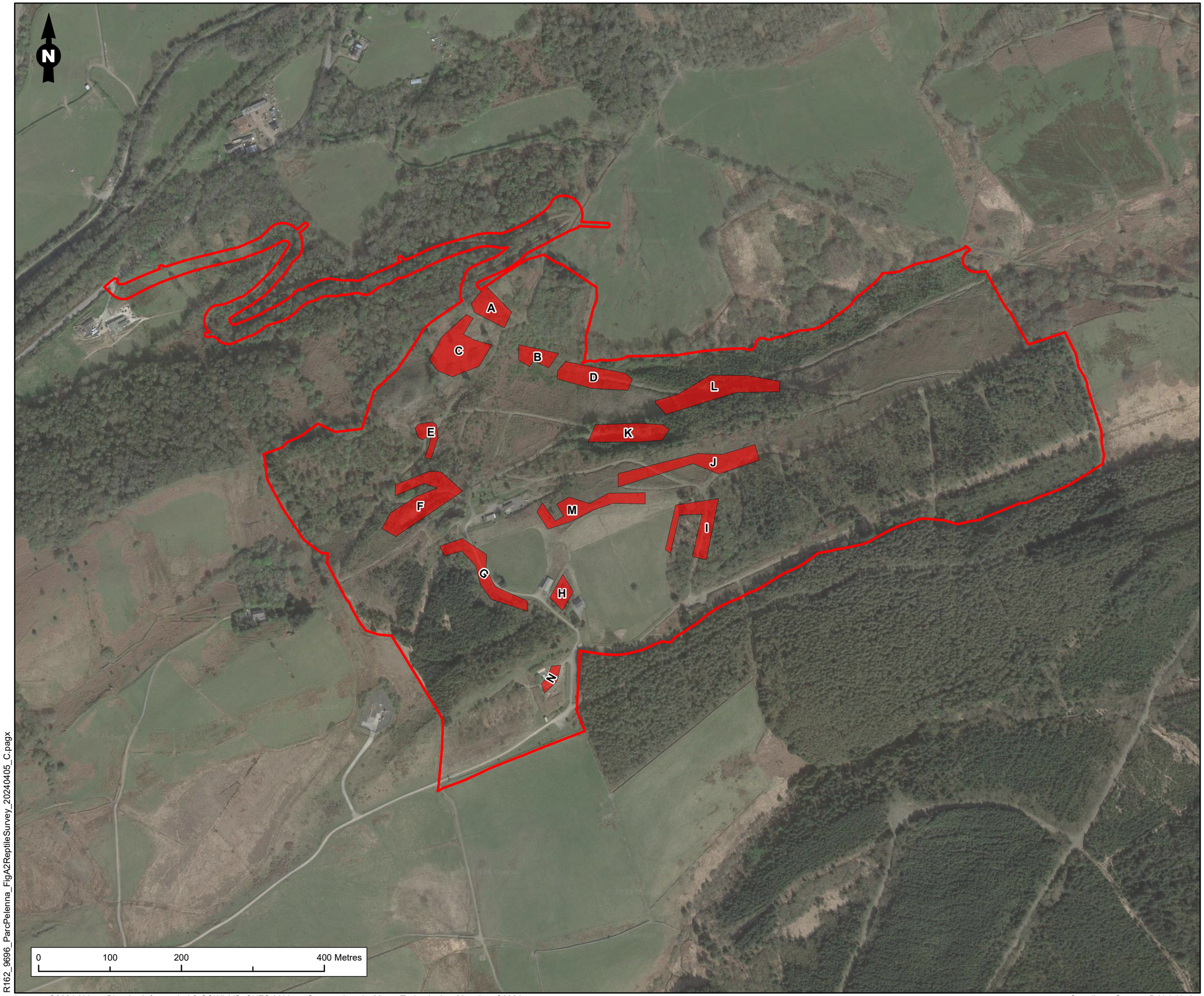
Project Number	Figure No.
1620009696	A.1
Date	Prepared By
April 2024	BE/AB
Scale	Issue
1:5,000 @A3	1

Client
Trivselhus UK Holdings Limited

RAMBOLL

R162_9696_ParcPelenna_FigA1Phase1Hab_20240405_H.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.



Legend

- Site Boundary
- Reptile Survey Area

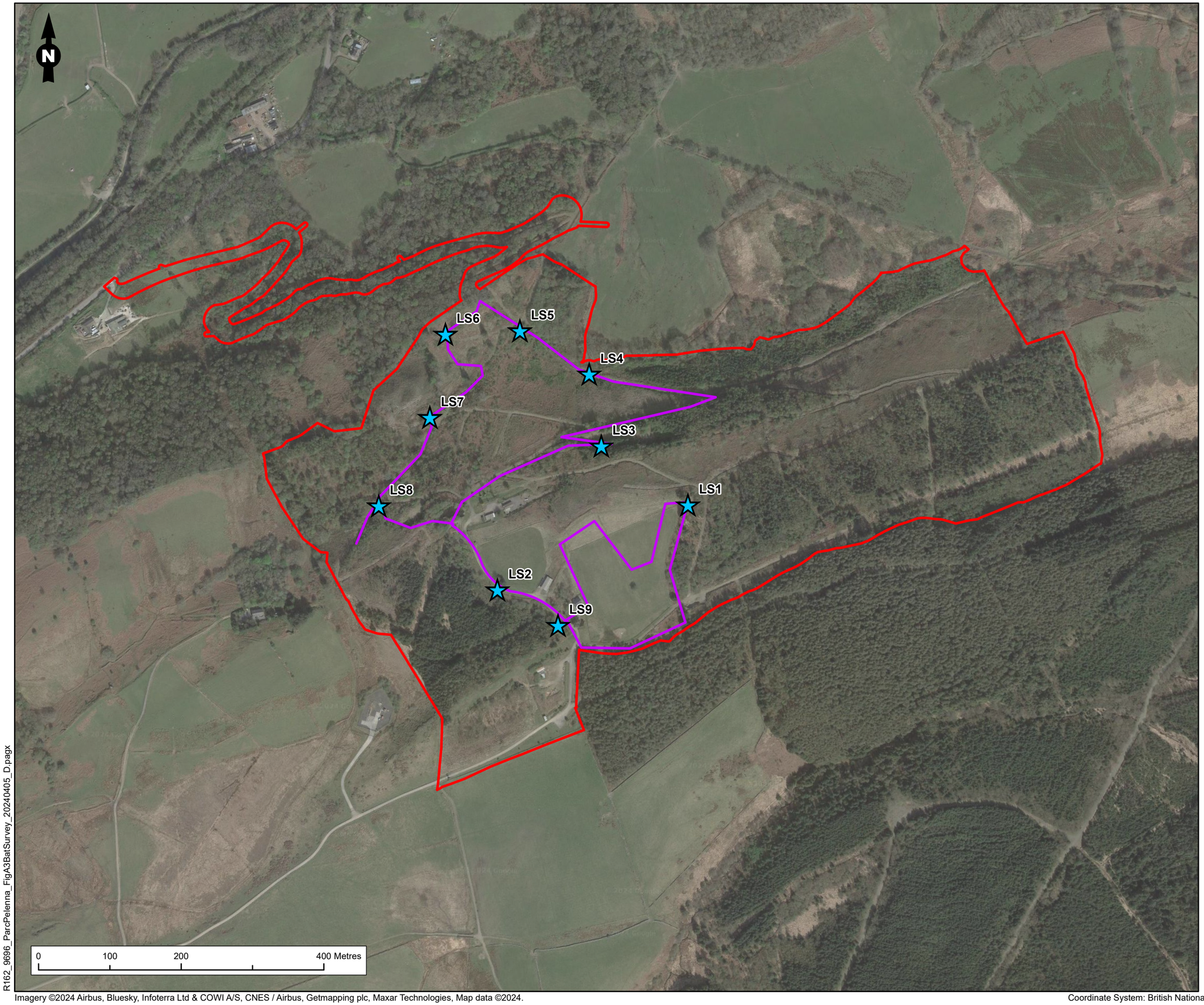
Data shown is digitised and derived from an existing figure produced by Sarah Dale of Avondale Ecology.

Figure Title	Figure A.2 Reptile Survey Areas
Project Name	Parc Pelenna Holiday Resort
Project Number: 1620009696	Figure No.: A.2
Date: April 2024	Prepared By: AB
Scale: 1:5,000 @A3	Issue: 1
Client	**Trivselhus UK Holdings Limited**

RAMBOLL

R162_9696_ParcPelenna_FigA2ReptileSurvey_20240405_C.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.



Legend

- Site Boundary
- Listening Stations
- Bat Activity Transect Route

Data shown is digitised and derived from an existing figure produced by Sarah Dale of Avondale Ecology.

Figure Title
Figure A.3 Bat Activity Transect Route

Project Name
Parc Pelenna Holiday Resort

Project Number	Figure No.
1620009696	A.3
Date	**Prepared By**
April 2024	AB
Scale	**Issue**
1:5,000 @A3	1

Client
Trivselhus UK Holdings Limited

RAMBOLL

R162_9696_ParcPelenna_FigA3BatSurvey_20240405_D.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

N

0 100 200 400 Metres

Legend

Site Boundary

Ancient Woodland Inventory

- Ancient Semi Natural Woodland
- Plantation on Ancient Woodland Site
- Restored Ancient Woodland Site

Phase 1 Classification

- A3.1 Broadleaved Parkland/ scattered trees
- Target note
- Himalayan Balsam
- I1.1.2 Inland cliff - basic
- J2.4 Fence
- J2.8 Earth Bank
- A1.1.1 Broadleaved woodland - semi-natural
- A1.2.2 Coniferous woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A2.1 Scrub - dense/continuous
- A2.2 Scrub - scattered
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- G1 Standing water
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.4 Introduced shrub
- J3.6 Buildings
- J4 Bare ground
- Not surveyed

Figure Title
Figure A.4 Ancient Woodland Designations

Project Name
Parc Pelenna Holiday Resort

Project Number	Figure No.
1620009696	A.4
Date	**Prepared By**
April 2024	BE/AB
Scale	**Issue**
1:5,000 @A3	1

Client
Trivselhus UK Holdings Limited

RAMBOLL

R162_9696_ParcPelenna_FigA4_AncientWoodlandDes_20240405_C.pagx

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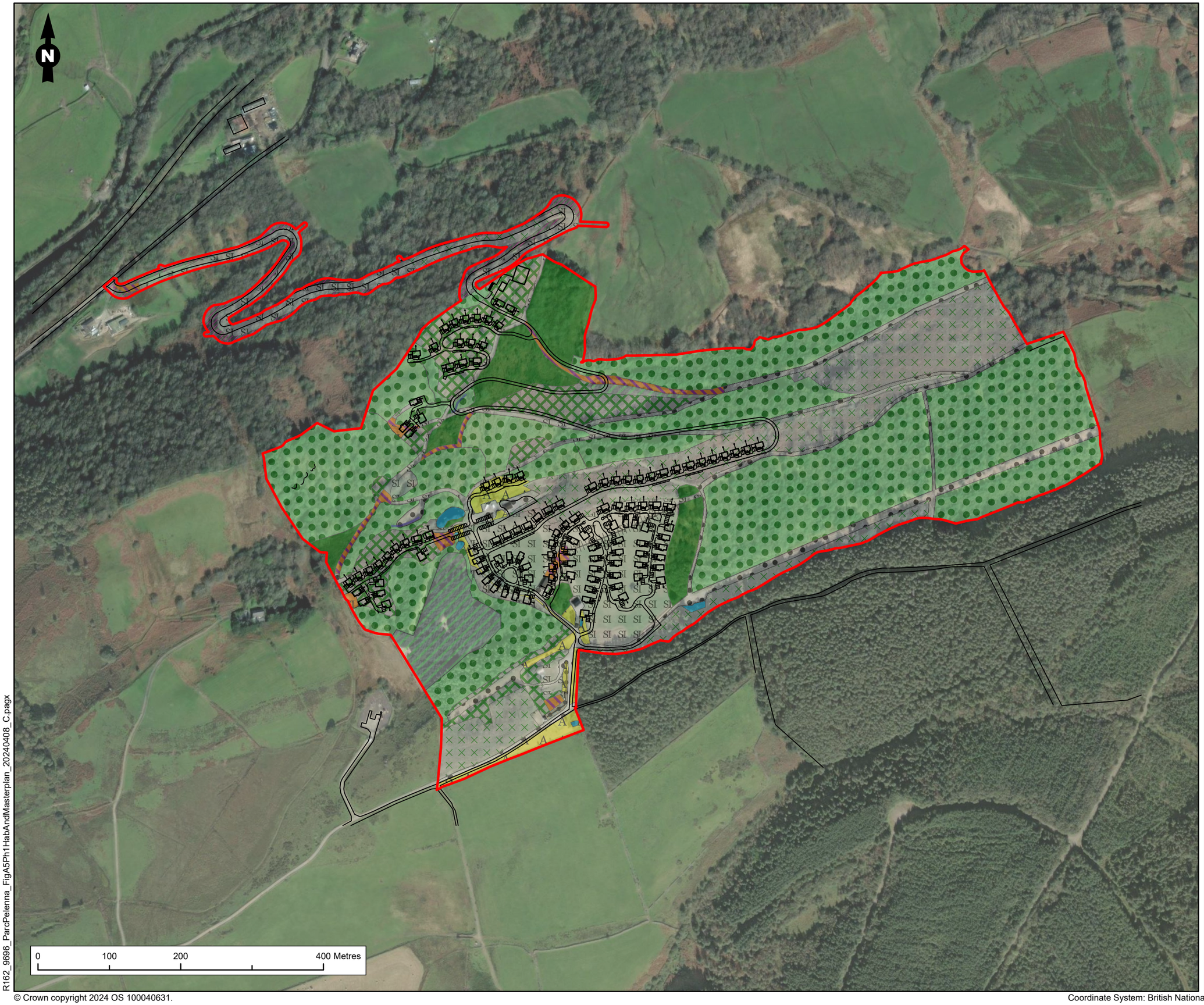

Legend

Site Boundary

Masterplan

Landscape Masterplan Outline

Phase 1 Habitats

I1.1.2 Inland cliff - basic

J2.4 Fence

J2.8 Earth Bank

A1.1.1 Broadleaved woodland - semi-natural

A1.2.2 Coniferous woodland - plantation

A1.3.1 Mixed woodland - semi-natural

A2.1 Scrub - dense/continuous

A2.2 Scrub - scattered

B2.2 Neutral grassland - semi-improved

B4 Improved grassland

B5 Marsh/marshy grassland

B6 Poor semi-improved grassland

G1 Standing water

J1.2 Cultivated/disturbed land - amenity grassland

J1.4 Introduced shrub

J3.6 Buildings

J4 Bare ground

Not surveyed

Figure Title

Figure A5: Phase 1 Habitat Survey with Landscape Masterplan Overlay

Project Name

Parc Pelenna Holiday Resort

Project Number	Figure No.
1620009696	A.5
Date	**Prepared By**
April 2024	BE/AB
Scale	**Issue**
1:5,000 @A3	1

Client

Trivselhus UK Holdings Limited

RAMBOLL

R162_9696_ParcPelenna_FigA5Ph1HabAndMasterplan_20240408_C.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

APPENDIX 2
RELEVANT LEGISLATION AND POLICY

RELEVANT LEGISLATION AND POLICY

Ecological features are protected under various United Kingdom (UK) and European legislative instruments. These are described below. European legislation is not included as it is incorporated in UK legislation by domestic provisions.

Legislation

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Habitats Directive (Council Directive 92/43/EEC)[50] came into force in 1992 and provides for the creation of a network of protected wildlife areas across the European Union (EU), known as 'Natura 2000'. The Natura 2000 network consists of Special Areas of Conservation (SAC) designated under the Habitats Directive and Special Protection Areas (SPA) designated under the Birds Directive (Council Directive 79/409/EEC)[51]. These sites are part of a range of measures aimed at conserving important or threatened habitats and species.

The Conservation of Habitats and Species Regulations 2017[52] (commonly known as the 'Habitats Regulations') transposes the Habitats Directive into national law and set out the provisions for the protection and management of species and habitats of European importance, including Natura 2000 sites. The 2017 bill consolidated all previous versions of the regulations and subsequent amendments since initial transposition, bringing them all under the single heading, and made some minor amendments. It extends to England and Wales, and to a limited extent Scotland and Northern Ireland. Further amendments were made via The Conservation of Habitats and Species and Planning (Various Amendments) (England and Wales) Regulations 2018[53] to ensure they reflect recent European case law (C-323/17 People Over Wind and Sweetman v Coillte Teoranta) in relation to the assessment of plans and projects on sites protected under Council Directive 92/43/EEC on the conservation of natural habitats of wild fauna and flora (the 'Habitats Directive').

In addition to providing for the designation and protection of Natura 2000 sites, the Habitats Regulations provide strict protection for plant and animal species as European Protected Species. Derogations from prohibitions are transposed into the Habitats Regulations by way of a licensing regime that allows an otherwise unlawful act to be carried out lawfully for specified reasons and providing certain conditions are met. Under the Habitats Regulations, competent authorities have a general duty, in the exercise of any of their functions, to have regard to the Habitats Directive and Wild Birds Directive including in the granting of consents or authorisations. They may not authorise a plan or project that may adversely affect the integrity of a European site, with certain exceptions (considerations of overriding public interest).

Following the UK's exit from the EU, EU environmental law continues to operate in the UK. References to EU legislation will be removed from UK legislation from 1 January 2021, and international targets and agreements will be enshrined in UK legislation through the proposed Environment Bill. There will be a new statutory body - The Office for Environmental Protection (OEP)[54].

In 2019, amendments were made to the regulations following the UK referendum to leave the European Union. These changes, labelled the Conservation of Habitats and Species (Amendment)(EU Exit) Regulations 2019, incorporated the EU Natura 2000 network of sites into UK law through the creation of a 'National Site Network', comprised of all Special Areas of Conservation and Special Protected Areas in the UK. Other changes included the creation of management objectives for each National Site Network site, an amended SAC designation process and arrangements to replace the function of the European

[50] European Commission, 1992. Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.
[51] European Commission, 1979. Council Directive 79/409/EEC on the conservation of wild birds.
[52] Her Majesty's Stationery Officer (HMSO), 2017. The Conservation of Habitats and Species Regulations 2017. HMSO.
[53] Her Majesty's Stationery Officer (HMSO), 2018. The Conservation of Habitats and Species and Planning (Various Amendments) (England and Wales) Regulations 2018. HMSO.
[54] https://www.gov.uk/guidance/upholding-environmental-standards-if-theres-a-no-deal-brexit

Commission where projects affecting SACs and SPAs involve imperative reasons of overriding public interest (IROPI).

The Countryside and Rights of Way Act 2000

The Countryside and Rights of Way Act 2000[55] primarily extends to England and Wales. It provides a new statutory right of access to the countryside and modernises the rights of way system, bringing into force stronger protection for both wildlife and the countryside.

The Act is divided into five distinct sections, Part III is of relevance to ecology:

- Part III – Nature Conservation and Wildlife Protection: The Act details measures to promote and enhance wildlife conservation. These measures include improving protection for Sites of Special Scientific Interest (SSSI) and increasing penalties for deliberate damage to SSSIs. Furthermore, the Act affords statutory protection to Ramsar Sites which are wetlands designated under the International Convention on Wetlands[56].

The Wildlife and Countryside Act 1981 (As Amended)

The Wildlife and Countryside Act 1981 (as amended)[57] forms the basis of much of the statutory wildlife protection in the UK. Part I deals with the protection of plants, birds and other animals and Part II deals with the designation of SSSIs.

This Act covers the following broad areas:

- Wildlife – listing endangered or rare species in need of protection and creating offences for killing, disturbing or injuring such species. Additionally, the disturbance of any nesting bird during breeding season is also noted as an offence, with further protection for species listed on Schedule 1. Measures for preventing the establishment of non-native plant and animal species as listed on Schedule 9 are also provided;
- Nature Conservation – protecting those sites which are National Nature Reserves (NNR) and SSSIs;
- Public Rights of Way – placing a duty on the local authority (to maintain a definitive map of footpaths and rights of way. It also requires that landowners ensure that footpaths and rights of way are continually accessible; and
- Miscellaneous General Provisions.

The Act is enforced by local authorities.

Environment (Wales) Act 2016

The Environment (Wales) Act 2016[58] replaces the duty in Section 42 of the Natural Environment and Rural Communities Act (NERC) Act 2006. The 2016 Environment (Wales) Act requires Welsh Ministers to publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales. The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat cited under the Act, and encourage others to take such steps. Part 1 of the Act, including Sections 6 and 7, came into force on May 21, 2016. The priority habitats and species list under Section 7 remains unchanged from Section 42, as based on UK BAP priorities.

[55] Her Majesty's Stationery Officer (HMSO), 2000. The Countryside and Rights of Way Act 2000. HMSO.

56 United Nations Educational, Scientific and Cultural Organization (UNESCO), 1971. Convention on Wetlands of International Importance especially as Waterfowl Habitat, as amended in 1982 and 1987. Ramsar, Iran Published in Paris, 1994

57 Her Majesty's Stationery Office (HMSO), 1981. The Wildlife and Countryside Act 1981 [as amended in Quinquennial Review and by the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006]. HMSO

58 https://www.legislation.gov.uk/anaw/2016/3/contents/enacted

Protection of Badgers Act 1992

The Protection of Badgers Act 1992[59] consolidated previous legislation relating specifically to badgers. The Act makes it an offence to kill, injure or take a badger, or to damage or interfere with a sett unless a licence is obtained from a statutory authority (i.e. Natural England).

Well-being of Future Generations (Wales) Act 2015

The Well-being of Future Generations (Wales) Act 2015[60] requires public bodies to take into account the impact decisions could have on the social, environmental, economic and cultural well-being of people in Wales in the future.

Policy

Planning Policy Wales, Edition 12 (2024)

The Planning Policy Wales Edition 12 [61] (PPW) was updated in 2024 setting out the Welsh Government's planning policies for Wales and how these are expected to be applied. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation and resultant duties such as the Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty) introduced to the Environment (Wales) Act 2016.

In fulfilling the Section 6 Duty, planning authorities must also have regard to:

- the list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
- the SoNaRR, published by NRW;
- any Area Statement, published by NRW, that covers all or part of the area in which the authority exercises its functions and NRW's Nature Network Maps126; and
- guidance given to public authorities by Welsh Ministers under Section 6 of the Environment (Wales) Act.

The PPW recognises that the planning system has a key role to play in helping to reverse the decline in biodiversity and increase the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. It recognises that some biodiversity may be impacted by necessary development, but states that the planning system should ensure that overall there is a net benefit for biodiversity and ecosystem resilience.

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

- support the maintenance and enhancement of biodiversity and the resilience of ecosystems;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats, including the most recent targets set out in the 2022 UN Global Biodiversity Framework;
- ensure statutorily and non-statutorily designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded;
- safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative adverse impacts that affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat; and

[59] Her Majesty's Stationery Office (HMSO), 1992. Protection of Badgers Act 1992. HMSO.
[60] https://www.legislation.gov.uk/anaw/2015/2/contents/enacted
[61] Welsh Government, 2024. Planning Policy Wales. Edition 12. https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf

- secure the maintenance and enhancement of ecosystem resilience and resilient ecological networks by improving diversity, extent, condition, and connectivity.

To support the implementation of the Section 6 Duty, Natural Resources Wales (NRW) has developed the DECCA framework for evaluating ecosystem resilience based on five attributes and properties of ecosystem resilience; Diversity, Extent, Condition, Connectivity and Aspects. Any planning proposal must demonstrate that it has both maintained and enhanced biodiversity and built resilient ecological networks and delivered a Net Benefit for Biodiversity (NBB) (proportionate to the scale and nature of the development proposed). Even if the biodiversity value has been maintained, there must still be a pro-active process to look for and secure enhancement through the design and implementation of the development.

Planning authorities must follow a step-wise approach (which incorporates the DECCA Framework) to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental effects are firstly avoided, then minimised, mitigated, and as a last resort compensated for. Enhancement must be secured by delivering a biodiversity benefit primarily on site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact.

Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009)

This Technical Advice Note[62] provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. It outlines Key Principles of Positive Planning For Nature Conservation, and details local development plans and development control procedures, and how developments must account for affected protected and priority habitats and species.

Biodiversity Action Plans (BAP)

In 1994, the Government produced the UK Biodiversity Action Plan (BAP)[63], a national strategy for the conservation of biodiversity. This led to the creation of the UK Biodiversity Steering Group, which has listed 1150 Species Action Plans (SAPs) and 65 Habitat Action Plans (HAPs). Regional and District/Borough BAPs apply the UK BAP at a local level.

From July 2012, the 'UK Post-2010 Biodiversity Framework'[64] succeeds the UK BAP. This is a result of a change in strategic thinking following the publication of the 'Convention on Biological Diversity's Strategic Plan for Biodiversity 2011-2020'[65] and its 20 'Aichi targets'[66], at Nagoya, Japan in October 2010, and the launch of the new EU Biodiversity Strategy (EUBS) in May 2011.

The UK Post-2010 Biodiversity Framework constitutes the UK's response to these new 'Aichi' strategic goals and associated targets. The Framework recognises that most work which was previously carried out under the UK BAP is now focussed on the individual countries of the UK (and Northern Ireland) and delivered through each countries' own strategies.

Following the publication of the new Framework, the UK BAP partnership no longer operates. However, many of the tools and resources originally developed under the UK BAP remain of use. The UK list of priority species has been used to help draw up statutory lists of priorities in England, Scotland, Wales and Northern Ireland.

Neath Port Talbot Local Development Plan (2011-2026)

[62] Welsh Assembly Government, 2009. https://gov.wales/sites/default/files/publications/2018-09/tan5-nature-conservation.pdf
[63] Her Majesty's Stationery Office (HMSO), 1994. Biodiversity: The UK Action Plan. HMSO.
[64] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012. UK Post-2010 Biodiversity Framework. July 2012. jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf
[65] https://www.cbd.int/sp/
[66] https://www.cbd.int/sp/targets/

Neath Port Talbot Local Development Plan[67] guides the future development of the area, providing a clear vision for the County Borough setting out where, when and how much new development can take place. It details the Strategic Policy SP15 (Biodiversity and Geodiversity) and detailed policies EN6 (Important Biodiversity and Geodiversity Sites) and EN7 (Important Natural Features).

Supplementary Planning Guidance: Biodiversity and Geodiversity (May 2018)

Supplementary Planning Guidance: Biodiversity and Geodiversity[68] provides information and guidance setting out the expectations on all development proposals to protect, conserve, enhance and manage important habitats, species and sites of geological interest within Neath Port Talbot. It sets out the measures that will be taken through the planning system to meet the relevant objectives set out in the Local Development Plan.

Neath Port Talbot Biodiversity Duty Plan 2023-2026

The Neath Port Talbot Biodiversity Duty Plan[69] (the Plan) builds on the achievements of the previous Biodiversity Duty Plan (2020-2023), to safeguard and enhance the borough's unique and diverse habitats and species, foster a deeper connection between residents and their natural surroundings and contribute to the global commitment to biodiversity conservation and sustainability. The actions assigned to the Plan have been drawn up in line with the objectives of the Welsh Government's Nature Recovery Action Plan (NRAP) for Wales. The Plan includes six of the objectives set out in the NRAP needed in Wales to deliver its ambition to reverse the decline in biodiversity, as relevant to the borough. These include requirements such as embedding biodiversity into decision making at all levels, managing and enhancing habitats, improving understanding and monitoring of biodiversity, and putting in place a framework for delivery.

[67] Neath Port Talbot County Borough CouncilLocal Development Plan (2011-2026). Adopted January 2016. Available at https://www.npt.gov.uk/PDF/ldp_written_statement_jan16.pdf
[68] Neath Port Talbot County Borough Council, 2018. Supplementary Planning Guidance: Biodiversity and Geodiversity.
[69] Neath Port Talbot County Borough Council, 2024. Biodiversity Duty Plan (2023-2026) Available at: https://democracy.npt.gov.uk/documents/s93462/Biodiversity%20Duty%20Plan%202023-2026.pdf

APPENDIX 3
INVERTEBRATE REPORT

Commissioned by
Ramboll UK Ltd
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SE1 8NW

Parc Pelenna

Neath Port Talbot

INVERTEBRATE SURVEY REPORT

October 2020

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Table of Contents

1.0 INTRODUCTION

1.1 Introductory comments

Liam Olds (Colliery Spoil Biodiversity Initiative) was commissioned by **Ramboll UK Ltd** to undertake an invertebrate survey of land at Parc Pelenna, near Neath, South Wales, in 2020. The primary aim of this survey was to assess the suitability (i.e. quality) of habitats present at Parc Pelenna for invertebrates and whether these habitats have the potential to support species of 'conservation interest' (i.e. species considered Nationally Local, Nationally Scarce or Nationally Rare, and/or listed under Section 7 of Environment (Wales) Act 2016 as 'species of principal importance' in Wales).

Surveying was undertaken by the author of this report (Liam Olds) – an experienced entomologist, and former entomological apprentice at Amgueddfa Cymru (National Museum of Wales), who is familiar with the invertebrate fauna of South Wales. Liam has been working as a freelance entomological consultant across Wales for over 5 years, alongside his role as 'Conservation Officer' for Buglife – The Invertebrate Conservation Trust.

Surveying at Parc Pelenna involved a site walk-over to become familiar with the habitats present, and a visual assessment of the 'quality', and therefore importance, of these habitats for invertebrates. Limited amounts of invertebrate sampling were deployed in areas considered to be of 'greatest importance' to invertebrates in an attempt to locate any species of 'conservation interest' that may be present. This report details the results of that survey, which was conducted over a single daytime visit in September 2020. It is anticipated that the results presented in this report will assist with masterplanning development on the site (Laura Sanderson, personal communication).

1.2 Site description

Parc Pelenna is an area of predominately former plantation woodland situated on the south side of the Neath Valley, South Wales (NGR SS8099; Google Map). The site covers an area of approximately 83.5 acres (or ~ 33.8 hectares) and is located around 1 kilometer (km) south of the village of Clyne, Neath Port Talbot. The boundary of Parc Pelenna is indicated in **Map 1** (outlined in white).

At its centre, Parc Pelenna is composed of a series of residential dwellings and farm buildings (with associated infrastructure), two large areas of poor semi-improved grassland, and a series of ponds. Away from these areas, a mix of semi-natural habitats has seemingly established through natural succession following the clear-felling of plantation woodland – these are now predominately areas of dense scrub and young, secondary woodland. Some sizeable blocks of mixed woodland and former coniferous plantation woodland also exist. A phase 1 habitat survey map showing the habitats present at Parc Pelenna can be found in **Map 2**.

Map 1. An aerial photograph showing the study site, Parc Pelenna (the site boundary is outlined in white). Image © 2020 Google.

Map 2. An aerial photograph showing the study site, Parc Pelenna, with overlaid Phase 1 Habitat Survey data (courtesy of Ramboll UK Ltd). Image © 2020 Google.

1.3 Survey limitations

There are a number of limitations associated with the survey at Parc Pelenna. The first of these is the late survey date. As the author of this report (Liam Olds) was not approached to conduct invertebrate surveys at Parc Pelenna until late August, the first (and final) site visit was not made until early September 2020. This meant that no site visits were made during the spring and summer months when most invertebrates (especially insects) are active. As such, only species active in late summer and early autumn could be accounted for. Some caution needs to be taken, therefore, when interpreting the results of this report as there will undoubtedly be further species present at Parc Pelenna that have not yet been accounted for.

A further limitation was the restricted time available to fully explore Parc Pelenna and assess the 'quality' of available habitats. Only a single day was made available to walk the entire site (~83.5 acres), much of which is located on uneven terrain that is difficult to navigate. Though all broad habitats identified from the Phase 1 Habitat Survey (**Map 2**) were visited to visually assess their 'quality' for invertebrates, the limited time available did not allow for invertebrate sampling in each of these habitats. Instead, invertebrate sampling focused on a smaller number of habitats representative of the wider habitats present at Parc Pelenna.

As the primary aim of the survey at Parc Pelenna was to assess the suitability, and therefore 'quality', of habitats present for invertebrates, I am of the impression, however, that the limitations described above are not likely to significantly alter the overall conclusions drawn here. All broad habitats present at Parc Pelenna were visited and visually assessed for their suitability and importance for invertebrates. As discussed later in this report, much of Parc Pelenna is dominated by habitats deemed to be little value to invertebrates and of Local importance only. Though further survey effort (especially in spring and summer) would undoubtedly discover further invertebrate species at Parc Pelenna, the habitats remain of 'low quality' and are unlikely to support many (or indeed, any) species of 'conservation interest' that would need consideration in future development proposals.

2.0 SAMPLING

2.1. Survey dates

The invertebrate survey at Parc Pelenna was conducted over a single daytime visit in September 2020. Surveying time was approximately 4 hours and 45 minutes. Weather conditions during the survey, and the activities undertaken, are provided in **Table 1**. The sampling techniques deployed at Parc Pelenna are discussed in Section 2.2.

Table 1. Weather conditions during the survey at Parc Pelenna.

Survey Date	Survey Time	Activity	Weather conditions

6th Sept 2020	4 hours, 45 mins	Familiarisation with habitats present by walking around survey area. Visual assessments made of the quality of available habitats for invertebrates. A variety of sampling techniques were deployed in areas of 'greatest importance' to invertebrates in order to sample for as many invertebrate taxa as possible.	Sunshine and heavy showers. Maximum air temperature of 18°C. Moderate breeze with wind speeds of 11 MPH (miles per hour) coming from an easterly direction.

2.2 Survey methodology

Based on the professional opinion of the surveyor, habitats at Parc Pelenna were visually inspected and their importance for invertebrates considered within a defined geographical context following CIEEM (2018) guidelines (i.e. International importance, National importance, Regional importance, Local importance etc.).

Where possible, terrestrial invertebrates were sampled in these habitats using several different active sampling techniques including:

- **Aerial netting** - a lightweight 40cm diameter net mounted on a meter long pole was used to catch flying insects as and when encountered.
- **Beating trees and bushes** - a beating tray, consisting of a white cloth sheet supported by a frame, was positioned below branches of trees and bushes which were subsequently tapped with a stick to dislodge insects within the foliage. Target taxa were then selectively removed using an aspirator (or pooter).
- **Hand searching** - this involved looking under/inside rotting logs, and looking under stones/boulders for invertebrates that may be feeding, resting or sheltering.
- **Sweep netting** - a sturdy 40cm diameter net mounted on a meter long pole was moved vigorously through long vegetation and over bushes and tree foliage to dislodge invertebrates. Target invertebrates were then selectively removed from the sweep net using an aspirator.

All sampling was undertaken by the author – an experienced entomologist familiar with the invertebrate fauna of South Wales. Where possible, invertebrates were identified to species level in the field using a x10 hand lens. Due to the difficulties in species identification among some taxa, a limited number of specimens were collected and retained for subsequent identification. Most samples were stored dry and later pinned to aid identification. All specimens were identified by the author using an x20-x40 binocular microscope and the

appropriate identification keys (see Section 8.0). Specimens were also compared against verified reference material in the personal entomological collections of the author.

2.3 Target groups

Principal target groups for the survey were:

- **Coleoptera** → Apionidae (seed weevils), Chrysomelidae (leaf beetles) and Curculionidae ('true' weevils)
- **Diptera** → Cylindrotomidae (long-bodied craneflies), Limoniidae (limonid craneflies), Pediciidae (hairy-eyed craneflies), Ptychopteridae (phantom craneflies), Syrphidae (hoverflies) and Tipulidae (craneflies)
- **Hemiptera** → Heteroptera ('true bugs')
- **Hymenoptera** → Aculeata (bees and wasps)

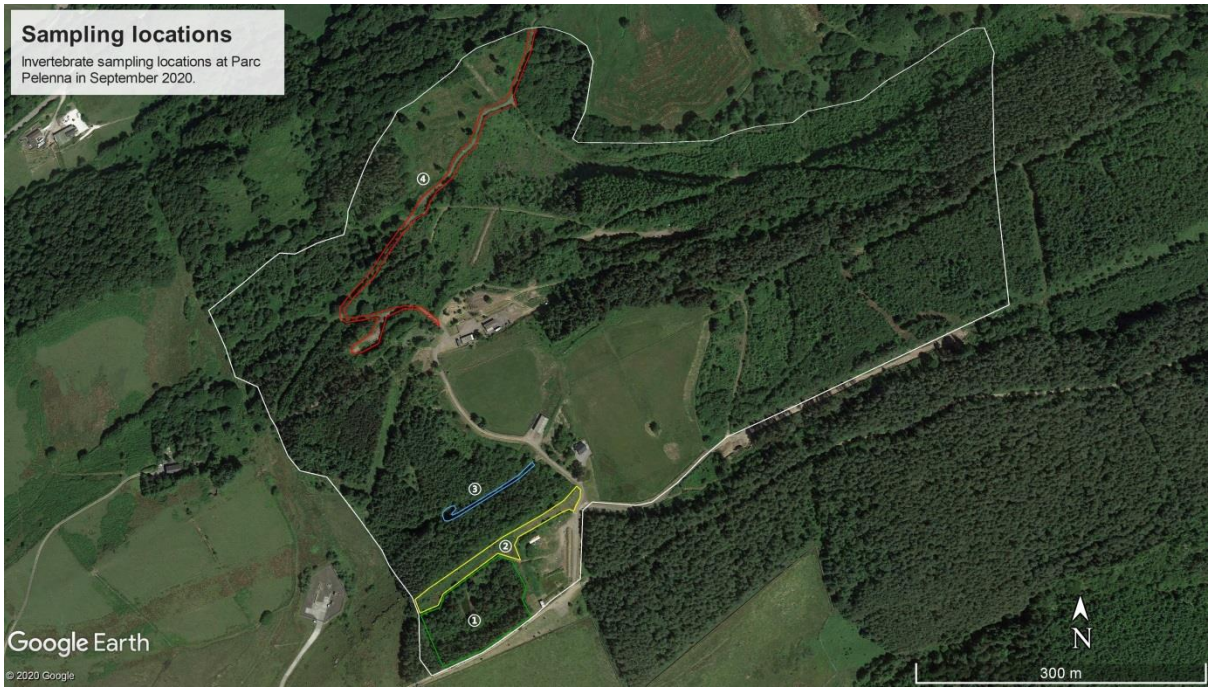
These target groups were chosen as they support species with varied life histories and could be presumed to be present within habitats at Parc Pelenna at the time of surveying. These groups also partly reflect the interests and experience of the surveyor (Liam Olds).

Areas considered to be of greatest importance to invertebrates were targeted in order to achieve coverage of the target groups. Incidental records of other invertebrate taxa were recorded when encountered. This included taxa such as Lepidoptera (butterflies and day-flying moths) and Orthoptera (grasshoppers and crickets), in addition to additional Coleopteran (beetle) and Dipteran (fly) families.

2.4 Sampling locations

Invertebrate sampling at Parc Pelenna focussed on, but was not limited to, four major areas (see areas 1 to 4 in **Map 3**). These areas were selected for targeted invertebrate sampling as they were deemed representative of the wider habitats present at Parc Pelenna.

Map 3 (below). An aerial photograph showing the study site, Parc Pelenna (site boundary outlined in white), and the location of the four main invertebrate sampling locations (outlined in green, yellow, blue and red respectively). Image © 2020 Google.



Area 1: An area of recently clear-felled plantation woodland that is currently in the early stages of natural regeneration (Image 1). Much of this regeneration is dominated by grasses, rushes, ferns and bramble scrub, though further plant diversity is present. This area also includes a number of young birch trees. This area is outlined in green in Map 3.

Image 1. View looking north-east across Area 1 towards the gatehouse.

Area 2: An area of disturbed ground and semi-improved grassland (Image 2) situated between two blocks of broadleaf scrub/woodland. This area is outlined in yellow in Map 3.

Image 2. View looking north-east across Area 2.

Area 3: A grassy pathway through an area of mixed woodland which terminates at a raised mound within a small woodland glade, below which are a series of water bodies (Image 3) which could prove valuable to aquatic invertebrates and amphibians. This area is outlined in blue in Map 3.

Image 3. Vegetated water body within woodland glade in Area 3.

Area 4: A vehicle access track heading down the valley hillside in a north to north-easterly direction. This track is bounded on either side by dense corridors of scrub (predominately

broadleaf trees, bramble and bracken), with scattered mature broadleaf and coniferous trees (Image 4 & 5). It is presumed that these tracks are forestry tracks associated with former plantation woodland at Parc Pelenna. Several quarries and exposed cliff faces also exist along these tracks. This area is outlined in red in Map 3.

Image 4. View looking up the vehicle access track in a south-westerly direction.

Image 5. View looking up the vehicle access track in a south-westerly direction from another point along Area 4.

3.0 RESULTS

3.1 Overview

At total of **51** terrestrial invertebrate species were positively identified from the survey at Parc Pelenna – a full list of all recorded invertebrate species is presented in **Appendix 1**. The list is annotated with formal National Status codes, where applicable. These status codes are also explained in Appendix 1.

Of the **51** terrestrial invertebrate species recorded, **none are of 'conservation interest'** (i.e. species considered to be Nationally Local, Scarce or Rare, and/or are listed under Section 7 of the Environment (Wales) Act 2016 as Species of Principal Importance in Wales).

3.2 Section 7 species

Two additional non-invertebrate species were recorded during the survey, however, both of which are listed under Section 7 of the Environment (Wales) Act 2016 as a '*species of principal importance for conservation of biological diversity in Wales*'. These are **Brown Hare (*Lepus europaeus*)** and **Common Lizard (*Zootoca vivipara*)**. The former was first sighted in an area of dense broadleaf scrub around NGR SS80009920 and then again in mixed woodland around NGR SS80039924 (very likely to be the same individual on both instances). The latter species was sighted under reptile refugia in an area of open grassland and heath mosaic at NGR SS8033099423.

4.0 SITE EVALUATION

4.1 Overview

The survey at Parc Pelenna identified just **51 species of invertebrate** (Appendix 1) – a disappointing total given the respectable size of the study site. Of these 51species, none are considered to be of 'conservation interest'. On the basis of the results presented here, I am of the opinion that Parc Pelenna is of **Local importance for invertebrates** only. Though the limited time available for invertebrate sampling at Parc Pelenna and the late sampling date are likely to have contributed to the low species diversity reported above, the habitats present at Parc Pelenna are predominately of 'poor quality' to invertebrates. Visual assessments of the broad habitats examined at Parc Pelenna are discussed below.

4.2 Coniferous and recently felled woodland

Coniferous plantation woodland appears to have historically dominated much of Parc Pelenna. Where such plantation woodland remains, it is typical of many other plantation woodlands in Wales and is of local importance to invertebrates, supporting densely packed trees, a closed canopy and little ground flora. Most areas of former plantation woodland at Parc Pelenna appear to have now been clear-felled (Map 2). It appears that this clear-felling has occurred relatively recently, leaving little time for natural regeneration to take effect. All

areas of recently felled woodland at Parc Pelenna were found to be in the early stages of natural regeneration and dominated largely by grasses, rushes, bramble and/or bracken (e.g. Image 1). All areas of recently felled woodland at Parc Pelenna are thus deemed to be of site importance to invertebrates in their current state. Given an opportunity, however, these areas could naturally regenerate into an interesting mosaic of semi-natural habitats (e.g. fridd) of value to invertebrates and wider wildlife. Though difficult to define, *fridd* (also known as 'coedcae' in South Wales) refers to a mix of vegetation communities found at the lowland-upland interface (UK NEA, 2011). Ffridd usually contains a combination of various habitats including a diverse mixture of grass and heathland with bracken, scrub (often hawthorn and gorse) or rock exposures; it may also include flushes, mires, streams and standing water (UK NEA, 2011).

4.3 Mixed Woodland

Numerous blocks of mixed woodland also exist at Parc Pelenna (Map 2). It was not possible to enter all of these woodland blocks (particularly those in the north-west corner of Parc Pelenna) due to the steep terrain and physical barriers to entry (i.e. dense scrub). Of those that could be entered included the large block of mixed woodland in the south-east corner of Parc Pelenna (NGR SS804994). Though evidently supporting both coniferous and broadleaf woodland, it appears to be predominately occupied by young broadleaf woodland and scrub; this has presumably developed through natural regeneration following historic clear-felling of plantation woodland. This woodland is of local importance to invertebrates in its current state, dominated by young, closely packed broadleaf trees (especially birches and willows) and a dense bramble understory (Image 6).

Image 6. View looking north-east into the mixed woodland block at approximately NGR SS80329935.

To improve its value to invertebrates, this woodland would benefit from targeted tree/scrub removal to create woodland rides and glades in some areas. Such rides and glades will open up the woodland canopy, bringing sunny conditions into the heart of the woodland and encourage more flowery conditions that are particularly valuable for pollinator foraging. It is important to note, however, that shaded wet woodland is also important to invertebrates (especially as breeding locations for some pollinators) and so it is useful to maintain both open and shaded areas. As such, any woodland ride or glade creation should ideally target dry areas. It may also be beneficial to create wetland features within the woodland (e.g. a new pond or non-draining ditch) where such features are currently absent.

This woodland block was also found to support smaller sections of other habitats such as grassland and heathland. Efforts should be made to conserve these habitats by preventing further scrub encroachment, and ideally looking to enhance and extend these habitats through targeted woodland/scrub clearance in and around them.

The mixed woodland block at the northern entrance to Parc Pelenna (NGR SS801997) was also found to be of local importance to invertebrates on the basis of its young, densely packed trees (predominately willows *Salix spp.*) and its dense bramble understory. This woodland could benefit from similar inventions as those described above.

4.4 Scrub

Several areas of scrub exist at Parc Pelenna, the majority of which are located on the north side of Parc Pelenna (Map 2). These areas were found to be dominated largely by bracken and scattered broadleaved trees. It was not possible to enter these areas due to the physical barrier created by the scrub which prevented entry. As such, it was not possible to evaluate the importance of these areas for invertebrates. It is presumed, however, that these areas support some invertebrate value on the basis of the broadleaved trees they support, some of which are valuable sources of blossom for insects in spring (sallows *Salix spp.*, Hawthorn *Crataegus monogyna* etc.), and so they could prove to be important habitats for invertebrates at Parc Pelenna. Further survey effort in spring/summer would be needed to explore this further. In light of an absence of such information, avoiding development in these areas is recommended at present.

It is important to note that these bracken covered slopes could potentially provide suitable breeding habitat for fritillary butterflies such as Small pearl-bordered fritillary (*Boloria selene*) and Dark green fritillary (*Speyeria aglaja*) – the former of which is considered a Section 7 priority species in Wales. Targeted surveys would be needed in spring and early summer to determine whether such species are present at Parc Pelenna and to fully assess the importance of these areas. Given that these bracken covered slopes are of a northerly aspect, in contrast to their 'favoured' south-facing aspect for breeding, the presence of these butterfly species does seem unlikely however.

A linear strip of broadleaf scrub towards the south-east of the site (NGR centred at SS80049922) was also visually examined to assess its invertebrate 'importance' (Map 2). This

strip, which borders a block of mixed woodland to the north and disturbed ground to the south (Area 2, Image 2), was found to be largely of poor quality and of site importance to invertebrates only owing to its young, densely-packed broadleaved trees with little to no understory (Image 7). A natural cliff face does exist within this scrub block, however, around NGR SS80029921. Here, the rocky substrate has seemingly limited natural regeneration, hindering tree establishment and creating somewhat of a woodland glade amongst the scrub (Image 8). This area was deemed to be of local importance to invertebrates and is likely to be among the most important locations for invertebrates at Parc Pelenna owing to its diverse woodland understory (in comparison to other woodland habitats at Parc Pelenna), supporting good stands of plants such as Bilberry (*Vaccinium myrtillus*). As such, development in this area should be avoided wherever possible. The removal of young trees is advisable in this area to maintain and further extend this woodland glade. Either side of this woodland glade, targeted scrub removal and thinning is advised to open-up the woodland canopy and ensure the Bilberry understory is not lost – heavy shading caused by the densely packed trees is evidently resulting in the decline of woodland flora. Without management intervention, this woodland understory is likely to be lost in future years.

Image 7. Dense broadleaf scrub at approximately NGR SS79999918.

Image 8. A natural woodland glade with Bilberry understory at NGR SS80029921.

4.5 Other habitats

All areas of grassland habitat at Parc Pelenna were found to be relatively species-poor and of negligible importance to invertebrates. Opportunities exist to enhance these grasslands, however, especially around the residential dwellings. Here, the implementation of better grassland management (such as a reduction in the frequency of mowing, or leaving some areas uncut for much of the year) would likely boost invertebrate interest. Should the soil nutrient levels be too high to encourage a diverse and flower-rich sward, turf stripping or topsoil removal (approximately the upper 20 cm) may be needed to reveal the nutrient-poor subsoil. These areas can then be seeded with native, 'pollinator-friendly' plants or simply left to encourage the natural seed bank. Should any seed sowing be implemented, native plants of local provenance should be selected as these better reflect the local area.

Though not sampled for their invertebrate fauna, a visual assessment of the three ponds present at Parc Pelenna suggests that they are likely to be of local importance to invertebrates. Any proposed development should ensure that works do not hinder these water bodies.

5.0 RECOMMENDATIONS

The author was not made aware of the proposed development plans at Parc Pelenna and, as such, it is not possible to provide specific recommendations regarding this development and its impact on invertebrates. It is suggested, however, that the following recommendations could be implemented in any development proposal to enhance the habitats currently present at Parc Pelenna to ensure there is no net loss of biodiversity. This could include:

- Allowing areas of recently felled woodland to naturally regenerate, encouraging native flora wherever possible;
- The creation of glades and rides in areas of scrub and woodland (coniferous, broadleaved and mixed) to open up the woodland canopy and encourage more flowery conditions;
- The creation of wetland features (e.g. a new pond or non-draining ditch) within woodlands where such features are currently absent, and the conservation of these features where they do exist;
- Encouraging a diversity of habitats within woodlands by conserving, enhancing and extending other semi-natural habitats (e.g. grassland, heathland, wetlands) present in these woodlands through targeted tree and scrub removal in and around them;
- Implementation of a more sympathetic grassland management regime in amenity grassland areas to encourage a more diverse, flower-rich sward. Turf-stripping and seed sowing may be required;
- Strategic planting of native blossoming tree and shrub species to boost floral resources for invertebrates. This would be best implemented in areas currently devoid of blossoming plants such as amenity grassland areas around residential dwellings. Spring blossoming trees and scrubs such as willows, blackthorn, hawthorn and wild cherry are recommended as these are important for pollinating insects. Any other 'pollinator friendly' plants are also advised;
- Incorporation of sparsely-vegetated, south-facing banks and slopes (i.e. bee banks) into development plans to provide invertebrate nesting, hunting and basking opportunities – this will also benefit reptiles such as Common Lizard *Zootoca vivipara*;
- Incorporation of 'green roofs' into any development design plans, where possible, as a means of providing additional forage habitat for flower-visiting insects;
- Considering the introduction of 'bee bricks' into any development (where applicable) as additional nesting habitat for aerial-nesting insects such as solitary bees and wasps. These 'bee bricks' should ideally be placed in warm, sheltered locations (i.e. a southerly aspect). The erection of bee hotels may also provide additional nesting habitat for solitary bees and wasps;
- Retaining as much semi-natural habitat at Parc Pelenna as possible – the greater the area of habitat retained, the greater the opportunities available to invertebrates; and
- Generally seeking to maintain or create a diversity of habitats including bare ground, grassland, scrub, wetland and woodland – such habitat mosaics are important to invertebrates, many of which require two or more habitats to complete their lifecycle.

6.0 SUMMARY

To summarise, Parc Pelenna is currently considered to be of **Local importance for invertebrates** only. This appears justified given the low invertebrate species diversity

encountered during the survey, and the general low suitability (i.e quality) of habitats present for invertebrates. Though Parc Pelenna will undoubtedly be of local significance (providing a refuge for species in an otherwise very sterilised, agricultural setting), it is not considered of significant importance in a county, regional or national context and any loss of habitats is unlikely to be significantly detrimental to local invertebrate populations. Significant opportunities exist, however, to enhance the habitats currently present at the Parc Pelenna and such measures should be implemented during any development to ensure there is no net loss of biodiversity and, ideally, a net gain. Simple measures such a better grassland management, strategic planting of blossoming trees and shrubs across the site, the implementation of woodland management to create woodland rides and glades, and encouraging the natural regeneration of recently-felled plantation woodland, will all act to enhance invertebrates and wider wildlife at Parc Pelenna.

7.0 REFERENCES

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

UK NEA (UK National Ecosystem Assessment). 2011. *The UK National Ecosystem Assessment: Synthesis of Key Findings*. UNEP-WCMC, Cambridge (Chapter 20 - Status and Changes in the UK's Ecosystems and their Services to Society: Wales).

8.0 IDENTIFICATION KEYS

The following identification keys were used to identify invertebrate specimens collected at Parc Pelenna, in addition to unpublished keys sourced from organisers of national recording schemes:

Arachnida

- Roberts, M. J. (2001). Collins Field Guide to the Spiders of Britain and Northern Europe. London: HarperCollins Publishers Ltd.

Coleoptera

- Duff, A. G. (2016). Beetles of Britain and Ireland, Volume 4: Cerambycidae to Curculionidae. A. G. Publishing.
- Luff, M. L. (2007). The Carabidae (ground beetles) of Britain and Ireland. RES Handbook Volume 4, Part 2 (2nd edition). Shrewsbury: Field Studies Council.

Diptera

- Boardman, P. (2016). Shropshire Craneflies. Shrewsbury: Field Studies Council.

- Stubbs, A. E. & Falk, S. (2002). British hoverflies, an illustrated identification guide. Second edition. Reading: British Entomological and Natural History Society.

Hemiptera

- Southwood, T. R. E. & Leston, D. (1959). Land and Water Bugs of the British Isles. Frederick Warne & Co. Ltd.

Hymenoptera

- Falk, S. J. & Lewington, R. (2015). Field Guide to the Bees of Great Britain and Ireland. British Wildlife Field Guide. London: British Wildlife Publishing.

APPENDIX 1: List of invertebrate species positively identified at Parc Pelenna in 2020. An explanation of the status categories used is given below. Species of 'conservation interest' are highlighted in red. Note that the species list also contains two non-invertebrate species recorded during the survey.

Status

- **Section 7** = Species considered to be '*of principal importance for conservation of biological diversity in Wales*' under Section 7 of the Environment (Wales) Act 2016.
- Where Status is blank, this species is considered to be common and widespread.

Species	Common Name	Family	Order	Conservation status	Broad biotope	Habitat	Area Recorded (if known)
Agalenatea redii	A orbweaver spider	Araneidae	Araneae		open habitats		1
Araneus diadematus	Garden cross spider	Araneidae	Araneae				1, 4
Araneus quadratus	Four-spotted orbweaver spider	Araneidae	Araneae				4
Dictyna sp.	A spider	Dictynidae	Araneae				2
Linyphia triangularis	A money spider	Linyphiidae	Araneae				4
Metellina sp.	A spider	Tetragnathidae	Araneae				1, 4
Neocrepidodera transversa	A flea beetle	Chrysomelidae	Coleoptera		open habitats	tall sward & scrub	1
Ocypus olens	Devil's coach horse	Staphylinidae	Coleoptera		open habitats	tall sward & scrub	1
Otiorhynchus sulcatus	Black vine weevil	Curculionidae	Coleoptera				1
Psylliodes napi	A flea beetle	Chrysomelidae	Coleoptera		open habitats	tall sward & scrub	1

Pterostichus strenuus	A ground beetle	Carabidae	Coleoptera		open habitats	tall sward & scrub	1
Strophosoma melanogrammum	A weevil	Curculionidae	Coleoptera		tree-associated	arboreal	1
Dicranomyia autumnalis	A cranefly	Limoniidae	Diptera		wetland	peatland	1
Episyrphus balteatus	Marmalade fly	Syrphidae	Diptera		open habitats	tall sward & scrub	2
Erioconopa trivialis	A cranefly	Limoniidae	Diptera		wetland	marshland; peatland	1
Eristalis pertinax	A hoverfly	Syrphidae	Diptera		wetland	peatland	4
Helophilus sp.	A hoverfly	Syrphidae	Diptera				4
Melanostoma mellinum	A hoverfly	Syrphidae	Diptera		open habitats	tall sward & scrub	2
Melanostoma scalare	A hoverfly	Syrphidae	Diptera		open habitats	tall sward & scrub	2
Pedicia occulta	A cranefly	Pediciidae	Diptera		wetland	running water	3
Platycheirus angustatus	A hoverfly	Syrphidae	Diptera		open habitats; wetland	tall sward & scrub	2
Platycheirus scutatus sens. lat.	A hoverfly	Syrphidae	Diptera				4
Sphaerophoria sp.	A hoverfly	Syrphidae	Diptera				4
Tachina fera	A tachinid fly	Tachinidae	Diptera				4
Tipula oleracea/paludosa	A cranefly	Tipulidae	Diptera				1
Tricyphona immaculata	A cranefly	Pediciidae	Diptera		wetland	marshland; peatland	4
Cicadula	A leafhopper	Cicadellidae	Hemiptera				1

Dolycoris baccarum	Hairy shieldbug	Pentatomidae	Hemiptera		open habitats	tall sward & scrub	2
Lygus rugulipennis	A mirid bug	Miridae	Hemiptera		open habitats	tall sward & scrub	2
Monalocoris (Monalocoris) filicis	Bracken bug	Miridae	Hemiptera		open habitats	tall sward & scrub	1
Nabis (Dolichonabis) limbatus	A damsel bug	Nabidae	Hemiptera		open habitats	tall sward & scrub	4
Neophilaenus lineatus	A froghopper	Aphrophoridae	Hemiptera		open habitats	tall sward & scrub	1
Philaenus spumarius	Common froghopper	Aphrophoridae	Hemiptera				4
Stenodema (Brachystira) calcarata	A mirid bug	Miridae	Hemiptera		open habitats	tall sward & scrub	1
Stenodema (Stenodema) holsata	A mirid bug	Miridae	Hemiptera		open habitats	tall sward & scrub; upland	2, 4
Stenodema (Stenodema) laevigata	A mirid bug	Miridae	Hemiptera		open habitats	tall sward & scrub	2
Bombus pascuorum	Common carder bee	Apidae	Hymenoptera		open habitats	tall sward & scrub	4
Hylaeus confusus	White-jawed yellow-face bee	Colletidae	Hymenoptera		open habitats; tree-associated	decaying wood	2
Lasioglossum cupromicans	Turquoise furrow bee	Halictidae	Hymenoptera		open habitats	short sward & bare ground	
Oniscus asellus	Common shiny woodlouse	Oniscidae	Isopoda				1
Trichoniscus pusillus agg.	Common pygmy	Trichoniscidae	Isopoda				1

	woodlouse						
Lepus europaeus	Brown hare	Leporidae	Lagomorpha	Section 7			3
Aglais urticae	Small tortoiseshell	Nymphalidae	Lepidoptera		open habitats	tall sward & scrub	4
Pararge aegeria	Speckled wood	Nymphalidae	Lepidoptera		open habitats	tall sward & scrub	4
Vanessa atalanta	Red admiral	Nymphalidae	Lepidoptera				4
Lithobius (Lithobius) variegatus	Banded centipede	Lithobiidae	Lithobiomorpha		tree-associated	shaded woodland floor	1
Nemastoma bimaculatum	A harvestman	Nemastomatidae	Opiliones		tree-associated	shaded woodland floor	1
Paroligolophus agrestis	A harvestman	Phalangiidae	Opiliones				2
Omocestus viridulus	Common green grasshopper	Acrididae	Orthoptera		open habitats	tall sward & scrub	2
Polydesmus sp.	A millipede	Polydesmidae	Polydesmida				1
Arion sp.	A slug	Arionidae	Pulmonata				1
Oxychilus (Oxychilus) alliarius	Garlic snail	Oxychilidae	Pulmonata		conifer or broadleaved	woodland habitat	1
Zootoca vivipara	Common lizard	Lacertidae	Squamata	Section 7			

APPENDIX 4
BREEDING BIRD AND NIGHTJAR SURVEY REPORT

RAMBOLL UK LTD

PARC PELENNA, NEATH

BREEDING BIRD AND EUROPEAN NIGHTJAR SURVEY REPORT

OCTOBER 2020

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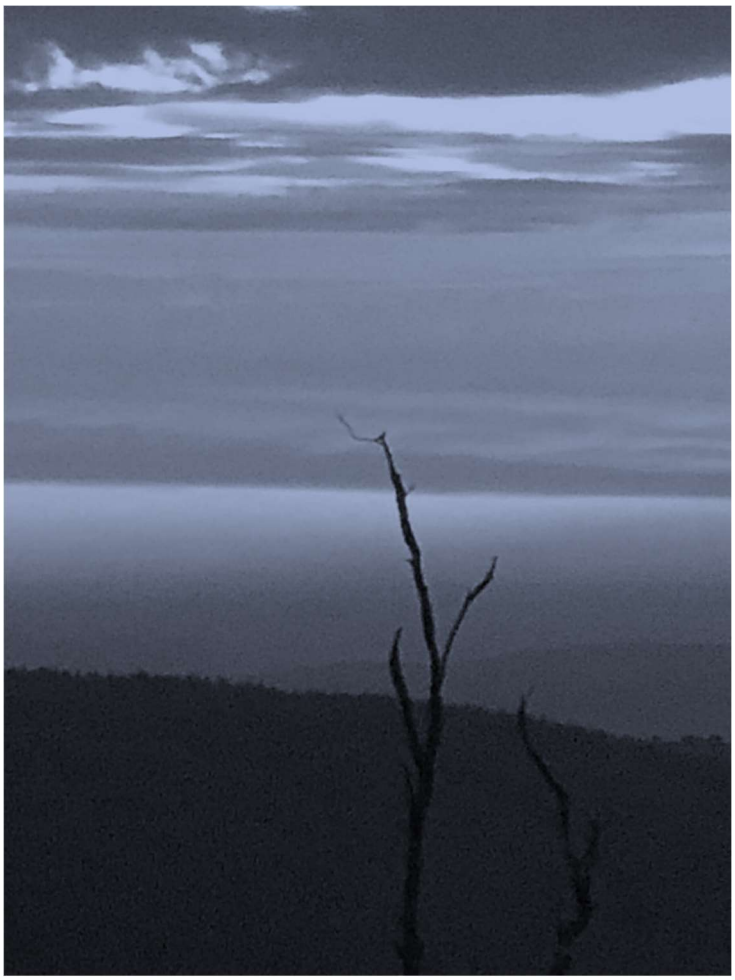
PARC PELENNA, NEATH

BREEDING BIRD AND EUROPEAN NIGHTJAR SURVEY REPORT

A report by MPS Ecology

October 2020



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41 High Street,
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Project:	Parc Pelenna, Neath
Report:	Breeding Bird Survey
Date:	14th October 2020
Issue:	FINAL
Prepared By:	Mike Shewring, CEcol, MCIEEM
Checked By:	N/A

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1. Introduction

1.1. MPS Ecology were commissioned by Ecology Wales, on behalf of Ramboll UK Ltd, in May 2020 to undertake a breeding bird survey of a parcel of land located to the south west of the settlement of Clyne in the Neath valley (see Figure 1). A redline boundary plan is also provided in Figure 2.

Figure 1 – Site location

Figure 2 - Redline Boundary

1.2. The site is centered at approximate grid reference SS 80187 99414. It is our understanding that the site is proposed for development into a holiday park development.

1.3. This report has been commissioned in order to inform a planning application for this development.

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2. Methodology

Breeding Bird Survey

2.1. In order to establish the relevant ornithological baseline conditions onsite, and in the adjoining habitats. A survey buffer of habitats ~100-150m was also surveyed as far possible within access constraints. The breeding bird survey was completed between June and July 2020 by a suitably experienced ecologist[1]. This followed an amended common bird census (CBC) visit methodology[2] consisting of a total of 2 visits. During each visit all areas of the site were approached to within 100m and all birds identified by song or observation were recorded along with their behaviour.

2.2. Surveys were completed as detailed in table 1 below.

Table 1 BBS Survey dates

BBS visit	Date
1	4th June 2020
2	7th July 2020

2.3 Following the completion of site survey work data was reviewed against European breeding bird atlas standard criteria to determine likely breeding status of the species present on site. These criteria are presented below-

Non breeding (species observed but suspected to be still on migration or to be summering non-breeder)

Possible breeding

- Species observed in breeding season in possible nesting habitat
- Singing male(s) present (or breeding calls heard) in breeding season

Probable breeding

- Pair observed in suitable nesting habitat in breeding season
- Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different days a week or more apart at same place
- Courtship and display
- Visiting probable nest-site

[1] Mike Shewring (MCIEEM, CEcol) – Ornithological and ecological consultant with >15 years' experience in ornithological survey and assessment. Mike is also a licensed BTO bird ringer.
[2] Marchant, J. 1983. BTO Common Birds Census instructions. Tring: British. Trust for Ornithology

- Agitated behaviour or anxiety calls from adults
- Nest-building or excavating of nest-hole

Confirmed breeding

- Distraction-display or injury-feigning
- Used nest or eggshells found (occupied or laid within period of survey)
- Recently fledged young (nidicolous species) or downy young (nidifugous species)
- Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest holes, the contents of which cannot be seen) or adult seen incubating
- Adult carrying a faecal sac or food for young
- Nests containing eggs
- Nests with young seen or heard

European Nightjar Survey

2.4 Surveys followed an adaptation of the BTO standard methodology (Gilbert et al 1999[3]), which was used for the 2020 survey. This comprised the use of a single walked transect through the site with regular listening stops in areas of suitable habitat. The surveys comprised two visits to the transect. Visits were conducted between 9pm and 11 pm, in calm, dry weather; as nightjars churr most predictably and consistently just after sunset and just before dawn. Surveys were not conducted if the wind speed exceeded force 4 (moderate breeze raises dust and loose paper, small branches move).

2.5 During the survey, surveyors recorded all calling (churring) males on to maps, in addition to noting other behaviours including the 'coo-ick'/ ‘kee-wick’ call, wing clapping and flying.

2.6 European nightjar survey visits were completed on the 6th of July and 25th of July 2020.

Limitations

2.7 There were no access limitations associated with the current survey, and all habitats and areas within the redline boundary were accessible. Surveys did however start late in the season (June) and only two survey visits were completed. This late start will have impacted on the

[3] Gilbert, G., Gibbons, D.W., & Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species.The Royal Society for the protection of Birds, Sandy, Bedfordshire, England.

identification of early breeding/ resident species and overall reduced the number of species recorded. In addition, the completion of only two survey visits will have negatively impacted on the data quality for the delineation and quantification of territory numbers. As such, the estimation of territory numbers provided in this report has been based on the data collected in combination with professional judgement and should be treated with appropriate caution.

3. Results

Breeding Bird Survey

3.1 Breeding bird surveys completed at the site recorded a total of 33 species on the site over the course of the 2 survey visits. Of these species, two were listed on schedule 1 of the wildlife and countryside act, three are listed as red status and nine as amber status in BoCC in Wales[4]. Of the 30 species recorded on site, breeding was confirmed for six species – Swallow, Robin, Blackbird, Blackcap, Chiffchaff and Blue tit.

3.2 Probable breeding was confirmed for 10 species and possible breeding for 16 species and a single non-breeding species. Details are summarised in table 2 below and illustrated in Appendix A. A spatial summary of those species of conservation concern is also presented in Appendix A.

[4] I, Johnstone & S. Bladwell (2016) Birds of Conservation Concern in Wales 3: the population status of birds in Wales

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Table 2 BBS Survey results summary

Species	WCA 1981	BoCC Red status	BoCC Amber status	Section 7 Env. Act (Wales) 2016[5]	Breeding status	No. of Territories
Barn owl	Y				Not breeding	0
Blackbird					Confirmed	7
Blackcap					Confirmed	8
Blue tit					Confirmed	2
Bullfinch		Y		Y	Possible	2
Buzzard					Possible	1
Chaffinch					Probable	2
Chiffchaff					Confirmed	6
Coal tit					Possible	1
Common crossbill	Y				Possible	1
Dunnock				Y	Probable	3
Garden warbler					Probable	1
Goldcrest			Y		Probable	5
Goldfinch					Possible	1
Great spotted woodpecker					Possible	2
Great tit					Possible	1
Green woodpecker			Y		Possible	1
Jay					Possible	2
Lesser redpoll			Y	Y	Possible	1
Long-tailed tit			Y		Possible	2
Meadow pipit			Y		Possible	2
Mistle thrush			Y		Probable	3
Nightjar			Y	Y	Probable	2
Pied wagtail					Possible	1
Robin					Confirmed	7
Siskin					Possible	1
Skylark			Y	Y	Probable	3
Song thrush			Y	Y	Possible	3
Swallow					Confirmed	2
Whitethroat		Y			Probable	2
Willow warbler		Y			Probable	9
Wood pigeon					Possible	2
Wren					Probable	15

[5] Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity
This section replaces the duty in section 42 of the NERC Act 2006. A list of living organisms which are considered of key significance to sustain and improve biodiversity in relation to Wales. Public bodies must take all reasonable steps to maintain and enhance the living organisms in any list published under this section, and encourage others to take such steps.

3.2 Accounts for species protected under Schedule 1 (S1) of the Wildlife and Countryside Act[6] (WCA) and those on the Red and Amber Lists of Birds of Conservation Concern (BoCC) for Wales are given below.

Barn owl (*Tyto Alba*)

3.3 A single barn owl was recorded leaving a Dutch barn on site during a nightjar survey visit on the 25th of July 2020. Inspection of the barn and the nest box present in the barn on both the 4th of June and 7th of July confirmed no evidence of breeding in 2020. A single barn owl pellet was located during the 4th of June survey visit and this coupled with the visual record are considered likely to confirm the occasional roosting presence of barn owl in 2020.

3.4 Barn owl are listed on schedule 1 of the Wildlife and Countryside Act 1981. However, it has been assessed as green status in BoCC in Wales.

Crossbill (*Loxia curvirostra*)

3.5 A single record of a flock of four crossbill was recorded adjacent to the western site boundary on the 7th of July 2020. Breeding pairs, although possible in woodland blocks onsite and in adjacent areas, were considered unlikely given the lack of fruiting coniferous trees present at the time of survey and these birds were considered likely to be transiting between habitat associated with nearby coniferous plantation woodland.

3.6 Crossbill are listed on schedule 1 of the Wildlife and Countryside Act 1981. However, it has been assessed as green status in BoCC in Wales.

Bullfinch (*Pyrrhula pyrrhula*)

3.7 Individual bullfinch were recorded within the survey area during both survey visits. No evidence of breeding was noted on site although given the presence of suitable habitat, breeding is considered possible (on site) and probable within the wider area.

[6] Wildlife And Countryside Act 1981. [online] Available at: <http://www.legislation.gov.uk/ukpga/1981/69/contents>

3.8 Bullfinch has been assessed as red status in BoCC in Wales.

Goldcrest (*Regulus regulus*)

3.9 Goldcrest were recorded in the survey area on both the 4th June and 7th of July 2020, on both occasions birds were recorded in areas of suitable breeding habitat in dense coniferous/ mixed woodland blocks. Goldcrest are considered likely (probable) to have bred on site.

3.10 Goldcrest has been assessed as amber status in BoCC in Wales.

Green woodpecker (*Picus viridis*)

3.11 Green woodpecker were recorded in the survey area on the 4th June only. A single calling bird was noted in the north east of site in an area of potentially suitable breeding habitat (woodland). Green woodpecker are considered to be possible breeders on site.

3.12 Green woodpecker has been assessed as amber status in BoCC in Wales.

Lesser redpoll (*Acanthis cabaret*)

3.13 Lesser redpoll were recorded on multiple occasions across the survey area on both the 4th June and 7th of July survey visits, on both occasions birds were recorded in areas of suitable breeding habitat in dense coniferous/ mixed woodland blocks. Lesser redpoll are considered to be possible breeders on site.

3.14 Lesser redpoll has been assessed as amber status in BoCC in Wales.

Long-tailed tit (*Aegithalos caudatus*)

3.15 Long-tailed tit were recorded on a single occasion in the east of the survey area on the 4th June survey visit only. Birds were recorded in areas of suitable breeding habitat in dense coniferous/ mixed woodland blocks. Long-tailed tit are considered to be possible breeders on site.

3.16 Long-tailed tit has been assessed as amber status in BoCC in Wales.

Meadow pipit (*Anthus pratensis*)

3.17 Meadow pipit were recorded on a single occasion in the east of the survey area on the 4th June survey visit only. Birds were recorded in areas of suitable breeding habitat in rough

grazing pasture adjacent to the site boundary. Meadow pipit are considered to be possible breeders on site.

3.18 Meadow pipit has been assessed as amber status in BoCC in Wales.

Mistle thrush (*Turdus viscivorus*)

3.19 Mistle thrush were recorded on multiple occasions in the west of the survey area during the 4th June survey visit only, birds were recorded in areas of suitable breeding habitat in woodland blocks. Mistle thrush are considered to be probable breeders on site.

3.20 Mistle thrush has been assessed as amber status in BoCC in Wales.

European nightjar (*Caprimulgus europaeus*)

3.21 Nightjar were recorded at two separate locations during the first nightjar survey visit on the 6th of July 2020. A total of three individuals were seen/ heard with birds recorded in areas of suitable breeding habitat and exhibiting territorial behaviour and display. Nightjar are considered to be probable breeders on site.

3.22 European nightjar has been assessed as amber status in BoCC in Wales.

Skylark (*Alauda arvensis*)

3.23 Skylark were recorded on three occasions across the survey area during the 4th June survey visit only, on all occasions birds were recorded in areas of suitable breeding habitat in grazing pasture. Skylark are considered to be probable breeders on site.

3.24 Skylark has been assessed as amber status in BoCC in Wales.

Song thrush (*Turdus philomelos*)

3.25 Song thrush were recorded on multiple occasions across the survey area during the 4th June survey visit only, birds were recorded in areas of suitable breeding habitat in woodland blocks. Song thrush are considered to be possible breeders on site.

3.26 Song thrush has been assessed as amber status in BoCC in Wales.

Whitethroat (*Sylvia communis*)

3.27 Whitethroat were recorded on two occasions in the north west of the survey area during the 4th June survey visit, on both occasions birds were recorded in areas of suitable breeding habitat in scattered scrub. Whitethroat are considered to be probable breeders on site.

3.28 Whitethroat has been assessed as red status in BoCC in Wales.

Willow warbler (*Phylloscopus trochilus*)

3.29 Willow warbler were recorded on multiple occasions during surveys completed on both the 4th June and 7th of July 2020. Birds were recorded in areas of immature woodland, mature woodland and scrub habitats in recently felled woodland areas across the site. Willow warbler are considered likely (probable) to have bred on site in 2020. A total of nine territories was considered likely on or in close proximity to the site (redline boundary) in 2020.

3.30 Willow warbler has been assessed as red status in BoCC.

4. Legislation/ Planning guidance

4.1 The Wildlife and Countryside Act 1981[7] (as amended) is also relevant to the current development proposal due to the presence of potentially suitable nesting bird habitat. Relevant aspects of this legislation are:

- All wild birds are protected against killing or injury and their nests against damage or destruction whilst they are being built or contain eggs/dependent young;

4.2 The Environment (Wales) Act (2016)[8] introduces a new biodiversity duty which applies to local authorities during the planning process and thus is of relevance to the current proposals. This duty replaces the biodiversity duty in the Natural Environment and Rural Communities Act 2006. The Environment Act enhances the current NERC Act (2006)[9] duty to require all public authorities, when carrying out their functions in Wales, to seek to "maintain and enhance biodiversity" where it is within the proper exercise of their functions. In doing so, public authorities must also seek to "promote the resilience of ecosystems".

[7] Wildlife And Countryside Act 1981. [online] Available at: http://www.legislation.gov.uk/ukpga/1981/69/contents
[8] Environment (Wales) Act 2016. [online] Available at:- https://www.legislation.gov.uk/anaw/2016/3/contents
[9] Natural Environment and Rural Communities Act (2006). [online] Available at:- https://www.legislation.gov.uk/ukpga/2006/16/contents

5. Evaluation/ Conclusions

5.1 Breeding bird survey work in 2020 has confirmed the site supports a typical assemblage of ffridd, woodland fringe/scrub and urban fringe species as would be expected from the habitats present and its geographic location. This includes some species of conservation concern, with the red listed whitethroat and willow warbler and the amber listed goldcrest, European nightjar, skylark and mistle thrush all considered likely to have bred on site or in close proximity to site in 2020

5.2 As such, development proposals in the absence of mitigation would result in the loss of suitable breeding habitat for a suite of bird species. As such, it is recommended that development proposals incorporate suitable mitigation and/or compensation measures.

5.3 Construction phase mitigation should include appropriate avoidance measures to mitigate/ avoid direct impacts during the breeding season. This should include the timing of vegetation clearance works to outwith the breeding season (March to August inclusive). Where this is not possible, then nesting bird checks should be completed prior to works by an appropriately qualified ecologist/ ornithologist. Where active nests are encountered, then works should be delayed until the completion of the nesting attempt and appropriate work buffers around active nests implemented (e.g. 200m for nightjar).

5.4 In order to mitigate for the net loss of breeding habitat suitable, habitat enhancement/ creation in retained habitats/ compensation areas (i.e. creating of compensatory habitats – areas of ffridd[10], scrub, open heath mosaic etc.) will be required. The potential to incorporate nightjar habitat mitigation into the development will largely depend on the space available and the proposed levels of recreational access within these areas. Nightjar require a large area of heath/scrub grassland mosaic habitat (~minimum 1ha) in which to nest and they require generally low levels of disturbance to breed successfully. Recreational access and in particular dog walking is associated with low breeding success and nest failure (e.g. Langston et al 2007[11]).

[10]Ffridd is the mosaic of dynamic habitats at the lowland upland interface that has a long history of management types and rotations. Ffridd usually contains a combination of woody and grass/heathland species in a variety of successional stages.

[11] Langston, R. H. W., Liley, D., Murison, G., Woodfield, E., & Clarke, R. T. (2007). What effects do walkers and dogs have on the distribution and productivity of breeding European Nightjar Caprimulgus europaeus?. Ibis, 149, 27-36.

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Appendix A - Maps

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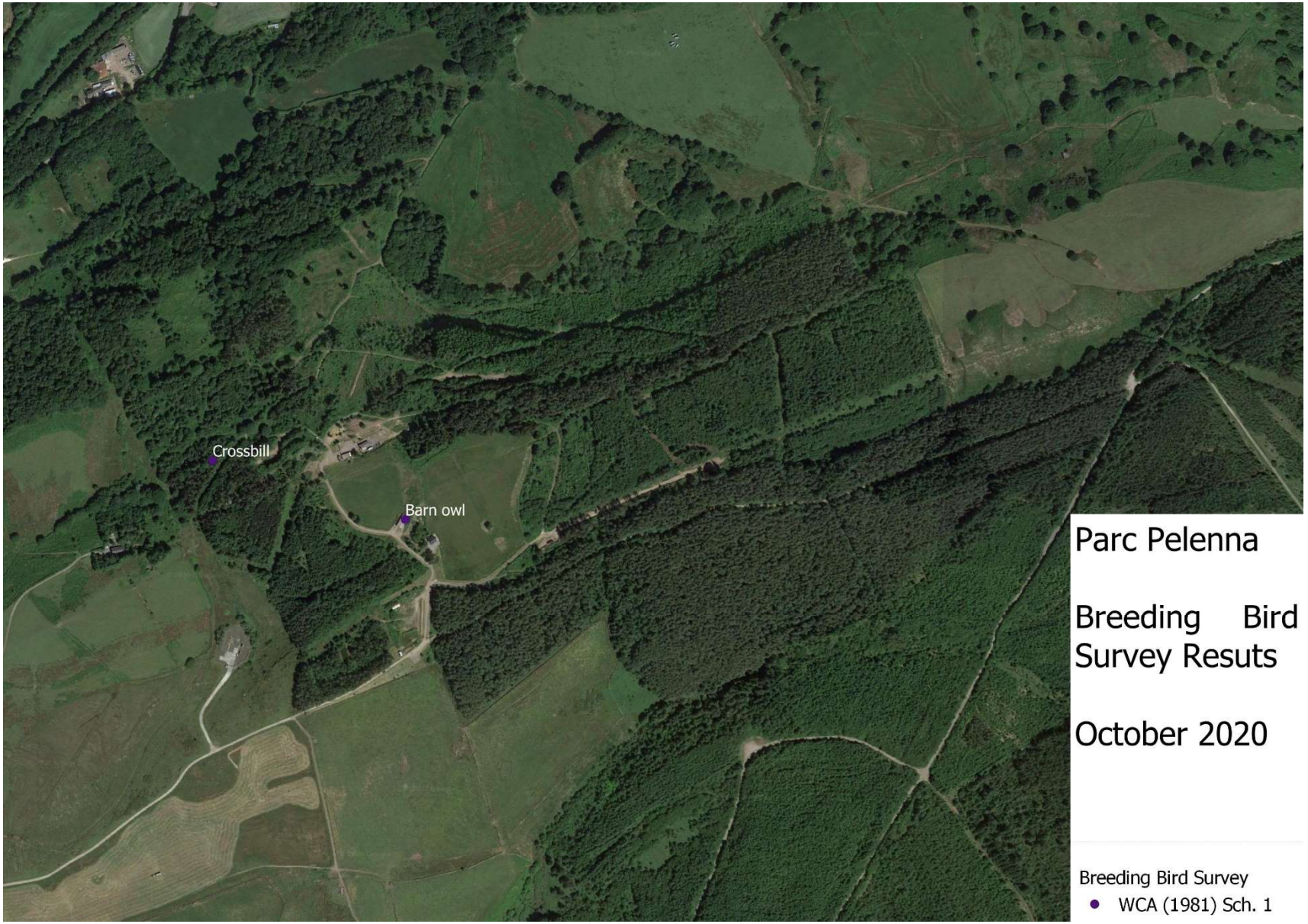

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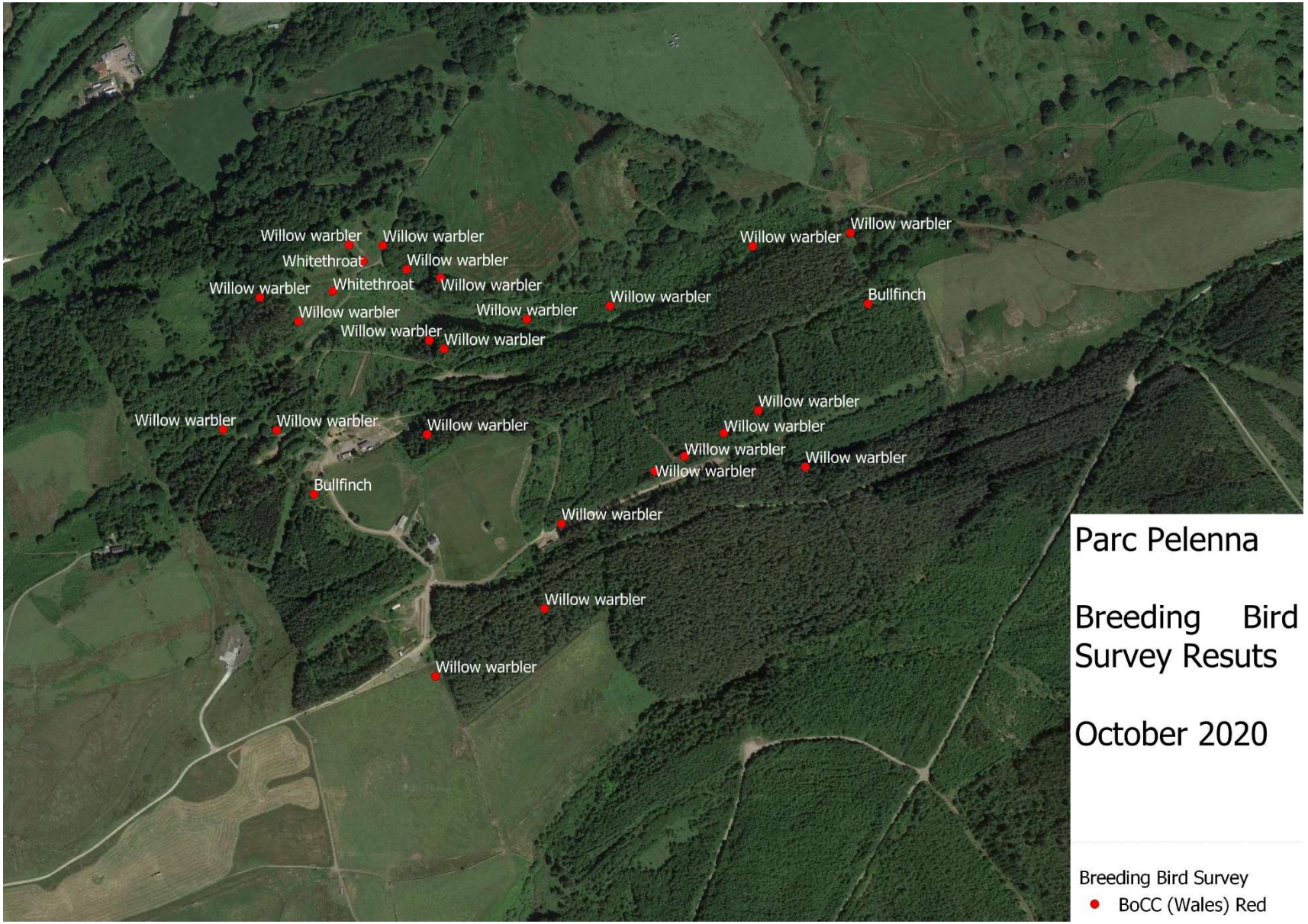

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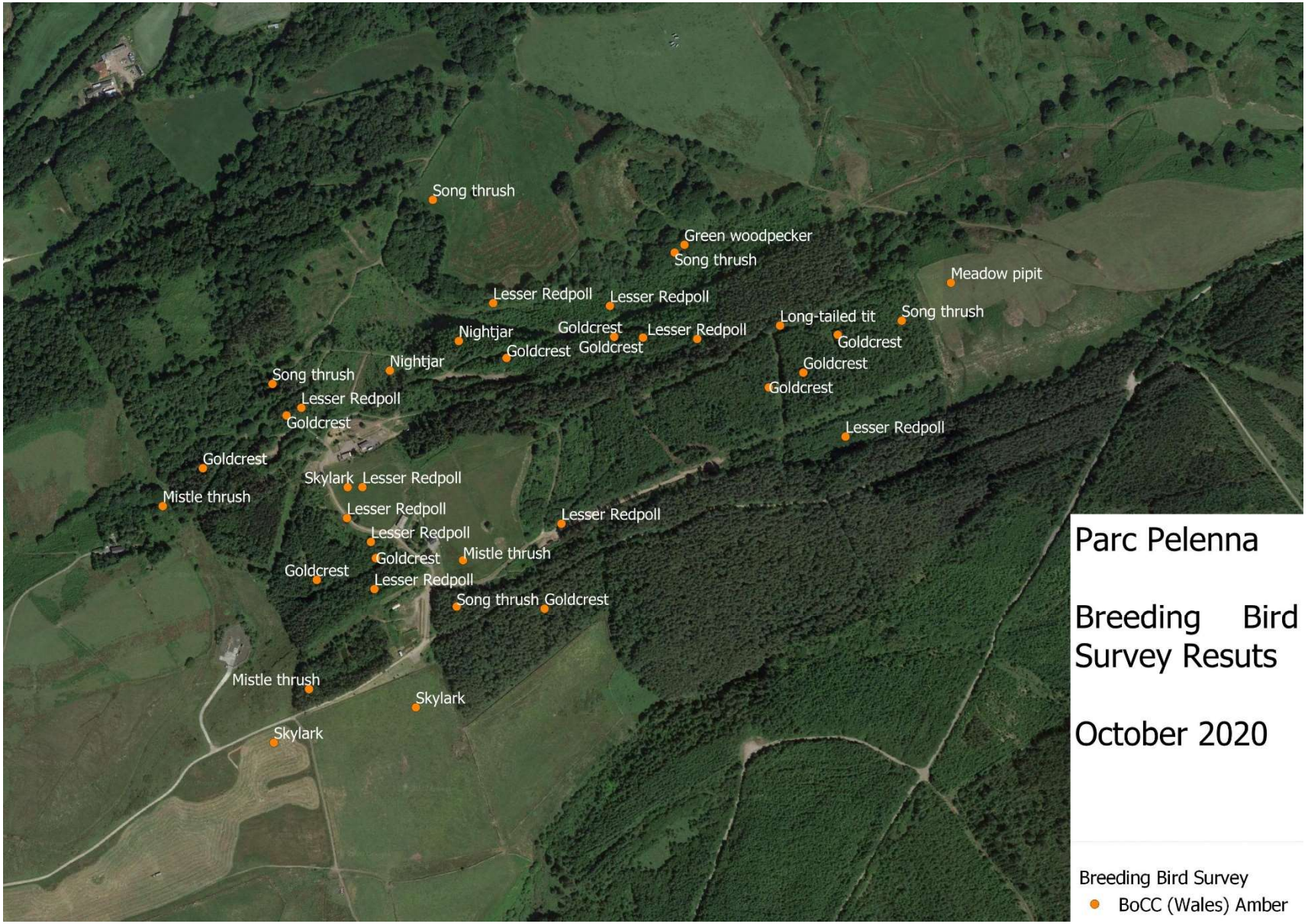

APPENDIX 5
BREEDING BIRD AND VANTAGE POINT SURVEY REPORT

1. Non-technical summary

1.1. I, Aurora Gonzalo Tarodo, was instructed by Avondale Ecology, to undertake a series of breeding bird surveys and vantage points at Parc Pelenna, Neath (central grid reference: SS 80376 99542), relating to site development.

1.2. Breeding bird surveys and vantage points were conducted in July 2022.

1.3. A total of 39 bird species were recorded on site

1.4. The composition of breeding birds on site was typical of the habitat present, comprising for the most part common and widespread species.

1.5. Habitat preservation, creation and enhancements resulting from the development would be expected to have a beneficial residual impact on most common species.

2. Introduction

2.1. This report has been prepared by me, Aurora Gonzalo Tarodo, on behalf of Avondale Ecology. The report provides the result of breeding bird surveys and vantage points undertaken at Parc Pelenna, Neath (central grid reference: SS 80376 99542).

2.2. Aim and objectives

The aim of the breeding bird surveys and vantage points was to provide an overall assessment of the breeding bird species composing the bird communities, make recommendations to minimize the potential impact of development, and consider opportunities for habitat creation when possible. The objectives of the surveys were to:

- Evaluate the importance of breeding bird populations on site for conservation
- Evaluate the anticipated residual impact of the development; and
- To identify areas of ornithological potential interest.

2.3. Relevant Legislation and Policy

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting. Those who intend to visit the nest of a species listed under Schedule 1 must first obtain a licence from the relevant statutory nature conservation organisation. Certain species are afforded special protection under Schedule 1 only during the close season (1 February – 31 August) but may be killed or taken outside this period. In England and Wales, these are Goldeneye (Bucephala clangula) and Pintail (Anas acuta).

Environment (Wales) Act 2016

The Environment (Wales) Act supersedes Welsh provisions detailed in sections 40 and 42 of the NERC Act (2006) and makes requirements for more sustainable and proactive planning and management of natural resources within Wales. Part 1 of this legislation relates to the sustainable management of natural resources and, within this, Section 7 requires the identification of species and habitats in Wales which are regarded as of 'principal importance' to maintain and enhance biodiversity.

Well-being of Future Generations Act (2015)

The Well-being of Future Generations Act requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.

The European Community Council Directive 79/4C9/EEC, on the Conservation of Wild Birds (commonly known as the 'Birds Directive"), provides a framework for the conservation and management of wild birds in member states.

Protection of SPAs is implemented under the Conservation of Habitats and Species (Amendment) Regulations 2012 (The Conservation Regulations).

Conservation Status

Some bird species are classified according to their conservation status, such as their inclusion on the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK (Standbury *et al,* 2021):

- Red list (high conservation concern) species are those that are globally threatened according to IUCN criteria; those whose population has declined

rapidly (50% or more) in recent years; and those that have declined historically and not shown a substantial recent recovery.

- Amber list (medium conservation concern) species are those with unfavourable conservation status in Europe; those whose population or range has declined moderately (between 25% and 49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
- Green list (low conservation concern) or non-listed species fulfil none of the above criteria.

3. Methodology

Breeding bird survey

The site was subject to 4 breeding surveys. These were undertaken during the end of the breeding season (July), to obtain sufficient information with which to determine the value of the site for breeding birds.

3.1. Breeding bird surveys to assess the presence and abundance of passerines and near passerines

The site was walked at a steady pace, so areas within 50 metres were covered and all bird species were identified. Birds were identified by sight (using binoculars) and by sound. (songs/calls). To collect contrasted data, in some randomly selected, transects, I used sound recordings (using Song Meter Micro) to compare with *in situ* species identified.

A species list for the site was compiled and the results were used to assign a breeding status to each of the species encountered:

- Non-breeding: unusual species for the habitat
- Probable breeders: species observed with the potentiality for breeding as encountered in suitable habitat during the breeding season but no signs of breeding
- Probably breeding: breeding behaviour (fly display, courtship, pairs in suitable nesting locations, alarm calls, etc.)

- Confirmed breeder: nest found, recently fledge young, eggshells encountered, adult carrying nesting material or food.

To map bird presence, standardized British Trust for Ornithology (BTO) codes for species were used (Gilbert G *et al* 1998).

The surveys started approximately 1 hour after sunrise and were taken during suitable weather (e.g., good visibility, no rain) to procure the maximum detection of species present (table 1).

Week	Date	Temperature (°C)	Cloud cover (%)	Wind (km/h)	Precipitation	Visibility
1	28/06	13	90	26km/h	0	Good
	29/06	11	100	14km/h	0	Good
2	5/07	12	10	8km/h	0	Good
	6/07	15	30	5km/h	0	Good
3	11/07	18	5	6km/h	0	Good
	12/07	19	30	3km/h	0	Good
4	28/07	13	30	12km/h	0	Good
	29/07	15	30	4km/h	0	Good

Table 1 Days of survey

3.2. Vantage point to assess the presence of breeding Honey Buzzards and other raptors.

Vantage point surveys (VP), are designed to quantify the level of flight activity and its distribution over the site under study. Data can also be used to provide an overview of bird usage of the site.

Bird detection decreases with distance. This is particularly common with smaller species, but even larger species show declines in detection at more than 2km distance.

Habitat, location and terrain might prevent having a clear and open VP. Therefore, when selecting a VP, the aim should be to cover all of the flight activity such that no point is greater than 2km away from the VP. VP's scan an arc of 180° as larger arcs can not be scanned efficiently.

Honey Buzzards, and in general raptors in the breeding season should remain active throughout the day. This means a constant movement of carrying prey for their young. Chicks hatching goes from late June to early July for Honey buzzards. VP's were carried out during the day on the same days as breeding bird surveys, and these lasted no less than 3 hours of constant observation, with exception of the 11th of July when a heatwave reduced significantly the number of birds moving and this particular survey was shortened. An example of flight trajectories appears in the appendix (map 3)

3.3. Nightjar survey

Nightjars are associated with heathlands, moorlands, woodland edges and clearings, in young and recently felled conifer plantations, and coppiced woodland. Suitable habitat needs bare ground patches of greater than two metres squared for nesting. Areas which support rich densities of invertebrate prey. The most suitable areas for Nightjar on site are shown in Appendix map 1.

Surveys consisted of short transects immediately next to the identified suitable breeding areas. These consisted of listening for active males churring an hour after sunset or an hour before sunrise, and were carried at least once every week.

3.4. Barn owl box inspection

A local bird ringer from the BTO monitored the box and ringed the chicks.

4. Limitations

The results of the surveys and assessments undertaken are representative of the time of surveying.

The methodology used is a standard and accepted by statutory conservation bodies, such as Natural Resources Wales (NRS), however, these have been adapted to the scope of the work and time agreed.

5. Results

5.1. Breeding bird surveys

List of species recorded within the study area, along with their breeding status and BoCC status are provided in table 2.

In total 39 species were encountered, corresponding with 29 probable breeder species, 2 probably breeding and 6 confirmed breeders. Only 2 species detected were no breeders. The species community present on site is comprised largely typical of the main

habitats available on sites, such as chiffchaff willow warbler, blackbird or siskins. Crossbill, Red kite, Goshawk and Barn owl were the only schedule 1 species encountered in these surveys.

Table 2:

BTO code	Common name	BoCC Status	WCA Schedule	Breeding status on site
B	Blackbird	Green	✗	Probable breeder
ST	Song Thrush	Amber	✗	Probable breeder
MP	Meadow pipit	Amber	✗	Confirmed breeder
SK	Siskin	Green	✗	Probable breeder
WW	Willow warbler	Amber	✗	Probable breeder
SL	Swallow	Green	✗	Confirmed breeder
BT	Blue tit	Green	✗	Probable breeder
FR	Redpoll	Red	✗	Probable breeder
WR	Wren	Green	✗	Probable breeder
M	Mistle Thrush	Red	✗	Probable breeder
TP	Tree pipit	Red	✗	Confirmed breeder
CC	Chiffchaff	Green	✗	Probable breeder
R	Robin	Green	✗	Probable breeder
CT	Coal tit	Green	✗	Probable breeder
BC	Blackcap	Green	✗	Probable breeder
RB	Reed bunting	Amber	✗	Probable breeder
PW	Pied wagtail	Green	✗	Confirmed breeder
CR	Crossbill	Green	√	Probable breeder

SC	Stonechat	Green	✗	Probably breeding
GT	Great tit	Green	✗	Probable breeder
GO	Goldfinch	Green	✗	Probable breeder
D	Dunnock	Amber	✗	Probable breeder
KT	Red Kite	Green	√	Probable breeder
BZ	Buzzard	Green	✗	Probable breeder
J	Jay	Green	✗	Probable breeder
SI	Swift	Red	✗	Non-breeding
C	Carrion Crow	Green	✗	Probable breeder
WH	Whitethroat	Amber	✗	Probably breeding
RN	Raven	Green	✗	Probable breeder
K	Kestrel	Amber	✗	Probable breeder
BO	Barn owl	Green	√	Confirmed breeder
HM	House Martin	Red	✗	Non-breeding
GS	Great Spotted Woodpecker	Green	✗	Probable breeder
GI	Goshawk	Green	√	Confirmed breeder
MG	Magpie	Green	✗	Probable breeder
LT	Long-tailed Tit	Green	✗	Probable breeder
TC	Treecreeper	Amber	✗	Probable breeder

CH	Chaffinch	Green	✖	Probable breeder
LI	Linnet	Red	✖	Probable breeder

5.2. Vantage point

As for the breeding bird surveys, in the VP the majority of species recorded are largely widespread. No presence of Honey buzzards was detected on site; however, confirmed historical records of this species breeding at Parc Pelenna. The results of the current surveys should be used carefully.

5.3. Nightjar surveys

No Nightjars were detected on site. However, the date these surveys were carried out was slightly late to detect the presence of this species. Males normally churr when arriving at the breeding ground, and by the end of July, peak activity of courtship and display are reduced significantly. Nonetheless, suitable habitats for breeding are present on site and were identified, this is shown in appendix map 2.

6. Discussion and evaluation of impacts

6.1. Bird assemblage

The species recorded on site compose largely the typical of the main habitats found on site and are particularly characterised by species of woodland such as Willow warbler, Mistle thrush; Bracken like Tree pipit or Stonechat or semi-improved grassland with Meadow pipit.

Crossbills were detected at the edge of Parc Pelenna coinciding with the coniferous plantation, however, given that this species can breed as early as January, no birds in breeding state were detected. The loss of mixed woodland and coniferous plantation would produce a direct negative impact on Crossbill, as it's a species reliant on pine cone seeds.

Mixed woodland provides habitat to species not detected on these surveys but most likely present like the Wood warbler, also a red-listed species.

Honey buzzard was not detected on these surveys, however, historical records show that these used to breed in Parc Pelenna, other raptors like Goshawk were detected and confirmed as a breeder on site.

The retention of mixed woodland would highly benefit Crossbills or Wood warblers and small raptors like Sparrowhawk; scrub, hedgerows or grassland species like Tree pipit, Linnet, Meadow pipit or Redpoll.

Overall, the bird species recorded were not considered to be a country (within Wales) significant when compared to records in the rest of the country. However, given that

several species encountered are on the red list of The Birds of Conservation Concern, preserving as much habitat as possible is advised.

6.2. Potential impacts

Clearance, construction and operation of compound activities could cause loss of nesting habitat and direct disturbance of nesting birds; decrease of foraging and refuge opportunities and habitat fragmentation for a variety of birds.

Generally, the impact on breeding birds arising from the potential effect of development is based on understanding the habitat and ecological requirements of each species, the extent of development, the number of species recorded, and the conservation criteria on legislation (Schedule 1 of the Wildlife and Countryside Act (1981)), guidance (Red and Amber listed Birds of Conservation Concern 5 (2021) and to some degree professional assessment.

The species recorded on site considered the most vulnerable to any kind of impact are species that appear on one or more of the following:

- Red and Amber listed Birds of Conservation Concern 5 (2021) (BoCC)
- Schedule 1 of the Wildlife and Countryside Act (1981) (WAC Schedule)

The status (BoCC and WAC Schedule) of species recorded on site appears in table 2.

6.3. Habitat loss

The development proposal will likely result in the loss of grassland and scrub habitats. The species supported by this habitat are generally widespread locally and within the country. Given the predominance of these habitats within the wider landscape, the population of birds recorded on site are likely to occupy habitats within the surrounding landscape. Onside habitats are therefore likely to be part of this population, and the impact on these specific habitats is likely negligible.

The woodlands, mixed, broadleaved and coniferous are recommended for retention as for any standing water or marshy area.

6.4. Disturbance impact

Any kind of construction operation has the potential to disturb birds using the habitat for roosting, foraging or breeding. Noise from vegetation clearance, groundwork or machinery such as piling are low-frequency noises but high amplitude. Both noise and the presence of workers, especially wearing PPE, often produce birds to displace for

extended periods. During the breeding season, disturbance can produce abandonment of nest or/and territory displacement, reducing the possibility to sustain nesting areas.

7. Mitigation

Retention of most of the woodland, standing water and marshy areas and the potential creation of semi-natural habitats like hedges would avoid the vast majority of impacts on breeding birds.

To avoid disturbance of breeding birds, ground clearance and vegetation would be undertaken outside of the breeding season for most birds. If any large tree needs removing, surveys on that tree will be needed previously to log and this will only be advisable for logging before early breeders start such as Crossbill.

These measures will ensure the impact on nesting birds to be negligible.

Buffer planting with native species, retention and improvement where possible of present vegetation, will provide further mitigation for any habitat loss. This will provide connectivity with the wider landscape and support the conservation of local and migratory species.

To compensate for any loss of habitat for cavity specialist species, installation of nest boxes would provide refuge and breeding sites for small and medium species such as Blue tit, Nuthatch, Robin or Jackdaw. For that, the following should be included on-site:

- 5 x Small Wooden boxes – 33 mm entrance hole for species such as Great tit, Pied flycatchers and smaller like Blue tits.
- 5 x Small Wooden boxes – Open fronted boxes for species such as Robin, Redstart or Great tit
- 2 x Large Wooden box – 250 mm entrance for species such as Tawny owl or Jackdaws. These boxes should be placed as low as 3 metres above the ground. The entrance should avoid facing prevailing wind, generally avoiding west or south-west.

8. Conclusion

The bird surveys show that the bird assemblage is composed of the most common and widespread species within Wales. However, the presence of several red-listed species with national importance for conservation, makes the site of high importance and disturbance should be minimised when possible.

The overall recommendation is habitat creation and preservation, management for enhancement such as vegetation planting and corridor creation to keep the connectivity with the wide landscape.

9. References

1. Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D. and Win, I., 2021. The status of our bird. British Birds, 114, pp.723-747.
2. Gilbert G *et al* 1998. Bird monitoring methods

10. Appendix

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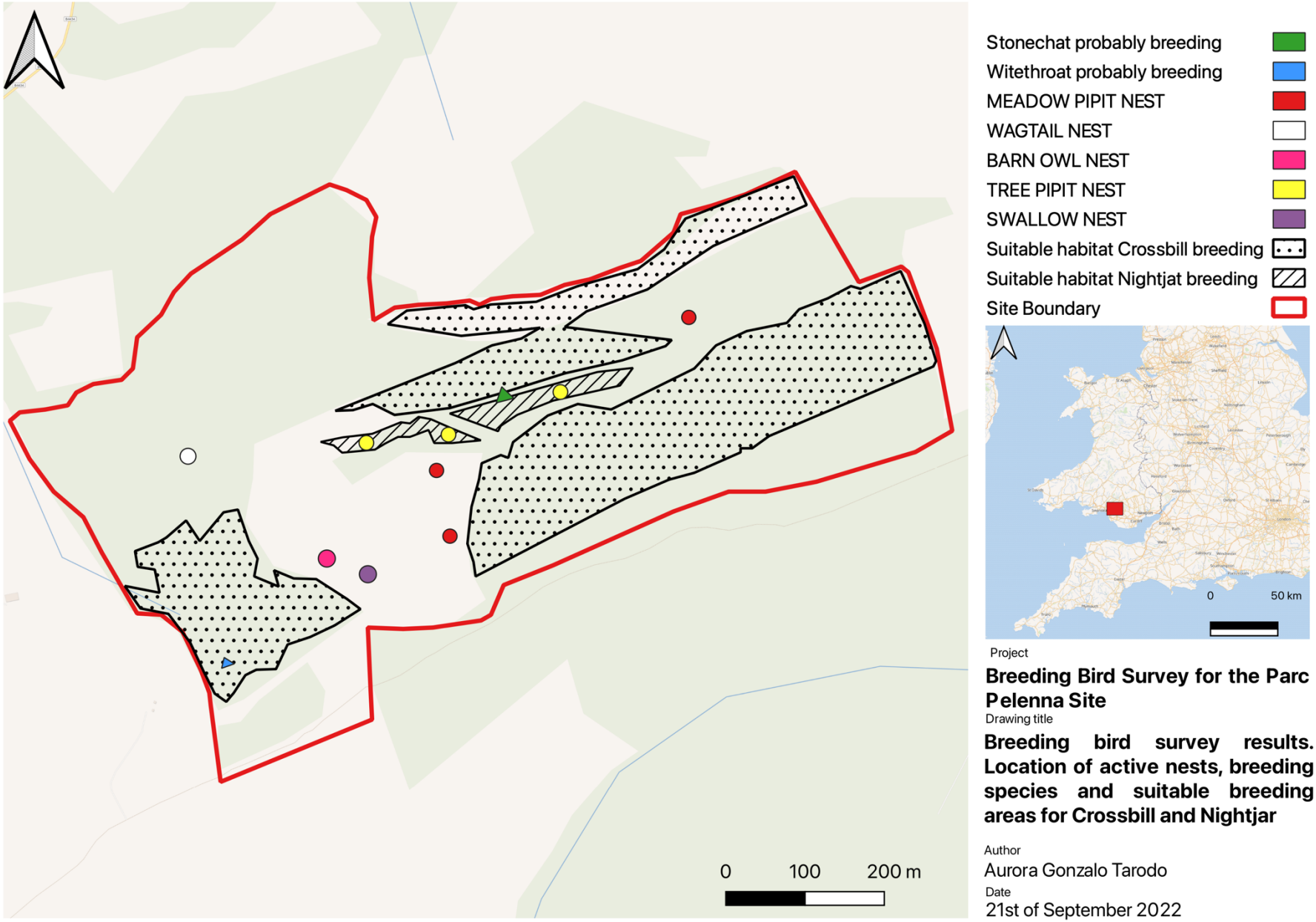
10.1. Map 1**:** Breeding bird survey results. Location of active nests, breeding species and suitable breeding areas for Crossbill and Nightjar.

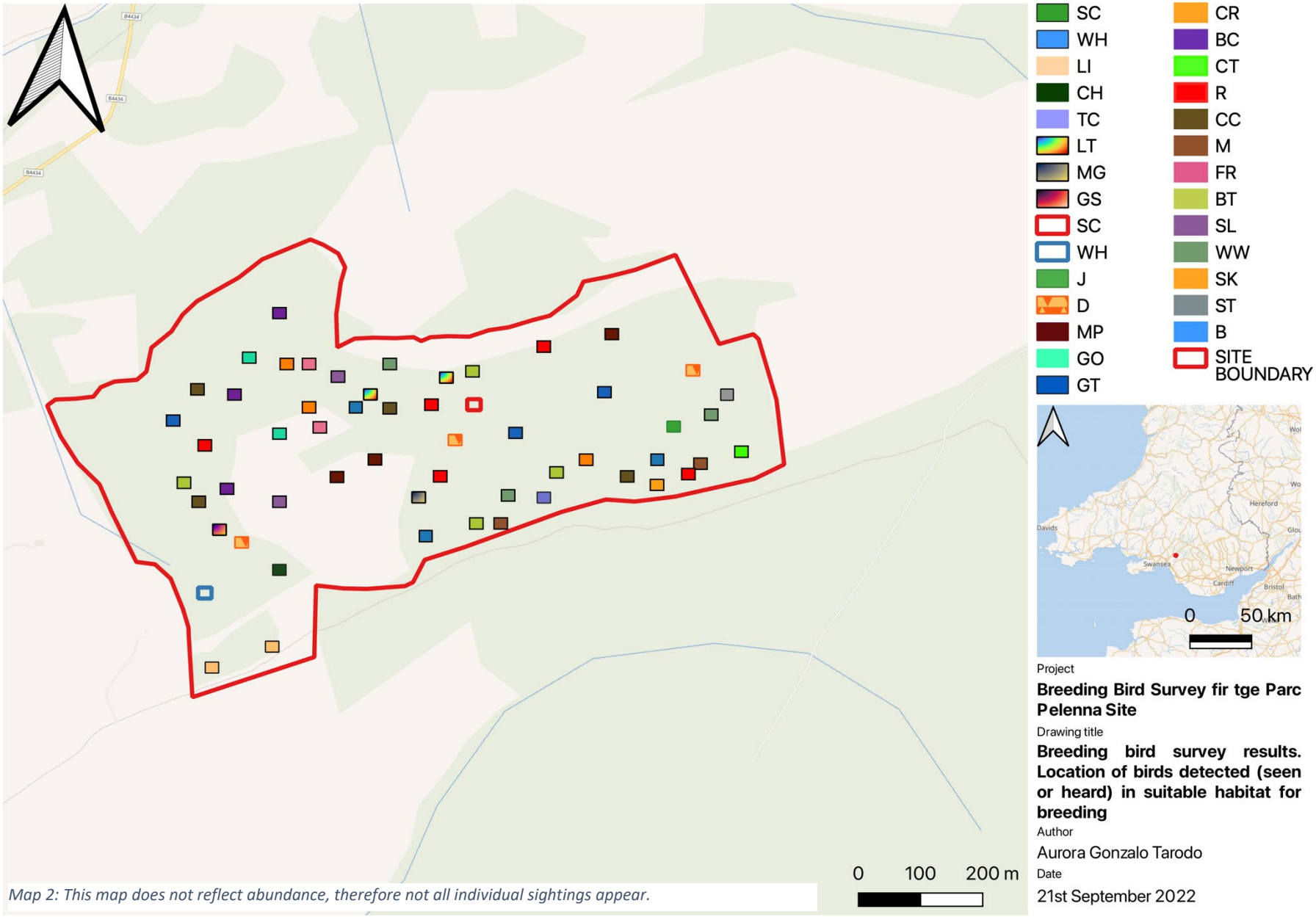
10.2. Map 2: Breeding bird survey results. Location of birds detected (seen or heard) in suitable habitat for breeding

10.3. Map 3: Vantage point with most common species.

9.1. Map 1 Location of active nests, breeding species and suitable breeding areas for Crossbill and Nightjar.

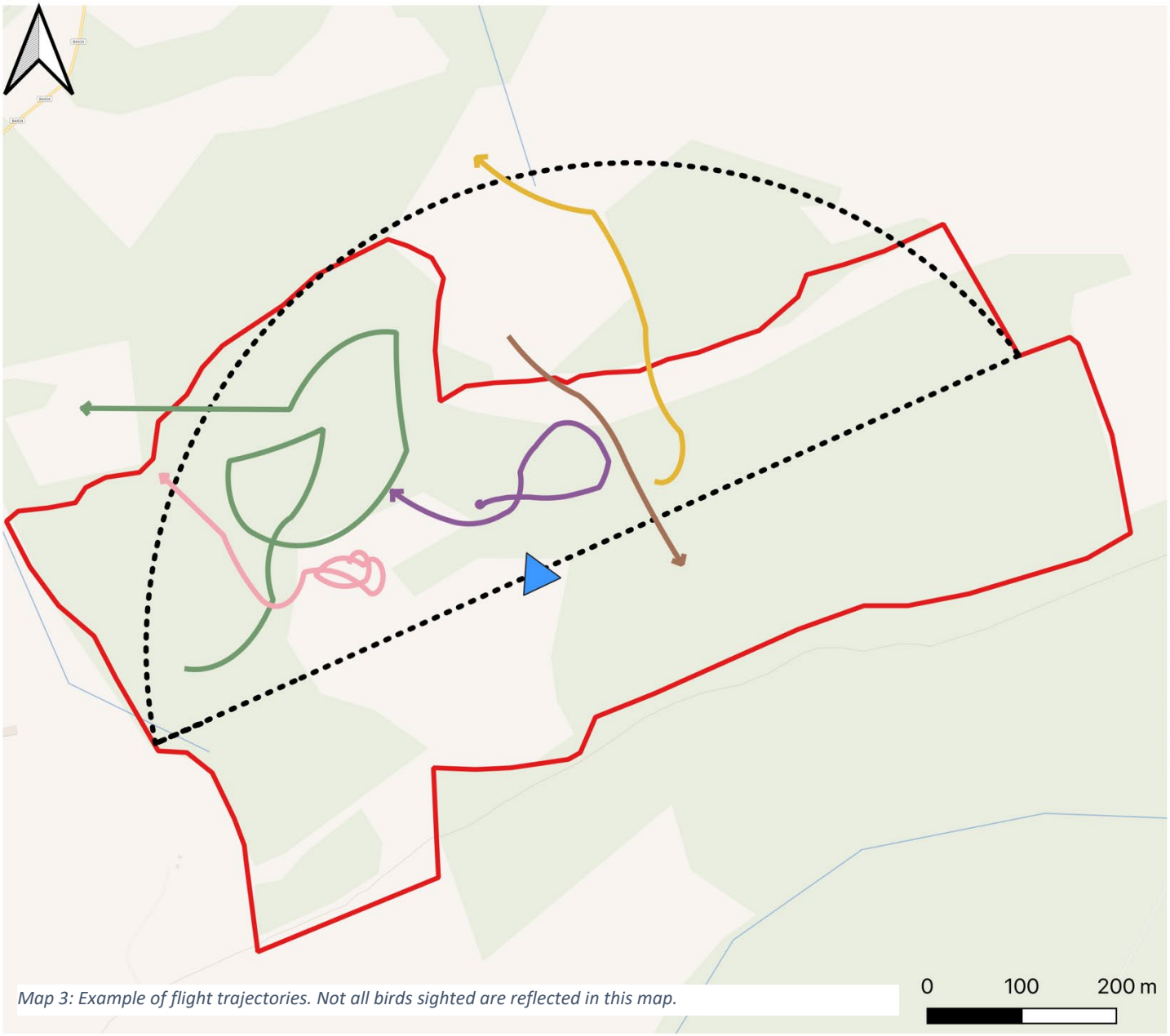


9.2. Map 2 Breeding bird survey results. Location of birds detected (seen or heard) in suitable habitat for breeding.



Map 2: This map does not reflect abundance, therefore not all individual sightings appear.

9.3. Map 3 Vantage point with most common species.



Map 3: Example of flight trajectories. Not all birds sighted are reflected in this map.

APPENDIX 6
NESTING BIRD SURVEY REPORT

38, Windermere Road
Patchway
Bristol
BS34 5PW

Parc Pelenna,
Neath Port Talbot, Wales,
United Kingdom

10th August 2023

To whom it may concern,

Nesting bird survey of Park Pelenna, Wales

I am writing to summarise the findings of a nesting bird survey undertaken at Park Pelenna, centred on national grid reference SS 80165 99265 (hereafter referred to as the "site").

Background to the activity

"*Redevelopment of the existing site including vegetation and land management*"

General surveys to gather a basic idea of breeding birds on site "*No clearance of vegetation or structures suitable for nesting birds, shall take place between 1st March and 30th September inclusive in any year without the prior written approval of the local planning authority for most passerines. This period can be extended if early breeders such as Crossbills (red-listed species) were to be found on site. The authority will require evidence provided by a suitably qualified ecological consultant that no breeding birds would be adversely affected before giving any approval under this condition. Where checks for nesting birds are required they shall be undertaken by a qualified ecological consultant no more than 48 hours prior to the removal of vegetation or the demolition of or works to buildings.*"

As such, Aurora Gonzalo Tarodo was commissioned by Ramboll UK to undertake a nesting bird survey of site in order to provide advice on how the works can proceed in compliance with wildlife legislation, and in order to discharge Planning Condition 10.

Wildlife legislation

The core legislation relating to birds in Wales is:

- The Wildlife & Countryside Act 1981 (as amended).
- The Conservation of Habitats and Species Regulations 2017 (the "Habitats Regulations").

The legislation protects wild birds from being intentionally killed, injured or captured from the wild. In addition, it protects active bird nests and eggs from being destroyed, damaged or taken. Birds listed on Schedule 1 are afforded extra protection from intentional disturbance while they are nest building or using a nest, and from disturbing their young while they are dependent.

Methodology

Experienced ornithologist Aurora Gonzalo Tarodo (BSc, MSc, PgCert) conducted nesting bird surveys during two distinct periods: February to April and June to August of 2023.

For crossbills, surveys were conducted in the morning hours. Optimal weather conditions, characterized by mild winds, no heavy rain, and good visibility, were essential. Temperatures varied across the survey periods. The crossbill survey involved thorough exploration of suitable areas identified in 2022. These observations covered all tree elevations with potential nests for a minimum of 30 minutes, all from a discreet vantage point. Repeat surveys were performed on the same transects across four different dates. Key indicators of nesting bird behavior, such as repeated bird activity around specific trees, chicks begging for food, and adult bird alarm calls, were meticulously recorded.

The nightjar surveys encompassed both dawn and dusk periods. Slow-paced exploration of high-potential areas occurred, with a focus on detecting choring males during the early breeding season and hunting males and females as the season progressed. Four surveys were conducted in this manner.

To rule out the presence of honey buzzards, additional daytime vantage points were established.

Results

Crossbill surveys were conducted along the yellow transect lines (Fig. 1), revealing no evidence of nesting birds during any of the surveys. Nevertheless, the habitat demonstrated potential for crossbill utilization and could hold significance for juvenile dispersal.

Nightjar surveys followed the purple transect lines (Fig. 1), involving auditory detection of choring males in the early breeding season and tracking hunting males and females as the season advanced. None of the surveys recorded visual or auditory sightings of birds.

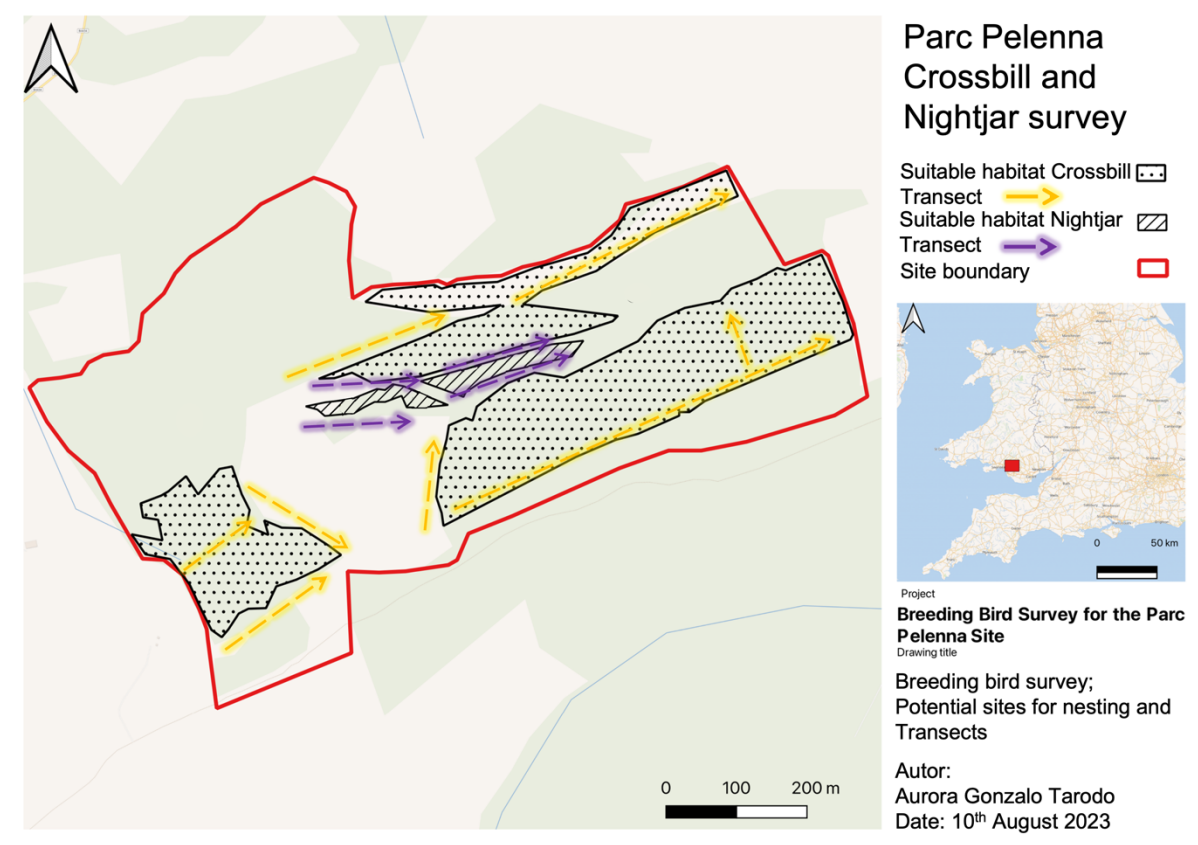


Figure 1 Crossbill and Nightjar transects on suitable habitats identified in 2022

Daytime vantage point assessments to ascertain the absence of Honey buzzards on the premises were conducted concurrently with the nightjar surveys, spanning the months of June through August. These efforts were undertaken on identical dates. Although Honey buzzards were not observed during these observations, it's noteworthy that other raptor species commonly breed within the area. The flight paths of certain raptors are illustrated in Figure 2 for reference.

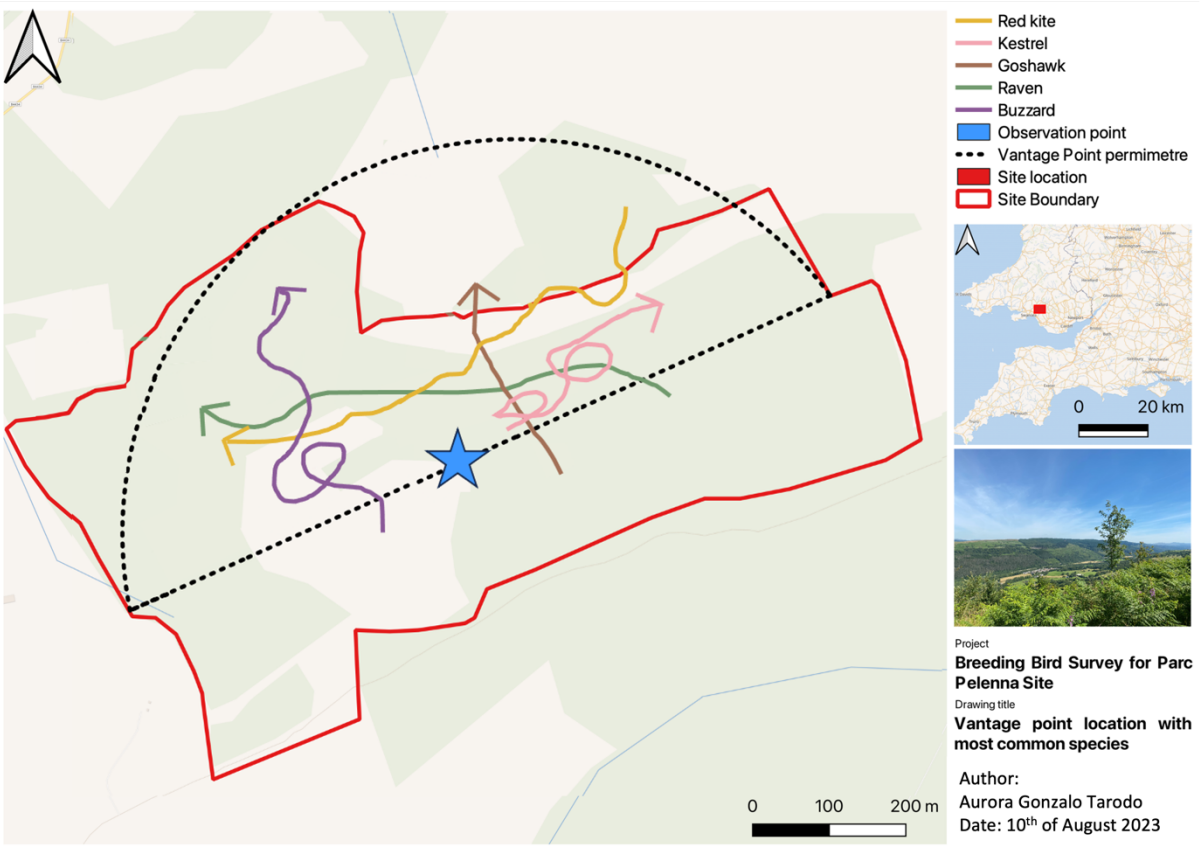


Figure 2 Fight trajectories of birds of prey and ravens. This figure only illustrates one trajectory of each species.

While conducting the crossbill and nightjar surveys, I opportunistically documented other bird species that were encountered. Notably, among these, during the crossbill surveys, an Alpine Swift was observed. A vagrant species, a migratory bird found in various parts of Europe, Asia, and Africa but very scarce in the UK. In total, the compiled list accounts for 22 distinct bird species, all of which were observed during the course of these surveys and are detailed in Table 1.

Table 1 Bird species and rough numbers that were observed on-site while conducting crossbills and nightjars' surveys

Species	**Count**
Tawny owl *Strix aluco*	1 (heard)
Barn owl *Tyto alba*	2 (seen)
Common woodpigeon *Columba palumbus*	10+ (seen and heard)
Common swift *Apus apus*	20+ (seen)

Species	Count
Swallow *Hirundo rustica*	100+ (seen)
Herring gull *Larus argentatus*	10 (seen on vantage point)
Lesser Black-backed Gull *Larus fuscus*	1 (seen on vantage point)
Magpie *Pica pica*	4 (seen)
Mistle thrush *Turdus viscivorus*	4 (seen and heard)
Meadow pipit *Anthus pratensis*	15+ (seen)
Tree pipit *Anthus trivialis*	4+ (seen and heard)
Song thrush Turdus philomelos	1 (heard)
Jay *Garrulus glandarius*	2+ (heard)
Alpine swift *Apus melba*	1 (seen)
Robin *Erithacus rubecula*	20+ (seen and heard)
Grey heron *Ardea cinerea*	1 (seen)
Pied wagtail *Motacilla alba*	5 (seen)
Goldcrest *Regulus regulus*	1 (heard)
Blackbird *Turdus merula*	8 (seen and heard)
Siskin *Carduelis spinus*	12+ (seen)
Goldfinch *Carduelis carduelis*	10+ (seen and heard)
Wren *Troglodytes troglodytes*	12+ (seen and heard)

Recommendations

To ensure the preservation of essential habitats and minimize disruptions to breeding bird populations, a comprehensive approach is recommended:

1. **Habitat Preservation:** The preservation of woodland areas, standing water features, and marshy landscapes remains paramount. Consideration should also be given to establishing semi-natural habitats, such as hedges, to enhance the overall ecosystem resilience.
2. **Breeding Season Precautions:** To prevent disturbances during the breeding season, activities like ground clearance and vegetation management should be meticulously scheduled outside the avian breeding period. If tree removal is deemed necessary within the breeding season, a 48 to 24-hour survey led by an experienced ecologist/ornithologist is essential to confirm the absence of nesting birds before any felling occurs.
3. **Impact Reduction:** Implementation of these measures will significantly mitigate the impact on nesting bird populations, fostering a more favourable environment for breeding and raising young birds.
4. **Enhanced Vegetation and Connectivity:** Supplementary efforts encompass buffer planting using native species and enhancing existing vegetation where feasible. This approach will bolster connectivity with the broader landscape, facilitating the movement of both local and migratory species, thus contributing to overall conservation goals.

Furthermore, recognizing the importance of cavity-dwelling specialist species, the installation of nest boxes is recommended as an effective strategy:

- Small Wooden Nest Boxes (5x): These boxes, designed with a 33 mm entrance hole, cater to species like Great tits, Pied flycatchers, and smaller avian species such as Blue tits.
- Small Wooden Nest Boxes with Open Fronts (5x): Created to accommodate Robins, Redstarts, and Great tits, these boxes provide suitable nesting options.
- Large Wooden Nest Boxes (2x): Featuring a spacious 250 mm entrance, these boxes are ideal for species such as Tawny owls or Jackdaws. Siting these boxes at a minimum height of 3 meters above ground level is advised. Additionally, strategic placement should ensure avoidance of entrance orientations that face the prevailing wind, generally sidestepping west or southwest directions.

By implementing these multifaceted strategies, the preservation and enhancement of bird habitats, as well as the protection of their breeding and nesting activities, will be significantly advanced.

If you require any further information, please do not hesitate to contact me.

Kind regards,

Aurora Gonzalo Tarodo
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APPENDIX 7
HONEY BUZZARD REPORT

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September 2020

HONEY BUZZARDS – COED Y CYMOEDD/PARC PELENNA 2020

CONFIDENTIAL: INFORMATION WITHIN ONLY TO BE SUBMITTED TO PLANNERS AS A CONFIDENTIAL ANNEX. NOT FOR PUBLIC PUBLICATION.

The European Honey-Buzzard, pernis apivorus is a very rare breeding bird in Britain, on the far western edge of its breeding range. The latest Rare Breeding Birds panel report for 2017 gives 24-47 pairs in the U.K. which includes confirmed, probable and possible breeding pairs. (Holling et al 2019). Although experienced fieldworkers consider this to be an underestimate, with the probability of pairs being in the low hundreds (Roberts and Lewis 2003, Roberts & Law 2014), and a realistic estimate of 50 pairs in Scotland (Forrester and Andrews 2007), there is no doubt that numbers of breeding pairs are very low, and widely, but thinly distributed throughout the U.K.(Roberts et al 1999)

Since their discovery as breeding birds in Wales in 1991 (Lovegrove et al 1994), a total of 13 different territories has supported confirmed breeding honey buzzards in Wales, with at least 6 other territories with possible breeding, though not in the same year. The maximum confirmed breeding pairs in any one year is 6 though this figure probably does not reflect the true status. The breeding territories are widely dispersed throughout Wales, from North to South, and are extremely varied, both geographically and topographically. Any large area of woodland, either broad-leafed or coniferous has the potential for breeding honey buzzards.

Indeed, the Neath valley of West Glamorgan has proved unique in the U.K., in the density of breeding honey buzzards that it has held, with up to 4 pairs confirmed breeding in some years with the possible nesting of other unconfirmed pairs(Roberts & Law 2014, Roberts and Lewis 2003). This population, with pairs in some years only 1.5 km apart, has been the subject of a long term study covering productivity, colour ringing, food analysis, nest cam recording and analysis, satellite tracking and public viewing via television to forestry commission visitor centres. The nesting density has on occasion been higher than anywhere else in Britain. Ongoing research may confirm why this unique density occurs but initial indications point to possible high density of amphibians, particularly frogs, in this essentially marshy valley (Roberts & Law 2014, Roberts and Coleman 2001)

The European Honey Buzzard is unique amongst large raptors in its essentially insectivorous diet, mainly social wasps and ,to a lesser extent, bees.(they do not eat honey). It has developed adaptations to its physiology to enable it to capitalize upon this specialist food-densely feathered lores, narrow nostrils, small head, elongated neck and shorter, stubbier

talons, more suited to digging than catching active prey. It spends much time perched in woodlands, in rides and glades, observing and following worker wasps back to their nests and then digging out and carrying chunks of comb, with their attendant larvae, back to its chicks in the nest. Larger wasp nests are often raided several times until completely destroyed, or revisited at intervals, as and when required. Seldom is a whole wasp nest removed in one go.

Honey buzzards forage widely searching for wasp nests, often many kilometres, and up to 9 miles (Roberts & Law 2014) from their nest. Hide and camera work has revealed that frogs also form a large part of the diet in the Neath valley (Roberts & Law 2014, Roberts and Coleman 2001). Frogs are essential for adults returning in May, to build up body fat reserves after migration in the short period before breeding commences, often only a week or two. Wasp nests are still very small in May and early June and would not provide sufficient quantities of protein to stimulate breeding by the end of May. Frogs also form a significant part of the diet for the chicks in July and August, particularly in poor wasp years

Honey buzzards have a compressed breeding cycle in Britain, and, because of their foraging behaviour, described above, are very unobtrusive. It is essential when surveying for honey buzzards that timing is co-ordinated with maximum honey buzzard activity. In Wales, honey buzzards arrive on their breeding grounds from around 10th May onwards, some later, and experienced pairs have laid eggs by 1st June. The week after 20th May is a crucial time for surveying. Occasionally, very experienced pairs have laid eggs by 24th May and surveyors expecting to see breeding pairs in the last week of May can be caught out. June and the first week of July, when adults are incubating, is often futile as birds are extremely difficult, if not impossible to detect. However, from the middle of July to the middle of August, whilst feeding young, offers the best chance to locate honey buzzards, as adults are actively foraging and flying frequently to and from the nest sites. On warm sunny days they circle high and travel long distances- up to 9 miles recorded on a satellite tagged bird in North Wales, though this is exceptional – 3 to 4 miles would not be unusual. Conversely, on cold and wet days, honey buzzards stay lower to conserve energy, foraging over shorter distances, often remaining under the canopy, making them much more difficult for surveyors to detect. Also birds can become more aerial and start wing-clapping again during early august, making locating birds easier. These 2 periods are crucial to survey effectively for honey buzzards. In addition, because of their unobtrusive behaviour and unpredictable and erratic aerial activity, longer periods of time need to be spent to determine presence or absence.

The location of nest sites is essential in determining the impact potential wind farm or other developments may have. Honey buzzard flights during the breeding season obviously start and finish more often at nest sites- flights away from the nest sites radiate away in a variety of directions, return flights converging. Any turbines/constructions close to an active nest would experience more aerial activity than more distant turbines/constructions encountering occasional foraging birds.,

European honey buzzards are not sensitive or shy birds but are extremely secretive during nesting, making exact nest locations difficult to determine. Added to this, nests are often well hidden amongst dense conifers- again adding to difficulties of nest location. With good luck, some nests are located by early June, whilst others are not located until the adults are feeding large young in August. Not all pairs breed every year, some “greening up” nests but not laying eggs, whilst other, less mature birds, build summer nests in July and August, which they

may eventually use in subsequent years (Roberts & Law 2014). Determining all these different activities requires time and patience, but it is essential to determine the level of the nesting attempt.

In the Neath valley of West Glamorgan, altogether, 25 different nest sites have been used since 1999 with varying degrees of breeding success. 2006 was a good breeding season, with four pairs breeding successfully and rearing young, with one other possible breeding pair. Conversely, 2007, with its extremely wet summer, was a poor year, with only 2 pairs breeding and rearing young. The extremely wet summer of 2008 again proved difficult for the birds, with 3 pairs laying eggs but only2 pairs successfully rearing young.

In Wales, in 2009, it was a disastrous season, with only one known nest, containing a poorly developed and undernourished chick, unlikely to survive.

In the well studied Neath valley, regular males failed to return, and unmated females refurbished and "greened up" old nests and unsuccessfully attempted to solicit males throughout the season. The only male to arrive in May must have paired and produced eggs, but failed immediately, probably due to interference from un-mated females, before the nest could be located.

In North Wales, a satellite tagged female either did not breed, or failed early, and, at another North Wales site, a surplus female again disrupted the breeding of an established pair, who lost eggs, replaced 3 weeks later in a new nest, and produced a stunted and badly undernourished chick, which did not survive.

The 2009 breeding season in Wales is seen as an aberration, due to the unfortunate shortage of males, as breeding in other areas, in the south east and south of England, has been excellent, experiencing their highest productivity ever,(at least 9 nests in the south-east producing 18 chicks).Indeed, in 2010, an extra young male turned up in the Neath valley, resulting in 2 pairs laying eggs, but again, both failed through infertile eggs in one case and poor parenting in the second. In the North, 2 pairs bred, but one pair failed at hatching due ,again to unseasonally bad weather, whilst a second long established pair successfully fledged 2 chicks. As predicted, in 2011, things improved markedly in the Neath valley, with the return of another new male and the increasing maturity of the current males. Three pairs bred and all were successful raising a total of 5 chicks, the first since 2008.Importantly, colour ringing and nest cameras revealed that 2 of the males were chicks from the last successful 2008 nest, now breeding as adults close to their birthplace, Blue AP and Blue AS. There was little or no coverage at breeding sites in the North.

The extremely wet and cold summer of 2012 again proved disastrous across the whole of Wales with no confirmed breeding, but 2013 was an improvement with 2 pairs (males Blue AS and Blue AP) successfully rearing 4 young in the Neath valley and 2 further pairs holding territory. There was also evidence of successful breeding in the North. In 2014, again only one pair bred in the Neath Valley. This pair (male Blue AP) bred at their regular site and laid 2 eggs but the nest collapsed early in the breeding cycle and the eggs were lost. However, this pair replaced in a new nest 4kms away and successfully hatched 2 chicks, one of which succumbed during torrential thunderstorms. The second chick fledged successfully, very late, in September. The second pair that had bred successfully in 2013 failed to breed as the female did not return from her winter quarters- probably died. This male, Blue AS, refurbished the old nest and held territory.

In 2015, only one pair could be located in the whole of the study area. This pair consisted of the successful 2014 female and the lone 2014 male (Blue AS). The original 2014 male had failed to return. They successfully raised 2 chicks and the breeding cycle was recorded on high definition camera supplied by a partnership of Neath/Port Talbot Planning Dept and Natural Resources Wales. There were no other sightings in the whole study area indicative of breeding.

In 2016, this same pair, confirmed by the use of nest cameras to record colour-ringed adults, had moved 3.5km into the main Neath valley near Abergarwood.

The nest, discovered on 30th July, contained 2 chicks and biometric measurements confirmed that they would have hatched on 3rd July and eggs would have been laid around the 1st June.

Again, this was the only confirmed pair in the whole study area. Importantly, until the discovery of the nest on the 30th July, and despite surveying the area quite intensively since mid-May, there had been no indication that birds were breeding. A single female had been seen in the Pelenna and Abergarwood areas very occasionally but appeared to be alone. There had been no sightings of a male until after the discovery of the nest. This highlights the particularly unobtrusive nature of breeding Honey-buzzards and the difficulties of confirming non-breeding, more so with observers who may not be very familiar with the habits of this species.

In 2017,on 18th May, a pair of Honey-buzzards were observed in the woodland close to the 2016 nest and from observations over 5 hours it was obvious they were undertaking nest-building activity – refurbishing the old 2016 nest in larch at Abergarwood SN805017. This larch block had been retained by NRW as a Honey-buzzard breeding site. It was presumed that this was highly probably the same pair that had nested in 2016- the male colour-ringed Blue AS. At the same time observations were taking place at this pairs old breeding site at Pelenna SS815985. There was no activity observed at this site.

On 7th June, when eggs should have been laid and incubation underway, the nest was inspected. The nest was re-furbished and copiously lined with very fresh greenery, obviously very recently added, but no eggs. There were no birds present. On the same day a pair of Honey-buzzards were observed flying into woodland in the vicinity of Glyncastle- approx SN843026. An hour later, a single bird was observed carrying a frog into the same spot. This is a very old nesting area used many years ago. Unfortunately the area the birds were disappearing is not visible from any viewpoint except by climbing a tree opposite the suspected nest area. This new “hotspot” was deemed to hold a nest but from the birds behaviour would not yet have contained eggs. Two birds are never active if a nest contains eggs and food is never taken to a nest once incubation has begun. As with Abergarwood, this nest would be later than the norm for egg-laying (1st June).

At 08:15 on 22cnd June, confusingly, a male Honey-buzzard was observed flying from the area of the new “hotspot” at Glyncastle to the old nest site at Abergarwood. When the nest at Abergarwood was inspected later that day it was still having fresh greenery added and the male Honey-buzzard circled overhead whilst the nest was climbed. However, there were still no eggs. At 12:15, a female Honey-buzzard appeared from the Glyncastle site and headed away without fuss – typical of what would be expected from a relieved incubating bird.

As the Glyncastle birds could not have laid eggs until at least 10th June , observations were not undertaken to determine if young had hatched until 17th July (33 days incubation). An

appropriate tree affording a good view of the suspected nest area was located and prepped (branches removed, etc) ready for food-carrying observations.

On 17th July, 3 observers with 2-way radios were positioned – Resolven, Abergarwood and Glyncastle. Throughout the morning there was considerable activity at the Glyncastle site with birds in and out of the "hotspot", believed to be provisioning small chicks. However, the Abergarwood male was carrying food over a wide area, wingclapping. This is an indication of non-breeding. This bird flew over the Abergarwood nest site, over it's old Pelenna nest site and up the valley as far as McDonalds roundabout. Throughout the rest of the season until at least 10th August, this bird continued to display and wingclap over large areas including Pelenna. Failed or non-breeders will regularly visit old breeding sites they are familiar with.

After determining chicks must have hatched at Glyncastle it was decided to tree-up and try to pin-point the nest site on 22cnd July. Unfortunately, a prolonged period of heavy rain in the interim must have caused nest failure. Five hours viewing from the tree on the 22cnd indicated nest failure as no Honey-buzzards were active at the site. However, birds were present cruising widely in the main valley- again indicative of failure. Breeding birds have very direct flights-not aimless. A second session from the tree a week later gave much the same result. With no regular visits to the nest it was not now possible to determine the exact nest location.

The conclusion for 2017 was that although a pair of Honey-buzzards had initially turned up at the old 2016 breeding site at Abergarwood, this male lost his mate early on and subsequently failed to breed. A new pair, or a new male with the Abergarwood female, bred at Glyncastle and lost chicks due to bad weather when the chicks were very small. This 2017 season highlights the particular difficulties that can be encountered when trying to establish the breeding status of the Honey-buzzard.

Over the course of the season further observations from viewpoints at Glyncastle, Wenallt, Cwmgwrach and Pelenna and prolonged observations around Abergwynfi afforded good views of the southern and western edges of the Pen y Cymoedd turbine site. The lone male was seen on numerous occasions to visit the Pelenna area and the birds from Glyncastle occasionally appeared from the direction of the western edge of the turbines above Glyncastle.

A 5 hour period of observation over the Pelenna area on 10th August revealed no sightings over Pelenna but a pair were seen over a wide area of the the main Neath valley .

There were no sightings elsewhere.

Successful breeding was again confirmed in 2018 in the Coed y Cymoedd forest district in the Glyncastle area of Resolven. The nest fledged one chick and the adult male was confirmed colour ringed blue AS, the same male breeding since 2011 and now 10 years old (confirmed by nest-cam). The female at this years nest is a different bird from the last recorded female from Pelenna in 2015 (confirmed by nest-cam).

This pair bred successfully again at the 2019 Resolven nest site rearing 2 chicks. It is almost certain, though not confirmed, that the nest was occupied by the male- Blue AS, making him 11 years old. The female was the same as 2018, confirmed by plumage from photograph.

In addition, for the first time for some years, another (white)male Honey-buzzard held territory close to the breeding pair and spent the season displaying over a wide area attempting to attract a mate. It appears he has failed to do so but the length of time he has held territory suggests he would return next season- a welcome addition to the present fragile population

Parc Pelenna 2020

The established pair of Honey -buzzards bred again in 2020 at the regular Resolven site, the nest now used for 3 years in succession.
This nest is approx 7 kms from the nearest point of the proposed Parc Pelenna development and is considered to be at no direct risk from the construction of the proposed development. However, Honey-buzzards can move nest site from year to year and previously nests have been nearer- on one occasion approx 500mtrs from the proposed development.

Also, as predicted, the single male from 2019 returned and secured a female. Although too soon for them to breed the pair spent a considerable time displaying and foraging around the valley, eventually favouring a block of sitka spruce about 4 km from the proposed Parc Pelenna development. The pair spent a considerable time in and out of this woodland and it is considered they probably built a “summer” nest which may be used next season to breed. They may, however, choose to breed in a completely different location. In addition, a further single male was present throughout the season, a total now of 5 birds. This male spent most of the season trying to unsuccessfully solicit the female from the new male. It is hoped that he might secure a new female next season. The favoured area of this pair is again not considered to be impacted by the Parc Pelenna develoment.

It is important to emphasise that Honey-buzzards are unpredictable regarding their choice of nest site from year to year. Some nest sites remain stable for some years and then suddenly change for no clear reason. Other pairs move almost annually. They can move from coniferous plantations to broadleaf woodland and vice versa. They can move 200mts or 2 miles. With that in mind it is prudent to highlight the Honey-buzzards historical connection to the woodland close to the proposed development and seasonal ongoing monitoring should be maintained for the duration of the construction of the development.

That said, post construction, the site might pose little threat to Honey-buzzards. Once the site is established if Honey-buzzards choose to nest close to the site or access roads the birds would obviously have proved tolerant of the commensurate level of disturbance involved.

Mitigation is important around construction and post-construction. If construction work is avoided between the second week of May and the last week of August there were be no direct threat to breeding Honey-buzzards. If this cannot be avoided then it is important construction works closely with surveyors to establish any potential risk to Honey-buzzards.

Post construction mitigation depends heavily upon the creation of ponds which are attractive to frogs, an essential part of Honey-buzzard diet when they first return from Africa. These should be constructed as far away from disturbance as possible (on the fringes of the development) and have some woodland cover. It is advised that some ponds are constructed of a depth that allows them to dry out in late summer to kill dragonfly larvae which are voracious predators of tadpoles.

In addition, in woodland areas, woodland edge should be scalloped to afford more “edge” and facilitate light which encourages vegetation. This in turn provides more area for Honey-buzzards to forage for wasps and follow worker wasps back to their nests. These scalloped edges are better placed within woodland along rides rather than outside edges.

Survey work was undertaken in a wide area around the proposed development from Pelenna above the site and Wenallt and Clyne below. In excess of five days observation at various vantage points were selected in the period of maximum potential for observing Honey-buzzard activity- 10th July to mid August. This is the period when breeding Honey-buzzards would be provisioning young with food and undertaking long foraging flights to and from nest sites. This is the period of most intense activity of an otherwise unobtrusive raptor.

All observation days were undertaken in appropriate weather conditions when foraging birds are most likely to circle up high from nest sites to forage, or from foraging sites to return to the nest.

During min 5 hour surveys from these vantage points no Honey-buzzards were observed in or around the proposed development or the wider area. However, observations from further north in the confirmed breeding area resulted in several display/foraging flights by the non breeding birds down the valley towards Wenallt and Pelenna. These birds were eventually lost from view.

Honey-buzzard foraging flights follow no particular pattern and, over the season, can radiate from the nest in all directions, heights and distances, depending upon where nest wasp nests have been located earlier in the season by the off-nest adult during the incubation period. They may revisit a wasp nest several times following the same route until the nest is exhausted and then forage in a completely different direction. They might therefore travel repeatedly over a turbine/construction site one day and be absent the next. Indeed, a Honey-buzzard was seen flying through a turbine site carrying food back to the nest, struggling valiantly to avoid the blades. It is considered the threat from turbines is mainly a matter of luck. Whereas casualties of Kite, Buzzard or Goshawk can be absorbed in their burgeoning populations, at present, one Honey-buzzard casualty could perhaps result in the cessation of breeding Honey-buzzards in this part of Wales. That said, conversely, one pair of Honey-buzzards nesting 5.5kms from a turbine site moved closer, to 2kms, breeding successfully for 4 years.

The male at Resolven, now 12 years old, is a bird bred in the valley in 2008. Up to 2018, no extra birds from previous breeding successes had been recorded in the area since the demise of Blue AP. Pleasingly, 2019 saw the arrival of a new extra male which set up and established a territory in the valley, reflecting the general increase in breeding Honey-buzzards across the country as a whole. In 2020, this male, having now secured secure a mate will hopefully breed successfully in 2021. In addition, the new spare male may also succeed in securing a mate in the future. Of concern is the precarious fortunes of the few remaining individuals. If anything befalls any of these individuals during migration or during the subsequent breeding season we may see the cessation of breeding Honey-buzzards, albeit perhaps temporarily, in this region.

Honey-buzzards are subject to population fluctuations, as witnessed in the New Forest in the 80's when breeding pairs fell to just 2 pairs, only to rise again to 8/9 pairs by the turn of the century. Undoubtedly numbers will rise again in this region of Wales but the continued success of this particular precarious population, and the production of young, has probably taken greater significance.

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APPENDIX 8
HABITAT MANAGEMENT PLAN HEADS OF TERMS

HEADS OF TERMS: HABITAT MANAGEMENT PLAN

The Client will commission a suitably qualified ecologist to prepare a Habitat Management Plan (HMP) to the following specification. The HMP will be prepared and completed before development works commence. This will cover at least a 15-year period.

EXECUTIVE SUMMARY

To include a summary of existing conditions and actions to be completed.

1. General Information

To include:

- *Confirmation of the location of the site including a definitive red line site boundary for planned habitat creation and management works;*
- *Confirmation of land tenure and management structure, roles and responsibilities during development and into the future;*
- *Details of existing environmental conditions, clearly detailing retained habitats and habitats which will be impacted and altered;*
- *Details of priority and target species for the site based on baseline survey information (including common lizard, hedgehog, bat and bird species); and*
- *Information regarding access and cultural considerations e.g. location of public footpaths and an assessment of potential implications for habitat management e.g. public safety.*

2. Evaluation of Features

- *Details of proposed landscape layout showing retained and created habitats;*
- *Details of nearby designations and adjacent habitats; and*
- *List of objectives, priorities and targets for the site including habitat creation to meet LDP policies EN6 and EN7 and with reference to S7 priority habitats and species.*

3. Management Objectives

- *Consideration of factors influencing management including legislation, natural processes (e.g. succession) and constraints (including public health and safety);*
- *Management prescriptions for a ten year period to meet objectives set out in Section 2 to include creation and management of woodland, mosaic and grassland habitats, species-specific habitat creation and management measures including reptile refugia/hibernacula creation, bat and bird box specifications and locations, hedgehog boxes and locations and management prescriptions to benefit wildlife; and*
- *Monitoring protocols including triggers for remedial measures and a timetable for revision of the plan.*

4. Programme of Works

- *A table summarising management prescriptions over a ten-year period which will form the basis of an instruction to contractors to deliver the management works;*
- *Seasonal timing to be included; and*
- *Roles and responsibilities to be included.*

Appendices