



**Land at Collier's Row,
Heol Gerrig, Merthyr Tydfil**

**PRELIMINARY ECOLOGICAL
APPRAISAL**

Report issued: 18th September 2019

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SUMMARY

1. Pryce Consultant Ecologists was commissioned in July 2019 to carry out a Preliminary Ecological Appraisal (PEA) of land at Colliers Row, Heol Gerrig, Merthyr Tydfil on which Maxiom Ltd is seeking planning permission to carry out a small residential development. The land which is the subject of this PEA is centred at OS grid ref. SO 0391 0625 and comprises of the survey site (outlined in blue on Figures 1 - 3), within which is the application site (outlined in red).
2. The site is currently mainly occupied by planted woodland and colonising scrub with adjacent horse-grazed, rather sparse grassland, all established on regraded colliery spoil. These are all secondary habitats which have become established since the c.1990s and, although capable of supporting nesting birds and other fauna, cannot be considered to be any more than of local significance.
3. The Merthyr Council Ecologist & Countryside Officer – Planning and Countryside has been consulted and commented as follows.

“The possible ecological issues on the site are likely to include (but not be limited to): bats roosting in trees and/or foraging and commuting across the site, nesting birds, reptiles, west European hedgehog.”
4. The South-East Wales Biodiversity Records Centre (SEWBRc) was consulted to procure existing site and species information from within a radius of 2km of the survey site. No protected or significant sites designated for their ecological interest are located within the survey site. The locations of such sites within the 2km area of search are shown on the SEWBRc maps reproduced at appendix 8. No such sites will be impacted by the proposed development. Records of protected species and species of conservation concern have been summarized at Tables 2.1 – 2.5, below.
5. The present survey and SEWBRc data indicate that the most significant impacts from the proposed development are likely to be limited to the potential for disturbance to **bats** (which are European Protected Species), **reptiles**, **terrestrial-phase amphibians** and **nesting birds** (which are protected to varying degrees by the Wildlife and Countryside Act 1981) and **Hedgehog** (a *Species of Principal Importance* listed under section 7 of the Environment (Wales) Act 2016. **Great Crested Newts** are known from the area but it is judged that, as the nearest recorded breeding ponds are greater than 500m distant from the survey site, the proposed development will not significantly impact this species.

The young age and generally etiolated conformation of most trees within the site present no, or only very limited potential for harbouring roosting bats. Furthermore, habitat with potential to attract reptiles and terrestrial-phase amphibians is judged to be limited to the edge habitat between the planted woodland and sparse grassland as shown on figure 3. There is also potential for Hedgehogs to seek refuge in this edge habitat.
6. The development of the site will result in the loss of cover, potential bird nesting sites, bird territories, faunal foraging resources and commuting routes for bats and other fauna within the application site but this loss is of low significance when viewed in the context of the extent of similar existing habitats that will remain in the vicinity.

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7. Three plant species of County Borough Importance were recorded during the survey. Only a single plant of one of these species, Spiked Sedge, is located within the application site and will need to be disturbed by the proposed development. It is proposed, at the commencement of the site clearance operation, to translocate this plant to a nearby safe site.
8. No other protected or significant species will be impacted by the development.
9. With the exception of a single small bush of possible Hollyberry Cotoneaster, no **Invasive Non-Native Species** will be disturbed during the development of the site. No Japanese Knotweed was observed within the survey site during the survey.
10. It is recommended that habitat piles constructed from arisings from tree and rank vegetation clearance work are constructed to provide potential refuges for fauna such as reptiles, amphibians and Hedgehogs. Hibernacula should also be constructed from any surplus rubble.
11. **Timing of Works.** Site operations should be carried out bearing due regard to the requirements of all flora and fauna, at the appropriate times of year, in order to comply with current legislation and best practice (see appendix 7). All vegetation clearance should be commenced outside the bird breeding season (March to August inclusive) and preferably during mid-September to the end of October to avoid disturbance to hibernating animals such as bats, reptiles and amphibians. If it is unavoidable that vegetation clearance commences within the nesting season, immediately prior to the commencement of such works, areas to be cleared must be examined by a qualified ornithologist. The commencement of the clearance work will only be permitted if the ornithologist judges that the area does not support any nests. Failure to protect active nests is in breach of current legislation and could result in prosecution.

A suitable timetable for works should be designed to comply with all ecological constraints and requirements.
12. **Mitigation** of habitat loss may be achieved by the provision of bird nesting and bat roost features in the fabric of houses to be constructed on the site. This provision, associated with appropriate landscape and garden plantings, will reduce the impact on bats, birds and other fauna and the provision of suitable-sized apertures (130mm x 130mm) at the base of fencing between plots and to the adjacent land will allow for the passage of Hedgehogs.
13. **Landscape plantings** should seek to provide habitat connectivity linking habitats surrounding the site. Where possible, trees and dense hedges should be retained, maintained or planted around the site margins and between new properties to connect existing woodlands to the south and along the edge of the A470 with existing habitats to the west and gardens to the north and north-east.

All new plantings should be of species appropriate to preserve the character of the local landscape. Where native species are planted, in order to ensure that they are compatible with the local gene pool of the area, they should be of local provenance as outlined in Forest Practice Note No. 8, *Using Local Seed Sources for Planting Native Trees and Shrubs* (Forestry Commission, 1999).

In order to provide faunal feeding opportunities, plantings should include berry and seed-bearing trees and shrubs such as Hawthorn, Hazel, Alder Buckthorn, Crab Apple, Guelder Rose, Rowan and Elder. Native species of trees and shrubs (including non berry-bearing species) generally have higher invertebrate productivity than alien species, thus resulting in a richer environment for birds and other fauna.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Existing vegetation and new plantings should not be over-managed and species such as Ivy, Bramble, willow and Gorse should be allowed to grow, as these also provide good food sources and cover for nesting birds and other fauna.

14. A landscape plan incorporating an appropriate ecological mitigation strategy and plan should be drafted as the scheme is progressed.
15. There should be input from a qualified ecologist at all stages of the project.
16. Careful planning and supervision of site personnel must seek to ensure that disturbance to all existing habitats and species is kept to an absolute minimum.
17. All site personnel must be made familiar with the ecological requirements of the site at induction courses and tool-box talks.
18. Attention is drawn to all additional recommendations made at section 5 and at appendices 5 and 6 of this report.
19. No other significant ecological issues were identified during the assessment.

20. **Future Site Maintenance**

Following the completion of the construction phase, future maintenance of the site should bear due regard to the well-being of all habitats, flora and fauna and only employ best-practice.

All maintenance works must be undertaken at times appropriate to avoid unnecessary disturbance, for example, to avoid the bird nesting season and to minimize disturbance to hibernating animals.

Lopping of trees and cutting of vegetation should not be over-aggressive and it should be borne in mind that species such as Ivy, Gorse, willow and Bramble are very important habitats for many species.

The frequent cutting of grass verges without removing the arisings invariably results in their decline in ecological value due to soil enrichment causing a considerable reduction in species-diversity. Arisings from grass cutting should therefore always be removed.

Management practices and prescriptions should be conveyed to the maintenance staff or contractors who carry out such routine maintenance, on every occasion that work is undertaken.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

CONTENTS

	Page
Summary	3
1. Introduction	9
2. Desk Study and Phase 1 Habitat Survey	10
3. Protected and Significant Fauna	28
4. Ecological Assessment	38
5. Ecological Recommendations and Opportunities	52
6. References	57
Appendix 1 International, National and Local Statutory and Policy Framework	59
Appendix 2 Target Notes	64
Appendix 3 Amalgamated Species Lists collated from Target Notes	74
Appendix 4 Ecology, Survey Methods, Status and Protection Legislation of Protected and Significant Fauna	77
Appendix 5 Best Practice Protocol for Tree Felling where trees have the potential for supporting Roosting or Hibernating Bats	86
Appendix 6 Best Practice Protocol Providing for the Well-Being of Badgers	88
Appendix 7 Protected Species and Habitats: Permitted Times of Work	89
Appendix 8 Data received from the South East Wales Biological Records Centre	90

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1. INTRODUCTION

Pryce Consultant Ecologists was commissioned in July 2019 to carry out a Preliminary Ecological Appraisal of land at Colliers Row, Heol Gerrig, Merthyr Tydfil on which Maxiom Ltd is seeking planning permission to carry out a small residential development.

At present, the site is primarily occupied by planted woodland and colonising scrub with adjacent horse-grazed, rather sparse grassland, all established on regraded colliery spoil.

On 8th August 2019, Richard Pryce assessed the habitats and vegetation of the land within the red line shown on figure 1 (the application site) and additional adjacent land, principally that contained within the blue line on figure 1. The survey was based upon standard Phase 1 Habitat Survey methodology (Nature Conservancy Council, 1990) whilst also seeking and noting faunal observations and potential faunal habitat.

The Merthyr Council Ecologist & Countryside Officer – Planning and Countryside was consulted at the pre-application stage on 12th August 2019 and advised that, in compliance with standard Preliminary Ecological Appraisal (PEA) guidelines (CIEEM, 2017), the Local Biological Records Centre (SEWBRc) should be consulted to procure data that may be relevant to the appraisal. He also commented as follows:

“The possible ecological issues on the site are likely to include (but not be limited to): bats roosting in trees and/or foraging and commuting across the site, nesting birds, reptiles, west European hedgehog.”

The present report sets out the findings of the survey and assesses the potential impact of the proposed development upon existing ecological features.

Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

2. DESK STUDY and PHASE 1 HABITAT SURVEY**2.1 Survey Objectives**

The survey was commissioned to identify any impacts that the proposed development might have upon habitats and/or protected species or species of significance and to identify any constraints that may be imposed by ecological issues.

The approximate centre of the area surveyed is located at O.S. grid ref. SO03910625 and its boundaries are shown on figure 1. The red line delineates the application site and the blue line the approximate extent of the survey.

2.2 Context and Third-Party Information

2.2.1 The County's Planning Ecologist's comments and requirements are reproduced in section 1, above.

2.2.2 Reference was made to old Ordnance Survey maps of the area.

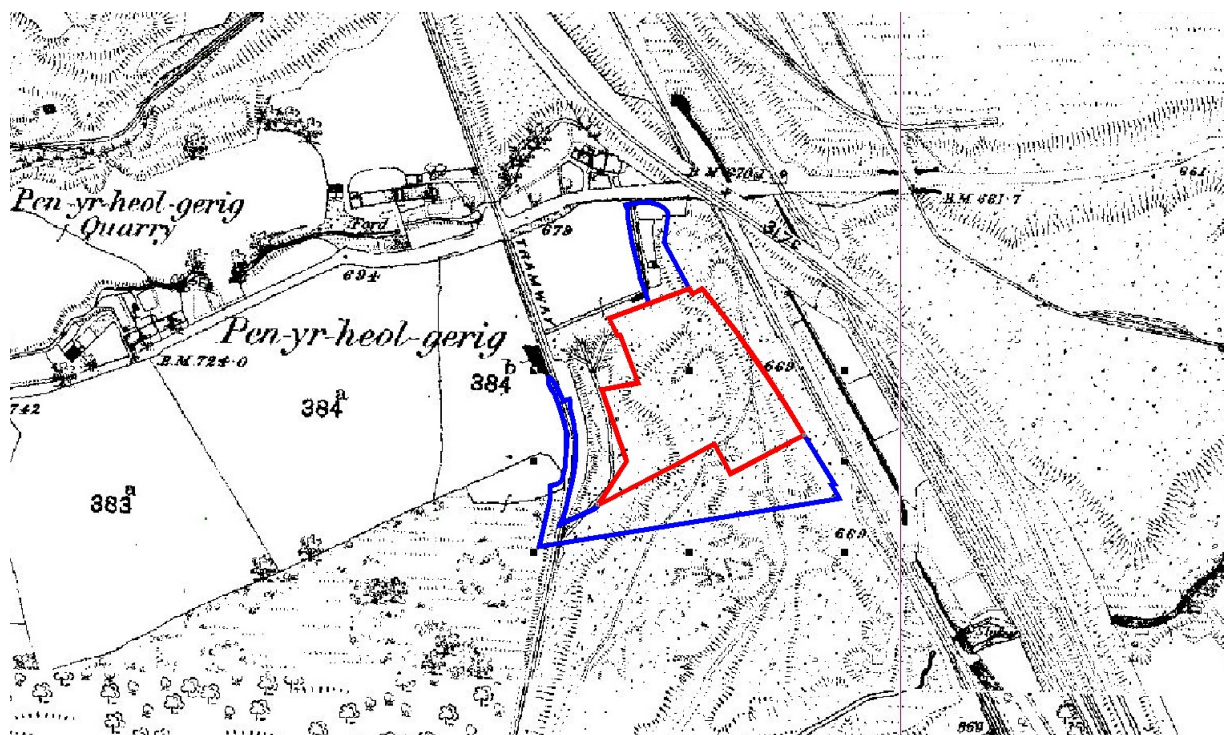


Figure 1. First Edition O.S. 25 inch to 1 mile map c1843-1893

Application site boundary shown by the red line, extent of survey site by the blue line

The first edition O.S. 25 inch to 1 mile map surveyed between c.1843 and 1893 (figure 1) shows the survey site to be entirely occupied by colliery spoil tips with a tramway running approximately north-south along the western boundary. Subsequent historic maps show the growth of housing along Heol Gerrig to the north and north-west of the site but there was little change within the site until the spoil was regraded and planted with trees in the c.1990s.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

- 2.2.3 Reference was also made to the Countryside Council for Wales Phase 1 Habitat Survey maps surveyed in about 1990 and to CCW statutory protected site citations. The CCW Phase 1 map shows the survey site to be mainly occupied by plantation woodland with an area of spoil in the north-eastern section and an area of neutral grassland in the south.
- 2.2.4 The South-East Wales Biodiversity Records Centre (SEWBRc) was consulted to procure protected and significant site information and past records of protected and significant floral and faunal species from within a radius of 2km of the central point of the survey site taken to be SO03910625. The locations of protected and significant sites, habitats and species are shown on the SEWBREC maps (see appendix 8) and the data received have been summarized in the paragraphs below.
- 2.2.5 There are no protected sites of European significance located within the survey site or within at least 5km. Such sites include, for example, Special Areas of Conservation (SAC) and Special Protection Areas (SPA).
- 2.2.6 There are no statutory protected sites of national significance notified as Sites of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act 1981 located within the survey site but the following are located within 2km.
- Cwm Glo a Glandyrys SSSI: an extensive area of unimproved grasslands, woodlands and habitats developed on colliery spoil, the closest point of which is located some 150m to the south of the survey site. The location and extent of this SSSI is shown on the map provided by SEWBRc reproduced at appendix 8.
 - Cwm Taf Fechan Woodlands SSSI located about 1.25km to the north which is shown on the map provided by SEWBRc reproduced at appendix 8.
- Other SSSIs in the area include
- Penmoelallt SSSI located about 3km to the north-west
 - Bryncarnau Grasslands Llwydcoed SSSI, located some 3.5km to the west
- 2.2.7 The lower part of the Taf Fechan Woodlands SSSI closest to the town is also designated as a statutory Local Nature Reserve, is managed by Merthyr Tydfil County Borough Council and is located about 1.25km to the north of the survey site.
- 2.2.8 Most of the northern part of the Taf Fechan Woodlands SSSI is managed as a Nature Reserve by the Wildlife Trust of South and West Wales and is located just under 2km to the north of the survey site.
- 2.2.9 Merthyr Tydfil County Borough Council have identified a series of Sites of Importance for Nature Conservation (SINC) (also known as Wildlife Sites). The following SINC lie within about 2km of the survey site and are shown on the SEWBRc map at appendix 8.
- Afon Taf, the closest point of which is about 0.5km north of the survey site
 - Blaen-Canaid, the closest point of which is about 1.2km south of the survey site
 - Coed Meirig Pastures, the closest point of which is about 1.8km north-west of the survey site
 - Cwm Ffrwd, the closest point of which is about 1.6km north-west of the survey site
 - Cwm Glo, the closest point of which is about 100m south of the survey site
 - Cwm Taf Fawr, the closest point of which is about 1km north of the survey site
 - Cwm Taf Fechan, the closest point of which is about 2km north of the survey site
-

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- Cwm Taf Fields & Cefn Coed Tip, the closest point of which is about 0.5km north of the survey site
- Cyfarthfa Park, the closest point of which is about 1.1km north-east of the survey site
- Gellideg North Fields, the closest point of which is about 1.5km north-west of the survey site
- Rhydicar West, the closest point of which is about 0.8km south of the survey site
- Winchfawr East & Clwydfagwyr, the closest point of which is about 1km west-northwest of the survey site
- Winchfawr West, the closest point of which is about 1.3km WSW of the survey site
- Y Graig, the closest point of which is about 1.5km north of the survey site

2.2.10 Areas of designated ancient semi-natural woodland located within 2km of the survey site include nine woods identified as Ancient Semi Natural Woodlands (ASNW) totalling 15ha mostly located near the southern edge of the search area and three Restored Ancient Woodland Sites (RAWS) totalling 18ha in the northern part of the search area. These are shown on the map provided by SEWBRc reproduced at appendix 8. Small areas of Plantation on Ancient Woodland Sites (PAWS) and Ancient Woodland Sites of Unknown Category (AWSU) have been identified at the southern edge of the search area.

2.2.11 There are large areas of open access land located to the west and south-west of the survey site, much of which comprise of historic, mined patch workings with extensive areas of associated spoil tips and occasional ponds. These are often of considerable wildlife interest and parts are included in the Cwm Glo a Glandryrs SSSI. The closest areas include Cwm Glo, about 1km to the south-west, and areas extending to Winch Fawr and Heol Gerrig about 2km to the west and 1km to the north-west respectively.

2.2.12 Nant Ffrwyd, located about 1.5km north-west of the survey site, is designated as a Regionally Important Geological Site (RIGS).

2.2.13 European Protected Species, nationally protected species, *Species of Principal Importance for Conservation of Biological Diversity* listed under section 7 of the Environment (Wales) Act 2016 and other species of significance procured from SEWBRc are listed at Tables 2.1 to 2.5, below. Also shown is the closest distance (in metres) that the species has been recorded from the centre of the survey site (taken to be SO03910625) together with the date of that record. The date of the latest record is also shown which invariably refers to a location more distant than the closest record. No account has been taken of records apparently duplicated in the dataset, for example the 39 entries for Marsh Fritillary butterfly may refer to only about 10 or 12 separate records.

Species for which no suitable habitat is present within the survey site or which are considered to be highly unlikely to visit or occur within the site are included in the lists but are greyed-out.

It should be pointed out that protected and other significant species additional to those held on the SEWBRc database are likely to occur within, or visit the survey site and its vicinity. Therefore, the absence of a species in the tables does not necessarily imply that that particular species does not occur in, or visit the area.

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KEY TO DESIGNATIONS IN TABLES 2.1 – 2.5

BA = Protection of Badgers Act
UKBAP = UK Biodiversity Action Plan Priority Species
BDir1 = EC Birds Directive Annex 1 Species
BDir21 = EC Birds Directive Annex 2.1 Species
BDir22 = EC Birds Directive Annex 2.2 Species
CITES = Convention on International Trade in Endangered Species
EPS = European Protected Species
HDir = EU Habitats Directive Species
NRW = Natural Resources Wales Priority Species
RD1 (Wales) = Welsh Red Data Book listing based on IUCN guidelines
RD1 (UK) = UK Red Data Book listing based on IUCN guidelines
RD2 (UK) = UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce)
WBR (RSPB) = RSPB Welsh Red listed birds (not based on IUCN criteria)
WBA_m (RSPB) = RSPB Welsh Amber listed birds (not based on IUCN criteria)
UKBR (RSPB) = RSPB UK Red listed birds (not based on IUCN criteria)
UKBA_m (RSPB) = RSPB UK Amber listed birds (not based on IUCN criteria)
S7 = *Species of Principal Importance for Conservation of Biological Diversity* listed under section 7 of the Environment (Wales) Act 2016
WCA1.1 = Bird species listed under Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 as amended
WCA5 = Species listed under Schedule 5 of the Wildlife and Countryside Act 1981 as amended
WCA8 = Plant species listed under Schedule 8 of the Wildlife and Countryside Act 1981 as amended
WCA9 = Species listed under Schedule 9 of the Wildlife and Countryside Act 1981 as amended
INNS = Invasive Non-Native Species
WVP = IUCN Threat Listing of Welsh Vascular Plants
LBAP (MTR) = Merthyr Tydfil County Borough Local Biodiversity Action Plan Species
LI (SEWBReC) = Locally Important Species (as identified by local specialists) in SEWBReC area.
LI (VC41, LR) = Locally Important Species (as identified by local specialists) in Glamorgan, Locally Rare in vice county.
LI (VC41, EX) = Locally Important Species (as identified by local specialists) in Glamorgan, Extinct in vice county.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

TABLE 2.1.
EUROPEAN PROTECTED SPECIES

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxon-omic Group	Common Name	Scientific Name	Designations
637	87	1966	18-Apr-14	amphib	Great Crested Newt	<i>Triturus cristatus</i>	EPS, HDir, WCA5, S7, UKBAP,
637	33	10-Jul-90	25-Jul-15	bat	Bats	Chiroptera	EPS, WCA5, S7,
781	6	15-Jul-13	15-Jul-13	bat	Brown Long-eared Bat	<i>Plecotus auritus</i>	EPS, HDir, WCA5, S7, UKBAP,
573	62	03-Mar-09	16-May-16	bat	Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	EPS, WCA5,
1104	21	Aug-01	29-Sep-10	bat	Daubenton's Bat	<i>Myotis daubentonii</i>	EPS, HDir, WCA5,
1639	20	08-Sep-10	11-Jan-17	bat	Lesser Horseshoe Bat	<i>Rhinolophus hipposideros</i>	EPS, HDir, WCA5,
1239	3	20-Sep-11	20-Sep-11	bat	Long-eared Bat species	<i>Plecotus</i>	EPS, HDir, WCA5,
1309	13	01-Sep-10	16-Sep-10	bat	Natterer's Bat	<i>Myotis nattereri</i>	EPS, HDir, WCA5,
1117	19	12-Jul-16	29-Mar-19	bat	Pipistrelle	<i>Pipistrellus pipistrellus</i> agg.	EPS, WCA5,
2148	1	03-Sep-15	03-Sep-15	bat	Serotine	<i>Eptesicus serotinus</i>	EPS, HDir, WCA5,
761	38	15-Jul-13	15-Jun-16	bat	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	EPS, HDir, WCA5, S7,
1176	29	03-Sep-07	18-Jul-13	bat	Unidentified Myotis Bat	<i>Myotis</i>	EPS, HDir, WCA5,
856	39	2000	1978-2001	butterfly	Marsh Fritillary	<i>Euphydryas aurinia</i>	EPS, HDir, WCA5, S7, UKBAP, RD1 (UK), RD2 (UK), LI(SEWReC)
687	20	Aug-07	Jul-09	fish	Atlantic Salmon	<i>Salmo salar</i>	EPS, HDir, S7, UKBAP, RD2 (UK),
538	35	1992	Sep-10	mammal	European Otter	<i>Lutra lutra</i>	EPS, HDir, WCA5, S7, UKBAP, CITES, RD1 (UK), RD2 (UK),

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal**TABLE 2.2. NATIONALLY PROTECTED SPECIES ADDITIONAL TO ABOVE**

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
514	26	09-Jul-97	08-Aug-17	amphib	Common Frog	<i>Rana temporaria</i>	HDir, WCA5,
1320	11	12-Sep-07	31-Aug-15	amphib	Common Toad	<i>Bufo bufo</i>	WCA5, S7, UKBAP,
1091	6	14-May-09	15-May-13	amphib	Palmate Newt	<i>Lissotriton helveticus</i>	WCA5,
1109	3	24-Jun-15	15-Jun-16	bat	Noctule Bat	<i>Nyctalus noctula</i>	WCA5, S7,
1642	14	07-Jun-91	29-Jun-18	bird	Barn Owl	<i>Tyto alba</i>	WCA1.1, UKBAm(RSPB)
1799	1	Jan-09	Jan-09	bird	Brambling	<i>Fringilla montifringilla</i>	WCA1.1,
856	12	14-May-12	23-Oct-15	bird	Common Crossbill	<i>Loxia curvirostra</i>	WCA1.1,
1315	1	1950-54	1950-54	bird	Corncrake	<i>Crex crex</i>	BDir1, WCA1.1, S7, UKBAP, WBR(RSPB), UKBR(RSPB)
1596	7	02-Feb-07	12-Mar-15	bird	Fieldfare	<i>Turdus pilaris</i>	WCA1.1, WBAm(RSPB), UKBR(RSPB), UKBAm(RSPB)
1380	1	15-Dec-95	15-Dec-95	bird	Goldeneye	<i>Bucephala clangula</i>	BDir22, WCA1.2, UKBAm(RSPB)
1149	10	25-Sep-16	25-Sep-16	bird	Goshawk	<i>Accipiter gentilis</i>	WCA1.1, CITES,
1226	3	1963	28-Jul-04	bird	Green Sandpiper	<i>Tringa ochropus</i>	WCA1.1, UKBAm(RSPB)
637	1	17-Aug-18	17-Aug-18	bird	Hobby	<i>Falco subbuteo</i>	WCA1.1, CITES, WBAm(RSPB),
1315	4	11-Oct-12	25-Jan-06	bird	Kingfisher	<i>Alcedo atthis</i>	BDir1, WCA1.1, WBAm(RSPB), UKBAm(RSPB)
480	6	23-May-10	11-Mar-15	bird	Peregrine	<i>Falco peregrinus</i>	BDir1, WCA1.1, CITES, UKBAm(RSPB)
637	10	14-Feb-10	02-Mar-17	bird	Red Kite	<i>Milvus milvus</i>	BDir1, WCA1.1, CITES, RD1 (UK), WBAm(RSPB), UKBAm(RSPB)
637	28	06-Jan-05	12-Nov-17	bird	Redwing	<i>Turdus iliacus</i>	BDir22, WCA1.1, WBAm(RSPB), UKBR(RSPB), UKBAm(RSPB)
1814	1	1963	1963	bird	Snow Bunting	<i>Plectrophenax nivalis</i>	WCA1.1, WBAm(RSPB), UKBAm(RSPB)
637	1	1900-1927	1900-1927	butterfly	Pearl-bordered Fritillary	<i>Boloria euphrosyne</i>	WCA5, S7, UKBAP, RD1 (UK), RD2 (UK), LI(SEWBRReC),
1603	1	02-Jun-70	02-Jun-70	butterfly	Small Blue	<i>Cupido minimus</i>	WCA5, S7, UKBAP, RD1 (UK), LI(SEWBRReC)
1200	1	20-Oct-09	20-Oct-09	butterfly	White-letter Hairstreak	<i>Satyrus w-album</i>	WCA5, S7, UKBAP, RD1 (UK), RD2 (UK), LI(SEWBRReC)
2653	2	21-May-77	27-Mar-12	reptile	Common Lizard	<i>Zootoca vivipara</i>	WCA5, S7, UKBAP,
772	5	15-Jun-93	08-Aug-94	reptile	Grass Snake	<i>Natrix helvetica</i>	WCA5, S7,
1335	3	30-Aug-16	30-Aug-16	reptile	Slow-worm	<i>Anguis fragilis</i>	WCA5, S7, UKBAP,
839	4	Sep-07	18-Nov-10	mammal	Eurasian Badger	<i>Meles meles</i>	BA,
1380	1	Jul-73	Jul-73	mammal	Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	WCA5, S7, UKBAP,
839	3	Sep-07	Sep-07	mammal	European Water Vole	<i>Arvicola amphibius</i>	WCA5, S7, UKBAP,
432	6	22-Apr-97	22-May-18	vasc.plant	Bluebell	<i>Hyacinthoides non-scripta</i>	WCA8,

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal**TABLE 2.3.****SECTION 7 SPECIES OF PRINCIPAL IMPORTANCE AND UK BIODIVERSITY ACTION PLAN SPECIES, NRW PRIORITY SPECIES AND RSPB RED LIST SPECIES ADDITIONAL TO ABOVE**

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
1090	1	1979	1979	beetle	Violet Oil-beetle	<i>Meloe violaceus</i>	S7, UKBAP, RD2 (UK)
637	14	19-Jan-10	Jan-17	bird	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	BDir22, S7, WBR(RSPB), UKBAm(RSPB)
839	66	Sep-07	25-Apr-16	bird	Bullfinch	<i>Pyrrhula pyrrhula</i>	S7, UKBAP, WBR(RSPB), UKBR(RSPB)
655	9	17-Apr-11	09-Jun-12	bird	Cuckoo	<i>Cuculus canorus</i>	S7, UKBAP, WBR(RSPB), UKBR(RSPB), UKBAm(RSPB)
375	58	Jan-09	10-Jan-18	bird	Dunnock	<i>Prunella modularis</i>	S7, UKBAP, UKBAm(RSPB)
856	7	26-May-12	28-Jul-15	bird	Grasshopper Warbler	<i>Locustella naevia</i>	S7, UKBAP, WBR(RSPB), UKBR(RSPB)
1448	6	14-Sep-14	14-Sep-14	bird	Hen Harrier	<i>Circus cyaneus</i>	BDir1, S7, CITES, WBR(RSPB), UKBR(RSPB)
117	136	Jan-08	10-Jun-17	bird	House Sparrow	<i>Passer domesticus</i>	S7, UKBAP, WBAAm(RSPB), UKBR(RSPB)
2520	2	13-Apr-02	20-Jun-02	bird	Lapwing	<i>Vanellus vanellus</i>	BDir22, S7, UKBAP, WBR(RSPB), UKBAm(RSPB)
856	16	24-Jun-03	25-May-12	bird	Lesser Redpoll	<i>Acanthis cabaret</i>	S7, UKBAP, WBR(RSPB), UKBAm(RSPB)
1315	2	05-Apr-95	05-Apr-95	bird	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>	S7, UKBAP, WBR(RSPB), UKBR(RSPB)
406	21	30-Jun-03	14-Sep-14	bird	Linnet	<i>Linaria cannabina</i>	S7, WBR(RSPB), UKBR(RSPB)
953	2	May-97	May-97	bird	Marsh Tit	<i>Poecile palustris</i>	S7, UKBAP, WBR(RSPB), UKBR(RSPB)
856	7	22-May-15	02-Jun-16	bird	Nightjar	<i>Caprimulgus europaeus</i>	BDir1, S7, UKBAP, WBAAm(RSPB), UKBR(RSPB)
953	1	May-97	May-97	bird	Pied Flycatcher	<i>Ficedula hypoleuca</i>	S7, WBR(RSPB), UKBR(RSPB)
406	11	30-Jun-03	14-Sep-14	bird	Reed Bunting	<i>Emberiza schoeniclus</i>	S7, UKBAP, WBAAm(RSPB), UKBR(RSPB)
1430	7	12-Apr-05	14-May-12	bird	Skyllark	<i>Alauda arvensis</i>	BDir22, S7, WBAAm(RSPB), UKBR(RSPB)
760	73	Jan-09	10-Jan-18	bird	Song Thrush	<i>Turdus philomelos</i>	BDir22, S7, UKBAP, WBAAm(RSPB), UKBR(RSPB)
2247	1	22-Aug-06	22-Aug-06	bird	Spotted Flycatcher	<i>Muscicapa striata</i>	S7, UKBAP, WBR(RSPB), UKBR(RSPB)
189	68	Jan-08	12-Apr-18	bird	Starling	<i>Sturnus vulgaris</i>	BDir22, S7, UKBAP, WBR(RSPB), UKBR(RSPB)
856	10	24-Jun-03	14-May-15	bird	Tree Pipit	<i>Anthus trivialis</i>	S7, UKBAP, WBAAm(RSPB), UKBR(RSPB), UKBAm(RSPB)
1846	3	17-Feb-05	07-Dec-15	bird	Willow Tit	<i>Poecile montana</i>	S7, UKBAP, WBR(RSPB), UKBR(RSPB)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
856	6	14-May-12	16-May-18	bird	Wood Warbler	<i>Phylloscopus sibilatrix</i>	S7, UKBAP, WBR(RSPB), UKBAm(RSPB)
210	8	06-Jun-05	06-Jun-05	butterfly	Dingy Skipper	<i>Erynnis tages</i>	S7, UKBAP, RD1 (UK), LI(SEWBRcC)
1846	7	1997	17-Aug-07	butterfly	Grayling	<i>Hipparchia semele</i>	S7, UKBAP, RD1 (UK), LI(SEWBRcC),
856	18	1900-1927	28-Jun-07	butterfly	Small Pearl-bordered Fritillary	<i>Boloria selene</i>	S7, UKBAP, RD1 (UK), LBAP (MTR), LI(SEWBRcC),
687	20	Aug-07	Aug-07	fish	Brown/Sea Trout	<i>Salmo trutta</i>	S7, UKBAP, LBAP (MTR),
732	1	01-Nov-06	01-Nov-06	fungus	Big Blue Pinkgill	<i>Entoloma bloxamii</i>	S7, UKBAP
546	4	31-Oct-06	31-Oct-06	fungus	Dark-Purple Earthtongue	<i>Geoglossum atropurpureum</i>	S7, UKBAP,
1267	2	30-Oct-06	31-Oct-06	fungus	Olive Earthtongue (2)	<i>Microglossum olivaceum</i>	S7, UKBAP,
1267	2	07-Oct-06	07-Oct-06	fungus	Violaceous Fairy Club	<i>Clavaria zollingeri</i>	S7,
1899	2	01-Jul-12	01-Jul-12	lycopod	Stag's-horn Clubmoss	<i>Lycopodium clavatum</i>	HDir, S7, CITES, RD1 (UK),
2247	1	19-Jun-13	19-Jun-13	moth	Grass Rivulet	<i>Perizoma albulata</i>	S7, UKBAP,
637	2	1900	1900	moth	Narrow-bordered Bee Hawk-moth	<i>Hemaris tityus</i>	S7, UKBAP, RD2 (UK),
637	5	26-Oct-06	16-Nov-07	moth	Sword-grass	<i>Xylota exsoleta</i>	S7, UKBAP, RD2 (UK),
1772	3	22-Apr-04	22-Apr-04	mammal	Brown Hare	<i>Lepus europaeus</i>	S7, UKBAP,
2044	4	27-Apr-97	Jan 1972	mammal	Polecat	<i>Mustela putorius</i>	HDir, S7, UKBAP, RD2 (UK),
1720	1	17-Jun-03	17-Jun-03	mammal	Stoat	<i>Mustela erminea</i>	NRW,
480	19	2006	2018	mammal	West European Hedgehog	<i>Erinaceus europaeus</i>	S7, UKBAP,
714	3	Aug-94	Sep-07	vasc.plant	an eyebright	<i>Euphrasia officinalis</i> ssp.pratensis	S7, UKBAP, LI(SEWBRcC)
689	2	24-Jul-02	24-Jul-02	vasc.plant	Small-flowered Sticky Eyebright	<i>Euphrasia officinalis</i> ssp.anglica	S7, UKBAP, RD1 (UK), LI(SEWBRcC), WVP
801	1	07-Jul-10	07-Jul-10	vasc.plant	Lesser Butterfly-orchid	<i>Platanthera bifolia</i>	S7, UKBAP, RD1 (UK),
2653	1	21-May-77	21-May-77	vasc.plant	Ley's Whitebeam	<i>Sorbus leyana</i>	S7, UKBAP, RD1 (UK), RD2 (UK),

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

TABLE 2.4.

RSPB AMBER LIST SPECIES, RED DATA LIST AND MERTHYR TYDFIL LOCAL BIODIVERSITY ACTION PLAN SPECIES ADDITIONAL TO ABOVE

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxon-omic Group	Common Name	Scientific Name	Designations
1846	2	1997	Jun-97	beetle	Barley Flea Beetle	Phyllotreta vittula	RD2 (UK)
1599	1	09-Jun-16	09-Jun-16	beetle	Black-headed Cardinal Beetle	Pyrochroa coccinea	RD2 (UK)
342	1	05-Aug-95	05-Aug-95	beetle	Common Whirligig-beetle	Gyrinus natator	RD1 (UK)
1846	2	1997	Jun-97	beetle	Chaetarthria seminulum	Chaetarthria seminulum	RD2 (UK)
2418	1	17-Jun-03	17-Jun-03	beetle	Ctenicera pectinicornis	Ctenicera pectinicornis	RD2 (UK)
1846	2	1997	Jun-97	beetle	Eledona agricola	Eledona agricola	RD2 (UK)
1846	2	1997	Jun-97	beetle	Gabrieus keysianus	Gabrieus keysianus	RD2 (UK)
1846	2	1997	Jun-97	beetle	Helochares punctatus	Helochares punctatus	RD2 (UK)
1846	2	1997	Jun-97	beetle	Malthodes pumilus	Malthodes pumilus	RDB2 (UK) - S
1846	1	Unknown	Unknown	beetle	Striped Flea Beetle	Phyllotreta striolata	RD1 (UK)
375	90	Jan-09	10-Jun-17	bird	Coal Tit	Parus ater	WBA(MRSPB)
1315	1	11-Dec-10	11-Dec-10	bird	Common Gull	Larus canus	WBA(MRSPB), UKBA(MRSPB)
1037	1	16-May-05	16-May-05	bird	Common Sandpiper	Actitis hypoleucos	WBA(MRSPB)
1055	9	10-Nov-10	19-Feb-17	bird	Cormorant	Phalacrocorax carbo	WBA(MRSPB), UKBA(MRSPB)
637	61	08-Dec-03	27-Feb-16	bird	Dipper	Cinclus cinclus	LBAP (MTR), WBA(MRSPB), UKBA(MRSPB)
953	5	May-97	08-Jun-16	bird	Garden Warbler	Sylvia borin	WBA(MRSPB)
839	30	Sep-07	24-Nov-17	bird	Goldcrest	Regulus regulus	WBA(MRSPB), UKBA(MRSPB)
310	41	09-Jan-02	09-Jun-16	bird	Green Woodpecker	Picus viridis	WBA(MRSPB), UKBA(MRSPB)
406	11	30-Jun-03	25-Jun-15	bird	House Martin	Delichon urbicum	WBA(MRSPB), UKBA(MRSPB)
637	21	29-Dec-11	09-Jun-16	bird	Lesser Black-backed Gull	Larus fuscus	WBA(MRSPB), UKBA(MRSPB)
412	59	Jan-09	27-Feb-16	bird	Long-tailed Tit	Aegithalos caudatus	WBA(MRSPB)
637	56	Jun-91	10-Jun-17	bird	Mallard	Anas platyrhynchos	WBA(MRSPB), UKBA(MRSPB)
584	29	26-Jul-94	22-Oct-16	bird	Meadow Pipit	Anthus pratensis	WBA(MRSPB), UKBA(MRSPB)
999	4	31-Aug-15	Jan-17	bird	Mute Swan	Cygnus olor	WBA(MRSPB), UKBA(MRSPB)
406	8	30-Jun-03	Sep-07	bird	Redstart	Phoenicurus phoenicurus	WBA(MRSPB), UKBA(MRSPB)
480	13	12-Jun-12	19-Jun-15	bird	Sand Martin	Riparia riparia	WBA(MRSPB), UKBA(MRSPB)
1199	2	21-Mar-75	21-Mar-75	bird	Shelduck	Tadorna tadorna	WBA(MRSPB), UKBA(MRSPB)
1596	1	02-May-12	02-May-12	bird	Short-eared Owl	Asio flammeus	BDir1, CITES, WBA(MRSPB), UKBA(MRSPB)
1836	2	13-Dec-05	13-Dec-05	bird	Snipe	Gallinago gallinago	BDir21, WBA(MRSPB), UKBA(MRSPB)
406	37	30-Jun-03	22-May-17	bird	Swallow	Hirundo rustica	WBA(MRSPB), UKBA(MRSPB)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
637	31	13-Jun-12	05-Jul-17	bird	Swift	<i>Apus apus</i>	WBA(m)(RSPB), UKBA(m)(RSPB)
1199	2	21-Mar-75	21-Mar-75	bird	Tufted Duck	<i>Aythya fuligula</i>	BDir21, WBA(m)(RSPB)
2418	5	17-Jun-03	27-Sep-12	bird	Wheatear	<i>Oenanthe oenanthe</i>	WBA(m)(RSPB)
1886	2	25-Jun-03	25-Jun-03	bird	Whinchat	<i>Saxicola rubetra</i>	UKBR(RSPB)
1062	7	28-Jun-07	02-Jun-16	bird	Whitethroat	<i>Sylvia communis</i>	WBR(RSPB), UKBA(m)(RSPB)
837	40	Jun-92	09-Jun-16	bird	Willow Warbler	<i>Phylloscopus trochilus</i>	WBR(RSPB), LBAP (CON), UKBA(m)(RSPB)
953	13	Jan-97	03-Feb-12	bird	Woodcock	<i>Scolopax rusticola</i>	BDir21, WBA(m)(RSPB), UKBR(RSPB), UKBA(m)(RSPB)
1740	1	15-Jun-98	15-Jun-98	bryophyte	Whip Fork-moss	<i>Dicranum flagellare</i>	RD1 (Wales), RD2 (UK), LI(VC41, LR),
1846	2	1997	Jun-97	bug	Anoscopus albifrons	<i>Anoscopus albifrons</i>	RD2 (UK)
1993	1	05-Jun-18	05-Jun-18	centipede	Lithobius (Lithobius) pilicornis	<i>Lithobius (Lithobius) pilicornis</i>	RDB2 (UK) - S
1846	5	1997	1997-2006	crane fly	Molophilus propinquus	<i>Molophilus propinquus</i>	RD2 (UK)
795	1	09-Jul-97	09-Jul-97	crane fly	Tanyptera atrata	<i>Tanyptera atrata</i>	RD2 (UK)
1012	4	Jul-07	06-Jun-13	fern	Limestone Fern	<i>Gymnocarpium robertianum</i>	RD2 (UK), WVP
1993	2	19-Aug-18	25-Aug-18	fly	Bright Four-spined Legionnaire	<i>Chorisops nagatomii</i>	RD2 (UK)
1846	3	1997	Jun-Sep-97	fly	Eupeodes nitens	<i>Eupeodes nitens</i>	RD2 (UK)
1917	2	Jun-96	Jun-96	fly	Liverwort Snipe fly	<i>Spania nigra</i>	RD2 (UK)
1993	1	30-Jul-16	30-Jul-16	fly	Lophosia fasciata	<i>Lophosia fasciata</i>	RD2 (UK)
1157	2	19-Mar-19	19-Mar-19	fly	Norellia spinipes	<i>Norellia spinipes</i>	RD2 (UK)
1846	2	1997	Jun-97	fly	Opomyza lineatopunctata	<i>Opomyza lineatopunctata</i>	RD2 (UK)
1846	2	1997	Jun-97	fly	Psacadina verbekei	<i>Psacadina verbekei</i>	RD2 (UK)
1846	1	Jun-97	Jun-97	fly	Psacadina verbekei	<i>Psacadina verbekei</i>	RD2 (UK)
1979	2	Aug-96	Aug-96	fly	Rhamphomyia caliginosa	<i>Rhamphomyia caliginosa</i>	RD2 (UK)
2418	1	26-Apr-03	26-Apr-03	lichen	Bachmanniomyces uncialicola	<i>Bachmanniomyces uncialicola</i>	RDB2 (UK) - S
2418	1	26-Apr-03	26-Apr-03	lichen	Cercidospora epipolytropa	<i>Cercidospora epipolytropa</i>	RDB2 (UK) - S
1639	2	14-Oct-10	14-Oct-10	lichen	Verrucaria elaeomelaena s. lat.	<i>Verrucaria elaeomelaena</i> s. lat.	RDB2 (UK) - S,
1225	1	16-Jun-15	16-Jun-15	moth	Banded General	<i>Stratiomys potamida</i>	RD2 (UK)
637	2	1900-1927	28-Jun-07	moth	Scarce Grass-veneer	<i>Crambus pratella</i>	RD2 (UK)
1548	1	15-Apr-17	15-Apr-17	vasc.plant	Charlock	<i>Sinapis arvensis</i>	WVP
1539	1	12-Apr-18	12-Apr-18	vasc.plant	Fritillary	<i>Fritillaria meleagris</i>	RD1 (UK), RD2 (UK)
1816	1	08-Aug-94	08-Aug-94	vasc.plant	Green-leaved Hawkweed	<i>Hieracium acuminatum</i>	RD2 (UK),
2653	1	21-May-77	21-May-77	vasc.plant	Grey-leaved Whitebeam	<i>Sorbus porrigentiformis</i>	RD2 (UK),
635	1	07-Aug-74	07-Aug-74	vasc.plant	Rock Stonecrop	<i>Sedum forsterianum</i>	RD2 (UK), LI(SEWBRc),
1012	5	Jul-07	06-Jun-13	vasc.plant	Soft-leaved Sedge	<i>Carex montana</i>	RD2 (UK), LI(SEWBRc)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxon-omic Group	Common Name	Scientific Name	Designations
1012	3	Jul-07	29-May-15	vasc.plant	Welsh Poppy	<i>Meconopsis cambrica</i>	RD2 (UK),
1846	2	1997	Jun-97	weevil	Brooklime Gall Weevil	<i>Gymnetron veronicae</i>	RD2 (UK)
1846	2	05-Jun-97	05-Jun-97	weevil	Gymnetron beccabungae	<i>Gymnetron beccabungae</i>	RD2 (UK)
1271	2	14-Jul-97	14-Jul-97	weevil	Phytobius leucogaster	<i>Phytobius leucogaster</i>	RD2 (UK)
1846	2	1997	Jun-97	weevil	Temnocerus longiceps	<i>Temnocerus longiceps</i>	RD2 (UK)

TABLE 2.5.

**SPECIES OF LOCAL CONSERVATION CONCERN ADDITIONAL TO ABOVE
(MERTHYR TYDFIL COUNTY BOROUGH AREA ONLY)**

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxon-omic Group	Common Name	Scientific Name	Designations
1993	1	03-Jun-18	03-Jun-18	bee	Bilberry Bumblebee	<i>Bombus monticola</i>	LBAP (MTR)
1430	12	12-Apr-05	05-Apr-18	bee	Buff-Tailed Bumble Bee	<i>Bombus terrestris</i>	LBAP (MTR)
964	2	08-Feb-08	08-Feb-08	bee	Bumble Bee	<i>Bombus</i>	LBAP (MTR)
1320	7	22-May-18	22-May-18	bee	Common Carder Bee	<i>Bombus pascuorum</i>	LBAP (MTR)
1459	7	10-Jun-16	11-Apr-17	bee	Early Bumble Bee	<i>Bombus pratorum</i>	LBAP (MTR)
1968	4	29-Jun-09	29-May-18	bee	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>	LBAP (MTR)
1993	2	11-Jun-15	31-Jul-17	bee	Small Garden Bumble Bee	<i>Bombus hortorum</i>	LBAP (MTR)
342	9	05-Aug-95	10-Apr-19	bee	White-Tailed Bumble Bee	<i>Bombus lucorum</i>	LBAP (MTR)
1676	3	17-May-96	1996	bryophyte	Blunt-leaf Tufa-moss	<i>Gymnostomum calcareum</i>	RD2 (UK), LI(VC41, LR)
479	1	1998	1998	bryophyte	Bog Earwort	<i>Scapania paludicola</i>	LI(VC41, LR),
1676	2	17-May-96	10-Feb-06	bryophyte	Bordered Thyme-moss	<i>Mnium marginatum</i>	LI(VC41, LR),
719	8	27-Aug-03	02-Apr-10	bryophyte	Ciliated Fringewort	<i>Ptilidium ciliare</i>	LI(VC41, LR),
1421	2	26-Aug-03	26-Aug-03	bryophyte	Drummond's Thread-moss	<i>Pohlia drummondii</i>	LI(VC41, LR),
2286	1	10-Feb-06	10-Feb-06	bryophyte	Fine-leaved Leskea	<i>Orthothecium intricatum</i>	LI(VC41, LR),
1882	3	15-Jun-98	15-Jun-98	bryophyte	Neat Silk-moss	<i>Isopterygiopsis pulchella</i>	LI(VC41, LR),
1740	1	31-May-11	31-May-11	bryophyte	Palmate Germanderwort	<i>Riccardia palmata</i>	LI(VC41, LR),
1630	1	Sep-05	Sep-05	bryophyte	Sessile Earth-moss	<i>Ephemerum sessile</i>	RD1 (UK),
1740	1	31-May-11	31-May-11	bryophyte	Straight-leaved Apple-moss	<i>Bartramia ithyphylla</i>	LI(VC41, EX),

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
1676	1	17-May-96	17-May-96	bryophyte	Thick-nerved Apple-moss	<i>Philonotis calcarea</i>	LI(VC41, LR),
637	7	1900-27	10-Jul-07	butterfly	Dark Green Fritillary	<i>Argynnis aglaja</i>	LI(SEWBRcC),
1040	6	14-Aug-10	19-Jul-18	butterfly	Silver-washed Fritillary	<i>Argynnis paphia</i>	LI(SEWBRcC),
2286	2	21-Sep-89	21-Sep-89	fern	Beech Fern	<i>Phegopteris connectilis</i>	LI(SEWBRcC),
839	3	Sep-07	Sep-07	fern	Moonwort	<i>Botrychium lunaria</i>	RD1 (UK), LI(SEWBRcC),
1176	16	13-Jun-15	13-Jun-15	fern	Oak Fern	<i>Gymnocarpium dryopteris</i>	RD1 (UK), LI(SEWBRcC),
1342	2	31-Aug-15	31-Aug-15	fern	Royal Fern	<i>Osmunda regalis</i>	LI(SEWBRcC),
741	59	24-Jul-97	24-Jul-97	fish	Brown Trout	<i>Salmo trutta</i> subsp. <i>fario</i>	LBAP (MTR),
1954	1	13-Jun-96	13-Jun-96	lichen	<i>Caloplaca flavocitrina</i>	<i>Caloplaca flavocitrina</i>	RDB1 (Wales) - LC,
2418	1	26-Apr-03	26-Apr-03	lichen	<i>Cladonia azorica</i>	<i>Cladonia azorica</i>	RD2 (UK),
2418	1	26-Apr-03	26-Apr-03	lichen	<i>Cladonia diversa</i>	<i>Cladonia diversa</i>	RDB1 (Wales) - LC,
1879	2	14-Jun-96	14-Jun-96	lichen	<i>Micarea doliiformis</i>	<i>Micarea doliiformis</i>	RD2 (UK),
1879	2	14-Jun-96	14-Jun-96	lichen	<i>Mycobilimbia pilularis</i>	<i>Mycobilimbia pilularis</i>	RDB1 (Wales) - NT,
1879	2	14-Jun-96	14-Jun-96	lichen	<i>Thelidium minutulum</i>	<i>Thelidium minutulum</i>	RD2 (UK),
1907	4	01-Jul-06	16-Jul-15	moth	Red-necked Footman	<i>Atolmis rubricollis</i>	RD2 (UK), LBAP (MTR),
1390	4	31-Jul-97	01-Oct-97	odonata	Brown Hawker	<i>Aeshna grandis</i>	LI(SEWBRcC),
406	15	30-Jun-03	08-Jul-08	odonata	Emerald Damselfly	<i>Lestes sponsa</i>	LI(SEWBRcC),
342	8	05-Aug-95	27-Sep-95	odonata	Golden-ringed Dragonfly	<i>Cordulegaster boltonii</i>	LI(SEWBRcC),
2418	2	17-Jun-03	17-Jun-03	odonata	Scarce Blue-tailed Damselfly	<i>Ischnura pumilio</i>	RD1 (UK), RD2 (UK), LI(SEWBRcC),
514	1	09-Jul-97	09-Jul-97	odonata	Small Red Damselfly	<i>Ceragrion tenellum</i>	RD2 (UK), LI(SEWBRcC)
1846	2	1997	Jun-97	orthoptera	Slender Ground-hopper	<i>Tetrix subulata</i>	LI(SEWBRcC),
1659	1	May-Jun-73	May-Jun-73	vasc.plant	Alder Buckthorn	<i>Frangula alnus</i>	LI(SEWBRcC),
584	2	26-Jul-94	Aug-94	vasc.plant	Alternate Water-milfoil	<i>Myriophyllum alterniflorum</i>	LI(SEWBRcC),
1284	1	15-Apr-17	15-Apr-17	vasc.plant	Alt-leaved Golden-saxifrage	<i>Chrysosplenium alternifolium</i>	LI(SEWBRcC),
432	7	22-Apr-97	29-Aug-02	vasc.plant	Bird Cherry	<i>Prunus padus</i>	LI(SEWBRcC),
1163	1	25-Sep-79	25-Sep-79	vasc.plant	Black-poplar	<i>Populus nigra</i>	LI(SEWBRcC),
1630	3	Sep-05	Sep-05	vasc.plant	Bladder-sedge	<i>Carex vesicaria</i>	LI(SEWBRcC),
1012	2	Jul-07	Jul-07	vasc.plant	Common Butterwort	<i>Pinguicula vulgaris</i>	LI(SEWBRcC),
1012	2	Jul-07	06-Jun-13	vasc.plant	Common Rock-rose	<i>Helianthemum nummularium</i>	RD1 (UK), LI(SEWBRcC),
1976	1	07-Apr-19	07-Apr-19	vasc.plant	Crowberry agg.	<i>Empetrum nigrum</i>	LI(SEWBRcC),
1204	2	27-Mar-14	27-Mar-14	vasc.plant	Daffodil	<i>Narcissus pseudonarcissus</i>	LI(SEWBRcC),
839	1	Sep-07	Sep-07	vasc.plant	Dwarf Elder	<i>Sambucus ebulus</i>	LI(SEWBRcC),
1012	1	Jul-07	Jul-07	vasc.plant	Dwarf Thistle	<i>Cirsium acaule</i>	LI(SEWBRcC),
1618	2	28-Aug-03	11-Jul-07	vasc.plant	Fen Bedstraw	<i>Galium uliginosum</i>	LI(SEWBRcC),

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxon-omic Group	Common Name	Scientific Name	Designations
1563	1	29-Aug-02	29-Aug-02	vasc.plant	Fragrant Agrimony	<i>Agrimonia procera</i>	LI(SEWBRcC),
953	3	02-Jul-97	29-Jun-09	vasc.plant	Grass Vetchling	<i>Lathyrus nissolia</i>	LI(SEWBRcC),
1555	2	16-Jul-07	16-Jul-07	vasc.plant	Greater Butterfly-orchid	<i>Platanthera chlorantha</i>	RD1 (UK), LI(SEWBRcC),
475	7	06-Jun-13	17-Aug-18	vasc.plant	Greater Knapweed	<i>Centaurea scabiosa</i>	LI(SEWBRcC),
504	2	06-Jun-13	03-Oct-94	vasc.plant	Greater Pond-sedge	<i>Carex riparia</i>	LI(SEWBRcC),
1315	2	04-May-02	29-Aug-02	vasc.plant	Green Field-speedwell	<i>Veronica agrestis</i>	LI(SEWBRcC),
1710	3	16-May-05	16-May-05	vasc.plant	Heath Dog-violet	<i>Viola canina</i>	RD1 (UK), LI(SEWBRcC),
342	11	12-Jul-94	27-Sep-05	vasc.plant	Intermediate Lady's-mantle	<i>Alchemilla xanthochlora</i>	LI(SEWBRcC),
1316	1	01-Jul-95	01-Jul-95	vasc.plant	Knotted Clover	<i>Trifolium striatum</i>	LI(SEWBRcC),
1103	1	16-Nov-81	16-Nov-81	vasc.plant	Lesser Bulrush	<i>Typha angustifolia</i>	LI(SEWBRcC),
1012	2	Jul-07	06-Jun-13	vasc.plant	Limestone Bedstraw	<i>Galium sternerii</i>	LI(SEWBRcC),
1012	2	Jul-07	Jul-07	vasc.plant	Long-stalked Yellow-sedge	<i>Carex viridula</i> <i>ssp. brachyrrhyncha</i>	LI(SEWBRcC),
1342	1	31-Aug-15	31-Aug-15	vasc.plant	Narrow-leaved Water-plantain	<i>Alisma lanceolatum</i>	LI(SEWBRcC),
1603	1	1971	1971	vasc.plant	Nodding Bur-marigold	<i>Bidens cernua</i>	LI(SEWBRcC),
584	2	26-Jul-94	09-Jul-97	vasc.plant	Pink Water-Speedwell	<i>Veronica catenata</i>	LI(SEWBRcC),
480	5	26-Aug-72	28-Jun-07	vasc.plant	Small Cudweed	<i>Filago minima</i>	RD1 (UK), LI(SEWBRcC),
584	2	26-Jul-94	Aug-94	vasc.plant	Small Pondweed	<i>Potamogeton berchtoldii</i>	LI(SEWBRcC),
1846	1	2009	2009	vasc.plant	Smith's Pepperwort	<i>Lepidium heterophyllum</i>	LI(SEWBRcC),
399	1	29-Jun-94	29-Jun-94	vasc.plant	Smooth Brome	<i>Bromus racemosus</i>	LI(SEWBRcC),
2286	2	21-Sep-89	21-Sep-89	vasc.plant	Smooth Lady's-mantle	<i>Alchemilla glabra</i>	LI(SEWBRcC),
780	1	12-Jul-94	12-Jul-94	vasc.plant	Sweet-briar	<i>Rosa rubiginosa</i>	LI(SEWBRcC),
1525	5	Apr-May-02	Apr-May-02	vasc.plant	Toothwort	<i>Lathraea squamaria</i>	LI(SEWBRcC),
1603	2	1971	23-Feb-73	vasc.plant	Unbranched Bur-reed	<i>Sparganium emersum</i>	LI(SEWBRcC),
1012	1	Jul-07	Jul-07	vasc.plant	Upright Brome	<i>Bromopsis erecta</i>	LI(SEWBRcC),
475	1	06-Jun-13	06-Jun-13	vasc.plant	Viper's-bugloss	<i>Echium vulgare</i>	LI(SEWBRcC),
480	8	06-Jun-13	22-Jun-13	vasc.plant	Water Avens	<i>Geum rivale</i>	LI(SEWBRcC),
342	3	12-Jul-94	11-Jul-07	vasc.plant	Yellow Water-lily	<i>Nuphar lutea</i>	LI(SEWBRcC),

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

2.2.14 Invasive Non-Native Species (INNS)

The SEWBRc dataset includes the following INNS as having been recorded within 2km of the survey site. American Mink, Canada Goose, Canadian Waterweed, Cherry Laurel, Entire-leaved Cotoneaster, Giant Knotweed, Harlequin Ladybird, Hollyberry Cotoneaster, Hybrid Monkeyflower, Indian (Himalayan) Balsam, Japanese Knotweed, Least Duckweed, Monkeyflower, Montbretia, New Zealand Willowherb, Nuttall's Waterweed, *Rhododendron ponticum*, Small-leaved Cotoneaster, Spanish Bluebell, Wall Cotoneaster, White Stonecrop and Silver-leaved Yellow Archangel.

With the exception of a small bush of Cherry Laurel (TN17) and possible Hollyberry Cotoneaster (TN5), no Invasive Non-Native Species were recorded during the present Phase 1 habitat survey.

2.3 Habitat Survey Methodology

The habitats and vegetation present within the survey site were surveyed by Richard Pryce at approximately 1:100 scale between 11:00hrs and 14:00hrs on 8th August 2019.

Weather: sunny intervals, light NW wind to calm, clear 20°C, 6/8 cloud.

The methodology used was based upon that described in the *Handbook for Phase 1 habitat survey - a technique for environmental audit*. (Nature Conservancy Council, 1990), a methodology primarily intended for surveying at 1:10000 scale. The results are presented on the Phase 1 habitat map at figure 2 which includes codes showing the locations of dominant and significant plant species. The locations of Target Notes (TN) are also shown. Brief descriptions of each habitat type are given below in the order set out in the *Handbook*. The Target Notes include comprehensive species lists (including their Latin names) and are reproduced at appendix 2. Lists of species collated from the target notes are included at appendix 3.

2.4 Semi-natural broad-leaf woodland and trees

No areas of semi-natural broad-leaf woodland are located within the survey site or its immediate vicinity.

A line of mature trees dominated by Ash is present along about 40m of the boundary in the north of the survey site (west of Target Note (TN)16). Other species present here include Hawthorn, birch, Sycamore, Grey Willow and Hazel.

The only other mature trees are included in the overgrown hedgeline extending south from the south-west corner of the survey site where a large Sycamore is located at the northern end of the hedgeline and just impinges into the site (near TN2).

Neither of these features is located within the application site area.

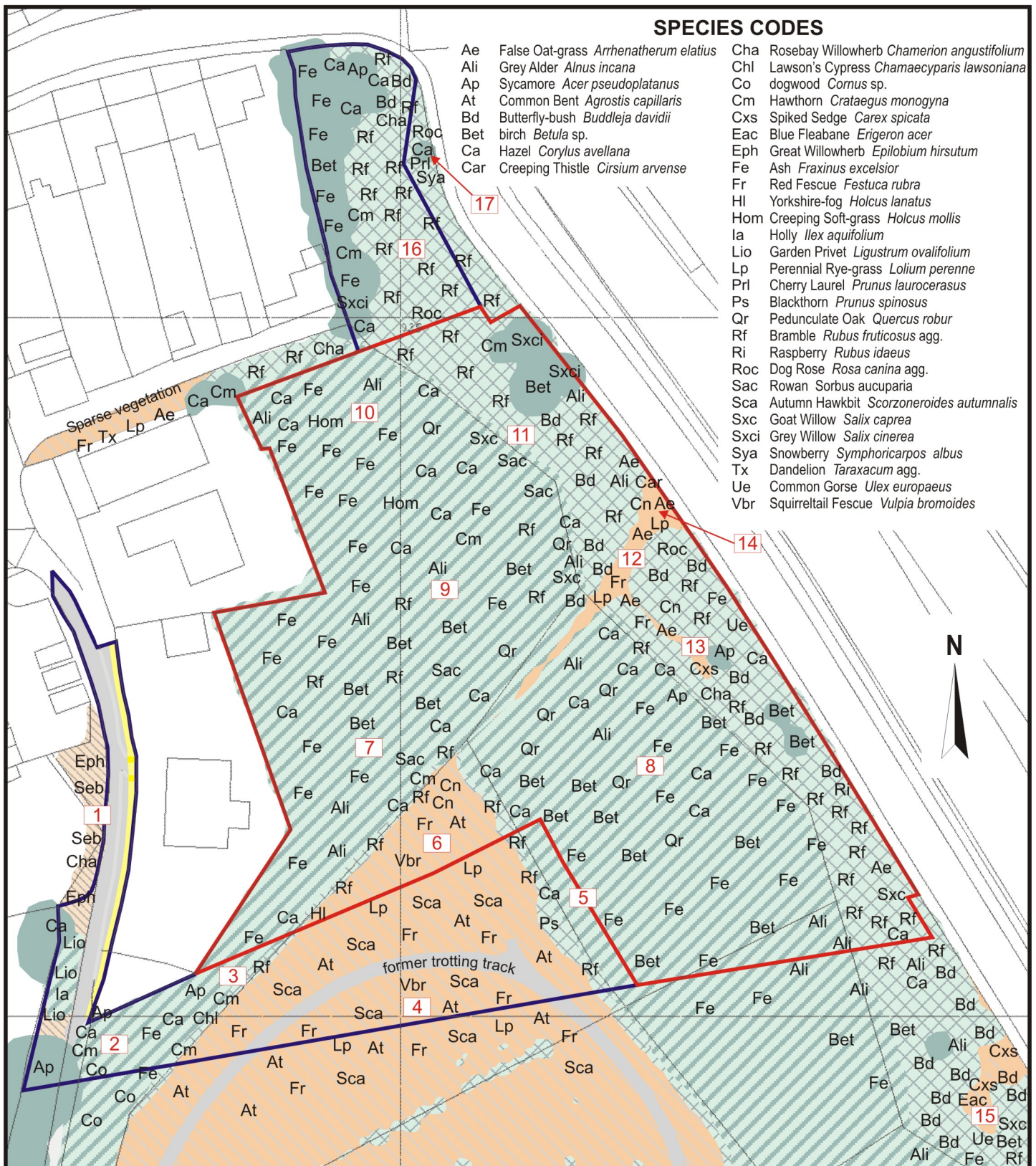
A few self-sown bushes and young trees are established in the extensive Bramble-dominated scrub on the east-facing slope within the eastern boundary of the survey site. These include Grey Willow, Hazel, Hawthorn, birch and Sycamore.

2.5 Planted woodland

The majority of the survey site is occupied by broad-leaf woodland probably planted in the 1990s and now well established on the regraded colliery spoil substrate. This woodland generally comprises of unthinned, etiolated trees about 10m – 15m tall which cast relatively heavy shade and consists mainly of native species, principally Ash, birch, Pedunculate Oak,

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Figure 2
PHASE 1
HABITAT SURVEY

0 **SCALE** 50
METRES



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30 August 2019

Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Hawthorn, Hazel and Goat Willow but also includes significant numbers of Grey Alder and stands of Dogwood.

Within most of the woodland, the shade, together with the physically harsh and infertile nature of the spoil substrate as a growing medium has discouraged the development of a significant shrub layer or ground flora although in parts, Bramble is becoming established and where there is less shade, eg where Ash trees are succumbing to Ash die-back disease, a herb layer is present including species such as Creeping Soft-grass, Wood Avens Common Nettle, Cleavers and Red Campion with a moss carpet in places (eg TN9). Also, despite the less than favourable ground conditions, self-sown tree seedlings and saplings of the planted species are present within much of the woodland stand.

At the top of the slope along the north-eastern boundary of the planted woodland, several more-mature trees are established along the fence-line which include a multi-stem Goat Willow at TN11 and several Ash trees further south (bounding TN8).

2.6 Scrub

An extensive area of dense, inaccessible scrub occupies the north-east facing slope inside the north-eastern boundary of the survey site. This is mainly dominated by Bramble but also includes prominent bushes and stands of Butterfly-bush and actively establishing birch, Pedunculate Oak, Ash, Hazel, Hawthorn, Goat Willow, Grey Willow, Grey Alder, Sycamore, Dog Rose, Common Gorse and Raspberry, currently in various stages of maturity. Also, a single Cherry Laurel sapling (an Invasive Non-native Species) was recorded near the northern extremity of the site associated with Dog-rose, Hazel and Snowberry which, together, form a "bush" adjacent to the pavement just south of the road junction at TN17.

Small areas within and by the edge of this scrub-dominated bank and along the lines of former pathways (now impassable due to the encroachment of Bramble) still have stands of tall herb species eg Rosebay Willowherb, Common Knapweed, Great Willowherb and False Oat-grass associated with, but being subsumed by the colonising scrub.

The woodland around the open grassland area in the southern part of the survey site is generally lined by a margin of scrub which reaches its widest in the vicinity of TN5 where Blackthorn is growing out into the grassland and gives cover to tall herbaceous species such as Common Knapweed. Abundant Bramble with locally frequent rose and occasional Hazel, also contribute to edge-habitat of varying width in this vicinity. Bramble is also dominant in a narrower swathe along the fence line north-east of TN3.

2.7 Grassland

The southern part of the survey site includes an area of rather sparse, horse-grazed grassland established on colliery spoil (TN4 and TN6). Vegetation cover is variable but is no more than 80%-95% although may be much less in areas where there has been horse poaching and along the line of the former trotting track.

The sward was probably first sown when the colliery spoil was regraded (probably in the 1990s) and is characteristic of similar vegetation established on other regraded spoil. Grass species include Common Bent, Perennial Rye-grass, Red Fescue, Crested Dog's-tail, Sweet Vernal-grass and Squirreltail Fescue and the most frequent forbs include Yarrow, Dandelion and Ribwort Plantain with a few plants each of Common Centaury and Greater Bird's-foot Trefoil being noted although Common Bird's-foot Trefoil is relatively frequent. However, most notable is the high frequency of *Scorzoneroideis autumnalis* var. *coronopifolia*, the variety of autumn hawkbit with finely-dissected leaves which, at the time of the survey, had turned the sward yellow with the abundance of its flowers. In scuffed areas, species such

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

as Pineappleweed, Slender Rush, Red Bartsia, Greater Plantain and the knotgrass *Polygonum polycnemiforme* were recorded. Scattered bushes are becoming established in the grassland area, particularly along the fenceline to the south of the survey site.

The sward becomes taller and more rank around the margins with tall herb species noted such as Common Knapweed, Smooth Hawk's-beard, Red Bartsia, Common Ragwort and Perforate St. John's-wort.

The access track from the northern corner of the grassland area to the road along the north-eastern boundary of the site, where not overshadowed by woodland, is generally grassy with Perennial Rye-grass, Red Fescue and Cock's-foot being prominent in the sward (TN12-TN14). Where it becomes more open, the vegetation includes, for example, Common Bird's-foot Trefoil, Red Clover, Dandelion, Slender Rush, knotgrass, Pineappleweed, Red Bartsia and Cut-leaved Crane'sbill and is flanked by rank grass and tall-herb vegetation which includes Yarrow, Common Knapweed, Rosebay Willowherb, Wild Carrot, Upright Hedge-parsley and Scentless Mayweed. An overgrown path nearby (TN13) had similar vegetation but also included a single plant of Spiked Sedge.

A small open area of colliery spoil outside the survey site at TN15 supports similar vegetation including a few clumps of Spiked Sedge and about 25 plants of Blue Fleabane in a small open area of colliery spoil a few m back from the road.

2.8 Tall Herb Vegetation

Tall herb vegetation generally grows within and at the edges of areas becoming colonised by Bramble and scrub, the two vegetation types being closely associated. Rose-bay Willowherb and Great Willowherb are the most prominent species but Common Nettle and Common Knapweed were also noted. Large Bindweed was seen to be scrambling through the tops of some of the Bramble stands, particularly in the north of the survey site at TN16.

In the west of the survey site, the north-south aligned access track is flanked on its western side by mixed tall-herb vegetation, most prominent amongst which is Dwarf Elder, this being a relatively large, although linear stand, of this locally important species (TN1). Cow Parsley, Hedge Bindweed, Rosebay Willowherb, Great Willowherb and Bramble are also components of this vegetation. This area is just outside the survey site.

2.9 Open water (watercourses and ponds) and wetlands

No watercourses or ponds or wetlands are located within or in the immediate vicinity of the survey site.

2.10 Invasive Non-Native Species (INNS)

Records of INNS held on the SEWBRc database and located within 2km of the survey site are listed at paragraph 2.2.14. By far the most recorded species in the data set is Japanese Knotweed but, with the exception of a small bush of Cherry Laurel recorded about 25m north of the application site on the roadside at TN17 and a single possible Hollyberry Cotoneaster on the woodland edge at TN5, no Invasive Non-Native Species were recorded during the present survey. Neither of these species is of major significance at this site at present but it should be noted that bird-sown seedlings may be present within the application site and any plants encountered during construction works should be removed for off-site disposal.

Although no Japanese Knotweed stands or plants were seen during the survey, it is possible that small plants might have been overlooked. Site staff should be aware of its possible presence and be vigilant in its detection. Construction works must ensure that knotweed stands are not disturbed in a way that would cause the spread or export of propagules from

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

the site and site operations must comply with approved containment practices. Japanese Knotweed must be treated using approved methods prior to the commencement of any work which might cause its disturbance or spread.

2.11 Significant vegetation types and plant species

Open Mosaic Habitats on Previously Developed Land (OMHoPDL) is a *Habitat of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act 2016. Prior to the regrading of the colliery spoil and its planting with woodland in the c.1990s, the survey site would probably have qualified as a good example of this habitat. However, although established on colliery spoil, the planted woodland, sown grassland and colonizing scrub cannot now be considered as OMHoPDL.

No plants of international or national significance were recorded during the survey and the SEWBRc data indicate that none have been recorded within the site in the past. However, the following species are considered to be of County Borough importance. The numbers of previous records were verified by the Botanical Society of Britain and Ireland's County Recorder for Glamorgan.

Spiked Sedge (*Carex spicata*). A single plant of this species was found growing in rank grassland on the line of a now overgrown and impassable path on the scrubby, north-east facing slope inside the eastern boundary of the application site (TN13). A further two plants were found in similar vegetation on the same slope, south-east (outside) of the survey site at TN15. This species is considered to be of County Borough Importance as there is only one previous record in the County Borough.

Dwarf Elder (*Sambucus ebulis*). A quite extensive stand of this species grows outside the western boundary of the survey area at TN1 (some 30m from the closest boundary of the application site). This species is designated as Locally Important in the SEWBRc area but it can also be considered as County Borough Importance as there are only two previous records in the County Borough.

Blue Fleabane (*Erigeron acer*). At least 20 plants were found about 60m to the south-east of the application site boundary at TN15 in a small patch of largely unvegetated spoil becoming overgrown with Butterfly-bush, Bramble and other scrub. This species is considered to be of County Borough Importance as there are only five previous records in the County Borough.

Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

3. PROTECTED and SIGNIFICANT FAUNA

3.1 Introduction

An assessment of the potential for habitats within the survey site and its vicinity was undertaken in order to identify any constraints to the proposed development which might result from the presence of protected or other significant faunal species.

Actual or potential rest sites of species such as bats and Badger which might be damaged, destroyed or obstructed by the proposed works were sought and an assessment of any potential impact on the use of the site by these species was made.

Assessment was also made of the possible impact of the proposed works on other protected taxa including Common Dormouse, breeding birds, amphibians and reptiles.

The ecology, survey methods, conservation status and protection legislation of the protected and significant fauna included in the sections below are outlined at appendix 4.

3.2 Assessment Methods

The assessment of the potential for habitats within the survey site and its vicinity to support protected and other significant faunal species was undertaken by Richard Pryce during the Phase 1 Habitat Survey on 8th August 2019. The data procured from SEWBRc were also used in the assessment.

Badger. The survey site and adjacent area, including additional land at least 30m wide around the perimeter of the application site (ie the distance within which it is generally considered that, if site works are undertaken, disturbance to a sett would occur), was searched for the presence of setts (burrow systems) and for evidence of Badger use. Such evidence includes the presence of paths, footprints, latrines and foraging activity.

Otter. The survey site and adjacent area, including additional land at least 30m wide around the perimeter of the application site, was searched for the presence of holts (rest sites) and for evidence of Otter use of the area. Such evidence includes paths, footprints, spraint (characteristically scented faeces often placed in prominent positions) and feeding remains.

Bats. Trees within and adjacent to the survey site were visually examined from the ground where accessible and assessed for potential bat roost features which might provide the opportunity for bats to roost in them. Such opportunities include holes, hollows/dead wood, cracks/splits and dense ivy plates. No buildings or other constructions which might have potential to harbour roosting bats are present within the survey site.

The capability of the habitats within the survey site to support other protected and significant species was also examined with a view to assessing the likelihood of these species residing or occurring within the site.

A description of the habitats within the survey site is included at paragraphs 2.4 – 2.10, above.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

3.3 Assessment Results

European Protected Species

European Protected Species and their places of rest or shelter are fully protected under the 'Habitats Regulations' and a 'licence to disturb' is required to permit any disturbance to individual animals or their places of rest or shelter and, in the case of Dormice, also habitat where animals are known to reside.

3.3.1 Bats

3.3.1.1 Bat Introduction

All bats are protected under schedule 5 of the Wildlife and Countryside Act 1981 and, with the exception of Noctule Bat, all are also designated as European Protected Species under the Habitats Regulations¹. The objective of this survey was to identify the potential of any trees located within the survey site to harbour roosting bats. No bat activity survey has been carried out for this Preliminary Ecological Appraisal.

A description of the site and its habitats is included in the Phase 1 habitat survey report at paragraphs 2.4 – 2.10, above. The ecological context and legal status of bats are outlined at appendix 4.

The SEWBRc data includes 248 records of eleven bat species recorded within 2km of the survey site, details of which are at Tables 2.1 and 2.2. The closest record is 573m from the centre of the site and the most recent was made in 2019, the most frequently recorded species being Common Pipistrelle and Soprano Pipistrelle.

3.3.1.2 Bat Survey Method

The woodland and trees within the survey site were subject to a visual examination from the ground, as far as surveyor access would allow, in search of features which might be used by day-roosting bats. Such features include cracks/crevices, splits, deadwood, hollows, woodpecker holes and ivy plates.

Trees were subjectively assigned to a category of "likelihood of use", based on the scoring system detailed at table 3.1.

Table 3.1

Assessment of potential bat-roosts in trees, achieved by 'from the ground' inspection

<i>Tree assessment category</i>	<i>Stage 1</i>	<i>Stage 2</i>	<i>Constraints to tree felling or disturbance</i>
Known or confirmed roost	European Protected Species Licence is required in order to carry out the felling or disturbance legally. This will require further input from a licenced bat ecologist		

¹ The Habitats Directive (No. 92/43/EEC) requires the UK to maintain and/or restore naturally occurring habitats and species, especially those which are deemed to be vulnerable and declining and/or threatened in Europe. The requirements of the Directive are implemented through the *Conservation (Natural Habitats etc) Regulations 1994*, updated in 2010.

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Category 1* multiple features suitable for multi-animal use	Further assessment required pre-works to deter-mine use using either <u>direct examination</u> <u>survey</u> <i>and/or</i> <u>direct observation</u> <u>emergence/ entry</u> <u>survey</u>	<i>Either</i> Proceed as for a "known or confirmed roost" (above) <i>or</i> "soft felling" supervised by the ecologist	<i>Either</i> European Protected Species Licence must be procured <i>or</i> "soft felling" supervised by the ecologist
Category 1 Fewer or less suitable features, <i>and/or</i> potential for individual roosting	Further assessment will be required pre-works to determine bat use by means of a general bat- activity survey,	<i>Either</i> Proceed as for a "known or confirmed roost" (above) <i>or</i> as category 2 (below)	<i>Either</i> European Protected Species Licence must be procured <i>or</i> Take reasonable care during works- stop work & seek advice if potential roost features found
Category 2 No features visible from the ground but the size or age of the tree might or obscuring ivy might point to the potential for roost features	None unless new evidence is found during works	none	Take reasonable care during works- stop work & seek advice if potential roost features found
Category 3 no potential to host roosting bats	none	none	none

3.3.1.3 Bat Survey ResultsTree examination

With the few exceptions described below, the trees within the survey site are young-mature, planted, broadleaf species of uniform age which are too young and of unsuitable conformation to have developed features required to harbour roosting bats. Trunks are generally rather thin and etiolated. In a few cases, very light ivy cover partially obscures sight of some of the upper trunks and foliage obscures the highest sections but, at that height, stems are too thin to offer roost sites. However, all trunks, where visible, are clean and free of any cracks/crevices. No bat day-roost opportunities were identified in these trees and all are assessed as having no roost potential (Category 3 on Table 3.1).

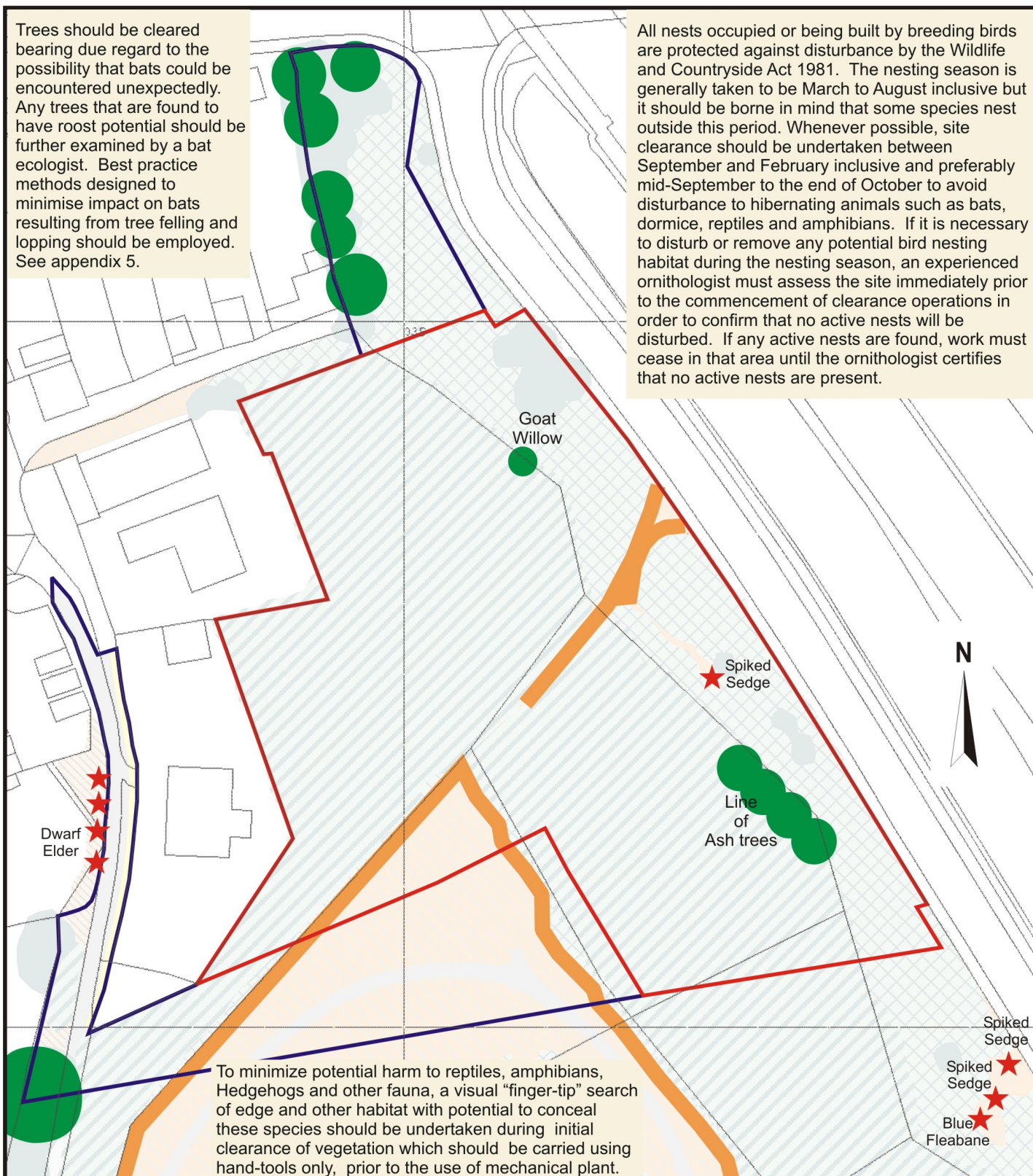
A single multi-stem Goat Willow and a line of Ash trees, better-grown than in the remainder of the woodland, is present near the fence line within the application site woodland (see figure 3). It was judged that these trees have the possibility of having greater potential to harbour roosting bats than the remainder of the woodland trees and have the potential to be included in Category 2 (Table 3.1).

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Trees should be cleared bearing due regard to the possibility that bats could be encountered unexpectedly. Any trees that are found to have roost potential should be further examined by a bat ecologist. Best practice methods designed to minimise impact on bats resulting from tree felling and lopping should be employed. See appendix 5.

All nests occupied or being built by breeding birds are protected against disturbance by the Wildlife and Countryside Act 1981. The nesting season is generally taken to be March to August inclusive but it should be borne in mind that some species nest outside this period. Whenever possible, site clearance should be undertaken between September and February inclusive and preferably mid-September to the end of October to avoid disturbance to hibernating animals such as bats, dormice, reptiles and amphibians. If it is necessary to disturb or remove any potential bird nesting habitat during the nesting season, an experienced ornithologist must assess the site immediately prior to the commencement of clearance operations in order to confirm that no active nests will be disturbed. If any active nests are found, work must cease in that area until the ornithologist certifies that no active nests are present.



LEGEND

- Application site boundary
- Survey area boundary
- Mature hedgerows and trees
- Planted broadleaf woodland
- Scrub
- Rank neutral grassland
- Sparse neutral grassland
- Amenity grassland
- Tall herb vegetation
- Tracks

POTENTIAL ECOLOGICAL CONSTRAINTS

- Potential category 2 bat roost tree (see text). All other trees are judged to be category 3
- Potential reptile habitat
- ★ Plant species of County Borough Importance

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Figure 3

POTENTIAL ECOLOGICAL CONSTRAINTS

SCALE
METRES

0 50



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30 August 2019

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The line of mature trees along the boundary in the northern section of the survey site, west of TN16 (on figure 2), may possibly have bat roost potential. These trees will not be affected by the proposed development and were not examined in detail.

The only other tree with possible bat roost potential is a mature Sycamore located at the extreme south-western corner of the survey site ('Ap' near TN2 on figure 2) and will not be affected by the proposed development. This tree was not examined in detail.

3.3.1.4 Bat Summary

No bat roost-use of the trees was identified within the site during the survey and no day-roost opportunities were identified at the trees.

Existing bat data procured through SEWBReC would indicate that bats are not particularly attracted to the habitats within the survey site but this is likely to be a reflection of lack of observations rather than an indication of the actual situation. Whilst no potential bat roosts were found during the survey or are anticipated to occur within the application site, the houses located to the north-west (and elsewhere in the vicinity), as well as other constructions and mature/senescent trees, are likely to harbour roosting bats. These local bat populations need habitat in which to feed and the features within the survey site, particularly the woodland and scrub areas, are likely to provide foraging potential.

No bat related constraints to tree removal were identified. However, should bats or evidence of bats be found during site operations, all work to the tree must stop immediately and advice sought from a licenced bat ecologist.

No further bat survey is considered necessary.

3.3.2 Otter

Otter activity/presence is known along the Afon Taf and there are records from within 2km of the survey site, the most recent being in 2010.

No signs of Otter were found during the present survey.

It is extremely unlikely that Otters would be attracted to the site due to the absence of any water courses in the near vicinity, the absence of any potential food resource within the site and the urban nature of the land between the site and the Afon Taf which is subject to frequent disturbance by human and dog activity.

3.3.3 Dormouse

The SEWBReC data record no past observations of Dormice within 2km of the survey site although the National Biodiversity Network has an occurrence in Penmoelallt (SO0009) about 4km to the north-west.

No signs of Dormice were seen during the survey and, although the habitats within the survey site might sustain Dormice for some times during the year, none are considered to provide optimal habitat capable of sustaining animals throughout the year. Furthermore, the site's remoteness from the location of known past Dormouse records and imperfect habitat connectivity would suggest that it is unlikely that animals are present within or visit the site.

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3.3.4 Great Crested Newt

The SEWBRc data includes 87 records of Great Crested Newt recorded within 2km of the survey site, the closest of which is 637m from the centre of the site and the most recent was made in 2014. Breeding ponds are located in particular in the Cwm Glo area and in areas of colliery patch workings. Ponds are also located to the north-west of Heol Gerrig.

No breeding ponds are located within the survey site which is beyond the generally accepted distance of c.500m (maximum) that it is thought Great Crested Newts may travel away from their breeding sites during their terrestrial phase. Furthermore, little habitat suitable for terrestrial phase animals to take refuge is located within the survey site.

It is considered unlikely that Great Crested Newts occur within, or visit the survey site.

3.3.5 Other European Protected Species

There is no habitat suitable to support other European Protected Species (eg Marsh Fritillary butterfly, Atlantic Salmon) located within the survey site, neither is it anticipated that any such species will visit the site.

Nationally Protected Species

Species and their places of rest or habitats included on schedule 5 of the Wildlife and Countryside Act 1981, as amended, are protected to varying degrees and a licence may be required to permit any disturbance to individual animals or their places of rest. Such species additional to those that also have international protection include Water Vole, reptiles and amphibians. Occupied bird's nests or nests being built are also protected by the Act. The Badger and its places of rest is protected by the Protection of Badgers Act 1992.

3.3.6 Badger

The SEWBRc dataset includes four records of Badger within 2km of the survey site, the closest being 839m from the centre of the site and the most recent in November 2010.

No signs of the species were observed during the present survey although the habitat is suitable, including dense woodland and scrub suitable for sett concealment and the colliery spoil substrate permitting relatively easy excavation. However, the spoil is unlikely to encourage the growth or development of a particularly abundant foraging resource. The close proximity of human habitation and the likelihood of disturbance by dogs are also likely to discourage Badgers from occurring within, or visiting the site.

3.3.7 Water Vole

There are three records of Water Vole from within 2km of the survey site on the SEWBRc dataset but there is no habitat within, or in the vicinity of the site suitable to support the species.

3.3.8 Birds

All occupied birds' nests or nests being built are protected under the Wildlife and Countryside Act 1981 and schedule 1 of the Act gives complete protection to a range of species which are under particular threat or subject to population declines. Public bodies have a duty to

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consider the wellbeing of species included on the list of *Species of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act 2016 and in consequence these species are material considerations in the planning process. All bird species are described in this section of the present document.

Although, no formal breeding bird survey has been carried out for this appraisal, suitable nesting habitat was assessed and the presence of birds likely to be nesting in the vicinity, noted. Few bird species were recorded during the survey but it should be borne in mind that, at the time the survey was undertaken, birds would have been generally silent and would therefore not have been evident as the breeding season was coming to an end. Species recorded are as follows.

Blue Tit	2 birds in scrub in eastern part of site
Goldfinch	2 birds in scrub in eastern part of site
Great Tit	2 birds in planted woodland
Green Woodpecker	Calling from trees south-west of site
Herring Gull	Several flying over site at various times
Nuthatch	Calling from woodland

Green Woodpecker is included on the RSPB Amber List of conservation concern.

Herring Gull is included as a Section 7 *Species of Principal Importance* and is also included on the RSPB Red List of conservation concern.

The SEWBRc dataset includes numerous bird records from within 2km of the site. Species protected by their inclusion on schedule 1 of the Wildlife and Countryside Act 1981 for which habitat suitable for nesting or foraging is located within the survey site are as follows

Fieldfare, Redwing	Likely nomadic winter visitors to site foraging for berries, etc.
Goshawk, Hobby, Peregrine, Red Kite	The survey site potentially could form a very small part of the hunting territories of any of these raptors but visitations are likely to be remote in the extreme, although birds may occasionally be seen flying over the site

Species in the SEWBRc dataset recorded from within 2km of the site that are included as Section 7 *Species of Principal Importance* and also included on the RSPB Red List of conservation concern are as follows

Bullfinch, Dunnock, Song Thrush	Potential breeding within survey site
Marsh Tit	Unlikely but possible breeding within survey site
House Sparrow, , Starling, Lesser Redpoll	Likely to breed in vicinity and likely to, or possibly may forage or roost within the survey site
Linnet, Spotted Flycatcher	Habitat within survey site generally unsuitable for nesting but possible visitor
Lesser Spotted Woodpecker	Uncommon and unlikely to visit site.
Black-headed Gull	Unlikely to visit site although likely overflying.

In addition, species such as Mistle Thrush, Skylark, Tree Pipit, Whinchat and Willow Tit may nest in the vicinity or visit the site and Woodcock may occur in winter. All these species are also Section 7 *Species of Principal Importance* and/or included on the RSPB Red List.

Species in the SEWBRc dataset recorded from within 2km of the site that are included on

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the RSPB Amber List of conservation concern are as follows

Coal Tit, Garden Warbler, Goldcrest, Long-tailed Tit Potential breeding within survey site

Green Woodpecker Likely to breed in vicinity and likely to, or possibly may forage within the survey site

Redstart Unlikely to visit site.

House Martin, Sand Martin, Swallow Likely or possibly seen aerially hunting over site but unlikely to alight.

Common Gull, Lesser Black-backed Gull Unlikely to visit site although may be seen overflying.

Additional species on the RSPB Amber List that may nest within the survey site include Willow Warbler and those that might visit include Snipe, Meadow Pipit and Tawny Owl, whilst Swift is occasionally likely to be seen aerially hunting but not to alight.

The proposed development will require the removal of the planted woodland and scrub located within the application site. It is likely, therefore, that a small number of nest sites and feeding territories of some of these species will be lost.

3.3.9 Reptiles

No reptiles or their signs were seen during the present survey but species included in the SEWBRc dataset that have been recorded from within 2km of the survey site are Common Lizard, Slow-worm and Grass Snake.

The habitats within the survey site are considered to be generally unsuitable to support reptiles. However, potential habitat is present around the sunny edges of the grassland in the south of the site and along the open section of the grassy track connecting the grassland to the road along the north-eastern site boundary (see figure 3). Here there may be potential for small numbers of Slow-worm and/or Common Lizard to occur.

3.3.10 Amphibians

No amphibians or their signs were seen during the present survey but species additional to the European Protected Great Crested Newt (see paragraph 3.3.4) included in the SEWBRc dataset that have been recorded from within 2km of the survey site are Common Frog, Common Toad and Palmate Newt.

There is no amphibian breeding habitat located within the survey site but small numbers of terrestrial-phase amphibians (principally Common Frog, Common Toad and Palmate Newt) may occur in damp and shaded areas and may take refuge in edge habitats similar to those attractive to reptiles (see figure 3).

3.3.11 Protected Invertebrates

An assessment of protected invertebrates has not been carried out for this appraisal but the range of habitats within the survey site is generally unsuitable to support such species.

There are records of three protected butterfly species from within 2km of the survey site on the SEWBRc database but no habitat suitable to support them is located within the site.

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Species of Principal Importance

Species of Principal Importance for Conservation of Biological Diversity listed under section 7 of the Environment (Wales) Act 2016 include a range of species of all groups many of which are also included under European or national protection legislation and have been addressed above. Additional species which, by their inclusion on the section 7 list, become material considerations in the planning process, include various mammals such as Hedgehog, Brown Hare and Harvest Mouse, many birds, reptiles and amphibians, fish and invertebrates, the latter including various species of moths and butterflies.

Additional to the faunal species or species groups already addressed above, only Hedgehog, Polecat and various invertebrates may potentially occur within the survey site or its vicinity. Section 7 species included on the SEWBRcC database recorded from within 2km of the survey site are listed at Table 2.3, above.

3.3.12 Hedgehog

There are nineteen records of Hedgehog from within 2km of the survey site included in the SEWBRcC database, the closest being 480m from the centre of the site and the most recent, 2018.

Hedgehogs seek cover in dense vegetation and under banks, etc and may occur from time to time within the survey site. When undertaking site clearance work or vegetation removal, site personnel should pay special attention to the possible presence and safeguard of animals.

3.3.13 Polecat

Four Polecat entries are included on the SEWBRcC dataset, three of which refer to the same observation made on 27th April 1997 at a location 2044m from the survey site.

The Polecat is a very wide-ranging species, is elusive and difficult to survey. Rare visits may be assumed but its widely ranging activity would indicate that the loss of a very small area of habitat resulting from the development of the application site will be of no significance to this species.

3.3.14 Section 7 Birds

All designated bird species have been assessed at paragraph 3.3.8, above.

3.3.15 Section 7 Invertebrates

An assessment of section 7 invertebrates has not been carried out for this appraisal but the range of habitats within the survey site that is suitable to support a wide range of species is mainly limited to planted woodland, scrub and sparse grassland, all of which are of secondary or recent origin.

Records from within 2km of the survey site on the SEWBRcC database include one beetle, three butterfly species and three moth species. Of these, the sparse grassland on colliery spoil within the site may be suitable to support Dingy Skipper and Grayling butterflies and Grass Rivulet moth, although the area of this habitat to be disturbed by the development of the application site is small. The other species listed by SEWBRcC are unlikely to visit the site.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

The development of the application site is unlikely to be of significance to local populations of any section 7 invertebrates.

Other Significant Species

3.3.16 Stoat and Weasel

Stoat, in common with Weasel, is designated as a Priority Species by Natural Resources Wales. A single record of Stoat is included on the SEWBRc dataset from within 2km of the survey site.

These species are wide ranging, elusive and difficult to survey. Their presence in small numbers must be assumed but they are adaptable and the loss of habitat resulting from the development of the application site is unlikely to be of significance to their wellbeing.

3.3.17 Amber List Birds

All designated bird species have been assessed at paragraph 3.3.8, above.

3.3.18 Other significant Invertebrates

An assessment of significant invertebrates has not been carried out for this appraisal.

Records of significant invertebrates from within 2km of the survey site held on the SEWBRc database, principally those included on Red Data Lists, include ten beetle species, one centipede, two crane fly species, nine true fly species, two moth species and four weevil species. The range of habitats within the survey site suitable to support invertebrates is mainly limited to planted woodland, scrub and sparse grassland, all of which are of secondary or recent origin.

The development of the application site will result in the loss of small areas of secondary woodland, scrub and sparse grassland which, taken in the context of the extent of these habitats present in the local area, is of small significance.

Other Species

3.3.19 No additional protected or significant species are likely to be affected by the proposed development.

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4. ECOLOGICAL ASSESSMENT

4.1. Assessment criteria

Impact significance has been assessed for each of the features using a three-stage process: An assessment of ecological value; an assessment of the magnitude of the likely impacts of the proposals; and a determination of impact significance based on a combination of ecological value and magnitude of impact.

Ecological Significance

Each feature has been classified according to its ecological significance using the examples provided in Table 4.1.

Table 4.1. Assessment of Ecological Significance

Value	Examples
International	- Internationally designated or proposed sites such as Ramsar Sites, Special Protection Areas, Biosphere Reserves and Special Areas of Conservation, or otherwise meeting criteria for international designation. - Sites supporting populations of internationally important species.
UK/National	- Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), or non-designated sites meeting SSSI selection criteria, National Nature Reserves (NNRs), Nature Conservancy Review (NCR) Grade 1 sites, viable areas of key habitats within the UK Biodiversity Action Plan. - Sites supporting viable breeding populations of Protected and Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements.
Regional	- Sites containing viable areas of threatened habitats listed in a regional Biodiversity Action Plan, comfortably exceeding Site of Importance for Nature Conservation (SINC) criteria, but not meeting SSSI selection criteria. - Sites supporting viable populations of Nationally Scarce species or those included in the Regional Biodiversity Action Plan on account of their rarity, or supplying critical elements of their habitat requirements.
County	- Sites meeting the criteria for a county or metropolitan area designation (such as SINC), which may include amenity and educational criteria in urban areas. Ancient semi-natural woodland. Designated Local Nature Reserves. Sites containing viable areas of any key habitat type identified in the Local Biodiversity Action Plan (LBAP). - Sites supporting viable breeding populations of species known to be county/metropolitan rarities e.g. featuring in county 'red data book' or LBAP, or supplying critical elements of their habitat requirements.
District	Undesignated sites, or features considered appreciably to enrich the habitat resource within the context of the Borough or District, or included in the Borough or District LBAP. Amenity and educational functions will be recognised in urban areas.

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	Sites with viable breeding populations of species listed as rare in the District or Borough LBAP or supplying critical elements of their habitat requirements.
Local	Undesignated sites, or features considered appreciably enriching the habitat resource within the context of the Parish or neighbourhood (e.g. a species-rich hedgerow).
Not important	Low-grade and widespread habitats or feature not affected by proposals.

Magnitude and Extent of Impact

The magnitude of each predicted impact has been assessed on a scale of High, Medium, Low, Minimal, Negligible and Potential Net Gain according to the criteria in Table 4.2.

Table 4.2. Criteria for determining Magnitude and Extent of Impact

Magnitude	Criteria
High	Loss of about 50% or more of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of >50% of the site area.
Medium	Loss affecting 20-49% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 20-49% of the site area.
Low	Loss affecting 4-19% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 4-19% of the site area.
Minimal	Loss affecting up to 4% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 4% of the site area.
Negligible	No anticipated effects resulting from the implementation of the proposals.
Potential Net Gain	Mitigation will seek to increase the extent of existing habitats or replace lost habitats with larger areas of suitable habitats. Such areas will be established and, where significant species are to be displaced, in a state ready for colonisation prior to any proposed habitat disturbance.

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Significance of Impact

Table 4.3. illustrates how significance has been assigned to the impact, based on a combination of the value of the feature being assessed. This has been expressed on a five-point scale ranging from Severe to Negligible as shown below.

Table 4.3. Criteria for determining Significance of Impact

Impact Magnitude and extent	Ecological Significance						
	Inter-national	UK/National	Regional	County	District	Local	Not important
High	Severe	Major	Major	Major	Moderate	Minor	Minor
Medium	Major	Major	Moderate	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Minor	Minor	Negligible	Negligible
Minimal	Minor	Minor	Negligible	Negligible	Negligible	Negligible	Negligible
No Impact	Negligible	Negligible	No impact	No impact	No impact	No impact	No impact
Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain

4.2. Impact Assessment of protected sites, significant habitats and significant species

4.2.1. Protected and other Designated Sites

No statutory or non-statutory protected sites (including nature reserves or other sites of nature conservation interest) are located within the survey site. Potential impact of the proposed development on such sites in the area are as follows.

European Protected Sites

There are no European Protected Sites including Special Areas of Conservation (SAC) and Special Protection Areas (SPA) located in the area and none will be adversely impacted by the proposed development:

Impact during the construction phase:

NEGLECTIBLE (International ecological value, No Impact)

Residual Impact:

NEGLECTIBLE (International ecological value, No Impact)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Nationally Protected Sites

The only Sites of Special Scientific Interest (SSSI) located within 2km of the survey site are

- **Cwm Glo a Glandyrys SSSI**, an extensive area of unimproved grasslands, woodlands and habitats developed on colliery spoil, the closest point of which is located some 150m to the south of the survey site boundary. Despite its close proximity to the proposed development site, it is anticipated that construction works and the subsequent bringing of the site into beneficial use, will have no impact upon the SSSI.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (UK/National ecological value, No Impact)

- **Cwm Taf Fechan Woodlands SSSI** located about 1.25km to the north which is shown on the map provided by SEWBRc reproduced at appendix 8. This site will not be impacted by the proposed development.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (UK/National ecological value, No Impact)

Other SSSIs located in the area include

- **Penmoelallt SSSI** located about 3km to the north-west
- **Bryncarnau Grasslands Llwydcoed SSSI**, located some 3.5km to the west

None of these sites will be impacted by the proposed development.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (UK/National ecological value, No Impact)

Designated sites of regional and county wildlife significance, Local Nature Reserves, etc

The **Cwm Taf Fechan Woodlands Local Nature Reserve** is located about 1.25km to the north of the survey site and the **Taf Fechan Wildlife Trust Nature Reserve** is located just under 2km to the north of the survey site. Both are contained within the upper part of the Taf Fechan Woodlands SSSI and neither of these sites will be impacted by the proposed development.

Impact during the construction phase:

NO IMPACT (Regional/County ecological value, No Impact)

Residual Impact:

NO IMPACT (Regional/County ecological value, No Impact)

There are no other sites of county ecological significance located within at least 2km of the survey site.

4.2.2. **Sites of Importance for Nature Conservation (County Wildlife Sites)**

Merthyr Tydfil County Borough Council have identified a series of Sites of Importance for Nature Conservation (SINC) (also known as Wildlife Sites). Fourteen SINC's lie within about 2km of the survey site and are shown on the SEWBRc map at appendix 8.

None of these sites will be impacted by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

4.2.3. Designated Ancient Semi-natural Woodland

Areas of designated ancient semi-natural woodland located within 2km of the survey site include nine woods identified as Ancient Semi Natural Woodlands (ASNW) totalling 15ha mostly located near the southern edge of the search area and three Restored Ancient Woodland Sites (RAWS) totalling 18ha in the northern part of the search area. These are shown on the map provided by SEWBRc reproduced at appendix 8. Small areas of Plantation on Ancient Woodland Sites (PAWS) and Ancient Woodland Sites of Unknown Category (AWSU) have been identified at the southern edge of the search area. None of these sites will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

4.2.4. Open Access Land

There are large areas of open access land located to the west and south-west of the survey site, much of which is of wildlife interest and parts are included in the Cwm Glo a Glandryss SSSI. The closest areas include Cwm Glo, about 1km to the south-west, and areas extending to Winch Fawr and Heol Gerrig about 2km to the west and 1km to the north-west respectively.

None of this land will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

4.2.5. Regionally Important Geological Sites (RIGS)

Nant Ffrwyd, located about 1.5km north-west of the survey site, is designated as a Regionally Important Geological Site (RIGS).

Impact during the construction phase:

NO IMPACT (Regional ecological value, No Impact)

Residual Impact:

NO IMPACT (Regional ecological value, No Impact)

No other designated sites will be adversely impacted by the proposed development.

4.2.6. Habitats

Habitats of European Significance

No habitats of European significance listed at Annex I of the *European Habitats Directive* are present within the survey site or its vicinity.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (International ecological value, No Impact)

Section 7 Habitats of Principal Importance and UK BAP Priority Habitats

All the habitats located within the survey site are of secondary or recent origin and are established on colliery spoil that has been regraded within about the last thirty years. Open Mosaic Habitats on Previously Developed Land (OMHoPDL) is a *Habitat of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act 2016 and, prior to the regrading and planting, the survey site would probably

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

have qualified as a good example of this habitat. However, although established on colliery spoil, the planted woodland, sown grassland and colonizing scrub cannot now be considered as OMHoPDL.

No section 7 *Habitats of Principal Importance for Conservation of Biological Diversity* and UK Biodiversity Action Plan Priority Habitats occur within the survey site or its immediate vicinity.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (UK/National ecological value, No Impact)

Local Biodiversity Action Plan Habitats

No habitats included in the Merthyr Tydfil LBAP are located within, or in the immediate vicinity of the survey site.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

Hedgerows, including *Important Hedgerows*

No hedgerows or *Important Hedgerows* as defined in the Hedgerow Regulations 1997 are located within or in the immediate vicinity of the survey site or will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

Other habitats

Planted broad-leaf woodland

The broad-leaf woodland planted on regraded colliery spoil that occupies the greatest part of the survey site cannot be regarded as any more than of local interest but most of this habitat within the application site will be lost as a result of the development. However, this constitutes only a small fraction of the total of similar habitat within the area and is judged to comprise a loss of no more than between 4% and 19% of the whole in the area. Its replacement with houses and gardens has potential to provide for a greater diversity of wildlife, albeit of different character.

Impact during the construction phase:

NEGLIGIBLE (Local ecological value, Low magnitude)

Residual Impact:

NEGLIGIBLE (Local ecological value, Low magnitude)

Residual Impact assuming new houses and gardens mitigate losses to some degree:

NEGLIGIBLE (Local ecological value, Minimal magnitude)

Scrub

The scrub established on the regraded colliery spoil inside the north-eastern boundary of the survey site is also of local interest and most of this habitat within the application site will be lost as a result of the development. However, it constitutes only a small fraction of the total of similar habitat within the area and is judged to comprise a loss of no more than between 4% and 19% of the whole in the area. Its replacement with houses and gardens has potential to provide for a greater diversity of wildlife, albeit of different character.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Impact during the construction phase:

NEGLIGIBLE (Local ecological value, Low magnitude)

Residual Impact: **NEGLIGIBLE** (Local ecological value, Low magnitude)

Residual Impact assuming new houses and gardens mitigate losses to some degree:
NEGLIGIBLE (Local ecological value, Minimal magnitude)

Sparse grassland planted on colliery spoil

The grassland established on regraded colliery spoil in the southern part of the survey site can also be regarded as of local interest and the small area of this habitat located within the application site will be lost as a result of the development. However, it constitutes only a small fraction of the total of similar habitat in the vicinity and is judged to comprise a loss of no more than 4% of the whole in the area. Its replacement with houses and gardens has potential to provide for a greater diversity of wildlife, albeit of different character.

Impact during the construction phase:

NEGLIGIBLE (Local ecological value, Minimal magnitude)

Residual Impact: **NEGLIGIBLE** (Local ecological value, Minimal magnitude)

Residual Impact assuming new houses and gardens mitigate losses to some degree:
NEGLIGIBLE (Local ecological value, Minimal magnitude)

Ecological Connectivity

Habitat connectivity through and around the survey site is probably not of high significance as habitats to the north and east are already isolated to a high degree by existing development. The scheme as proposed will result in a minor loss of habitat connectivity although north-south connectivity will be maintained along the sides of the nearby A470 dual carriageway and along the western boundary of the site from Heol Gerrig towards the Cwm Glo SINC. East-west connectivity is already breached by the A470 to the east of the survey site but will be maintained into the land to the south of Heol Gerrig and the Cwm Glo SINC to the south-west. After the development is completed and reaches maturity, a certain degree of connectivity is likely to be maintained through the site, provided by new landscape and garden plantings.

Impact during the construction phase:

MINOR ADVERSE (Local ecological value, Medium magnitude)

Residual Impact: **NEGLIGIBLE** (Local ecological value, Minimal magnitude)

4.2.7. Plants

Protected Plant Species

Bluebell is protected against sale by its inclusion on schedule 8 of the Wildlife and Countryside Act 1981 (as amended). No plants were recorded during the survey and it is unlikely to occur on the recently regraded colliery spoil substrate, therefore it is unlikely to be affected by the development. However, even were there to be a small number of plants present, their damage at this location would be of little significance when considered in the context of the frequency of Bluebell populations in the area as a whole.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No Impact)

Residual Impact: **NEGLIGIBLE** (UK/National ecological value, No Impact)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Plants of International Significance

No plants included on Annex II of the Habitats Regulations occur within the survey site and none will be affected by the proposed development.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (International ecological value, No Impact)

No species included by the Countryside Council for Wales in category A of its list of Globally Threatened Plant Species were observed within the survey site during the survey, neither are any such species included in the SEWBRc data from within 2m of the site.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (International ecological value, No Impact)

Primrose was included by the Countryside Council for Wales in category B of its list of Globally Threatened Plant Species. Although this species was not recorded during the present survey, there is a chance that it may occur within the application site. The possible loss of a few plants at this location is of little significance when considered in the context of the frequency of Primrose populations in the area as a whole.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (International ecological value, No Impact)

Section 7 Plant Species of Principal Importance and UK Biodiversity Action Plan Priority Plant Species

No Plant Species of Principal Importance occur within the survey site and none will be affected by proposed site works.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (UK/National ecological value, No Impact)

Local Biodiversity Action Plan Plant Species

No plant species which are subjects of Species Action Plans in the Merthyr Tydfil LBAP occur within the survey site and none will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

Plant Species of County or Local Significance

Spiked Sedge, Dwarf Elder and Blue Fleabane were recorded during the present survey and can be considered to be of County Borough importance because of their rarity in the County Borough. Dwarf Elder is also designated by local experts as Locally Important in the SEWBRc area.

Both Dwarf Elder and Blue Fleabane grow outside the application site (TN1 and TN15, respectively on figure 2) and will not be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

A single plant of Spiked Sedge was found growing within the application site (TN13 on figure 2) and two additional plants were found outside the survey site at TN15. The single plant within the application site will be lost to the development but could easily be translocated to a site of safety nearby. The TN15 plants will not be affected.

Impact during the construction phase:

MINOR ADVERSE (County ecological value, Low magnitude)

Residual Impact assuming translocation of the single plant is successful:

NEGLECTIBLE (County ecological value, Minimal magnitude)

4.2.8. European Protected Fauna

Bats

Bats and their places of rest/shelter (ie roosts) are fully protected and a licence to disturb a European Protected Species is required to permit any disturbance to a roost whether in a building, a tree or elsewhere.

It is anticipated that no roost sites will be disturbed or otherwise affected by the proposed development. The loss of small areas of secondary woodland and scrub which potentially provide a minor part of the feeding resource of local bat populations when considered in the wider context, are likely to be of little significance to the well-being or holding capacity of the area to support the existing bat populations.

Impact during the construction phase:

MINOR ADVERSE (International ecological value, Minimal magnitude)

Residual Impact:

MINOR ADVERSE (International ecological value, Minimal magnitude)

Mitigation of habitat loss may be achieved by the provision of bat roost features in the fabric of houses to be constructed on the site. This, associated with appropriate landscape and garden plantings, will reduce the impact on bats to 'no impact' or even 'potential net gain'.

Residual Impact with mitigation as recommended:

NEGLECTIBLE to POTENTIAL NET GAIN

(International ecological value, No impact to Potential net gain)

If any bats or roosts were to be found during site clearance operations, all work must stop immediately and advice sought from the site ecologist.

Attention is drawn to the best practice protocol designed to minimise impact to bats resulting from tree felling and lopping work, which is reproduced at appendix 5.

Otter

Otters and their places of rest/shelter (ie holts, lying-up sites and breeding sites) are fully protected and a licence to disturb a European Protected Species is required to permit any disturbance to individual animals or their places of rest. Otter activity/presence is known along the Afon Taf and there are records from within 2km of the survey site, the most recent being in 2010. However, no signs of Otter were found during the present survey and it is extremely unlikely that animals would be attracted to the site due to the absence of any water courses in the near vicinity, the absence of any potential food resource within the site and the urban nature of the land between the site and the Afon Taf which is subject to frequent disturbance by human and dog activity.

Impact during the construction phase:

NEGLECTIBLE (International ecological value, No impact)

Residual impact:

NEGLECTIBLE (International ecological value, No impact)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Dormouse

No signs of Dormice were seen during the survey and, although the habitats within the survey site might sustain Dormice for some times during the year, none are considered to provide optimal habitat capable of sustaining animals throughout the year. Furthermore, the site's remoteness from the location of known past Dormouse records and imperfect habitat connectivity would suggest that it is unlikely that animals are present within, or visit the site.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No impact)

Residual impact:

NEGLIGIBLE (International ecological value, No impact)

Great Crested Newt

Great Crested Newts, their breeding ponds and their places of rest/shelter are fully protected and a licence to disturb a European Protected Species is required to permit any disturbance to individual animals or their places of rest. The SEWBRc data includes 87 records of Great Crested Newt recorded within 2km of the survey site, the closest of which is 637m from the centre of the site and the most recent was made in 2014. Breeding ponds are located in particular in the Cwm Glo area and in areas of colliery patch workings. Ponds are also located to the north-west of Heol Gerrig.

No breeding ponds are located within the survey site which is beyond the generally accepted distance of c.500m (maximum) that it is thought Great Crested Newts may travel away from their breeding sites during their terrestrial phase. Furthermore, little habitat suitable for terrestrial phase animals to take refuge is located within the survey site.

It is considered unlikely that Great Crested Newts occur within, or visit the survey site. However, if any were to be found during site clearance operations, all work must stop immediately and advice sought from the site ecologist.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No impact)

Residual impact:

NEGLIGIBLE (International ecological value, No impact)

Other European Protected Species

No habitat suitable to support other European Protected Species (eg Marsh Fritillary butterfly, Atlantic Salmon) is located within the survey site, neither is it anticipated that any such species will visit the site.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No impact)

Residual impact:

NEGLIGIBLE (International ecological value, No impact)

4.2.9. Nationally Protected Faunal Species and Faunal Species of Principal Importance**Badger**

Badgers and their places of rest/shelter (setts) are fully protected under the Protection of Badgers Act 1992 and a licence is required to permit any disturbance to individual setts. This is generally taken to mean that any work carried-out by mechanical plant within 30m of an active sett requires mitigation to be approved and permitted by the issue of a licence by NRW.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

No signs of Badger were observed during the present survey although the habitat is suitable, including dense woodland and scrub suitable for sett concealment and the colliery spoil substrate permitting relatively easy excavation. However, the spoil is unlikely to encourage the growth or development of a particularly abundant foraging resource. The close proximity of human habitation and the likelihood of disturbance by dogs are also likely to discourage Badgers from occurring within, or visiting the site. The development is unlikely to have any significant impact on the local Badger population. However, if any animals or their signs were to be found during site clearance operations, all work must stop immediately and advice sought from the site ecologist.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No impact)

Residual impact:

NEGLIGIBLE (UK/National ecological value, No impact)

Attention is further drawn to the best practice protocol designed to minimise impact to Badgers during development works, which is reproduced at appendix 6.

Water Vole

There is no habitat within, or in the vicinity of the site suitable to support the species.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No impact)

Residual impact:

NEGLIGIBLE (UK/National ecological value, No impact)

Birds

All nests occupied or being built by breeding birds are protected against disturbance by the Wildlife and Countryside Act 1981. The nesting season is generally taken to be March to August inclusive but it should be borne in mind that some species nest outside this period. Whenever possible, site clearance should be undertaken between September and February inclusive and preferably mid-September to the end of October to avoid disturbance to hibernating animals such as bats, dormice, reptiles and amphibians. If it is necessary to disturb or remove any potential bird nesting habitat during the nesting season, an experienced ornithologist must assess the site immediately prior to the commencement of clearance operations in order to confirm that no active nests will be disturbed. If any active nests are found, work must cease in that area until the ornithologist certifies that no active nests are present.

The proposed development will require the removal of the planted woodland and scrub located within the application site. It is likely, therefore, that a small number of nest sites and feeding territories of some bird species will be lost. However, provided that vegetation removal and site clearance is undertaken outside the bird nesting season, such a loss will be of little impact to the local populations of most species when taken in a local area context.

Anticipated Impact on local populations of nesting birds displaced by the loss of habitat during the construction phase:

MODERATE ADVERSE to NEGLIGIBLE

(UK/National to local ecological value, Low magnitude)

Anticipated Residual impact on local populations of nesting birds displaced by the loss of habitat:

MODERATE ADVERSE to NEGLIGIBLE

(UK/National to local ecological value, Low magnitude)

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Anticipated Residual Impact assuming some birds are accommodated in nesting features provided in new house constructions and landscape and garden plantings are appropriate to provide cover and food resources:

MINOR ADVERSE to NEGLIGIBLE

(UK/National to local ecological value, Minimal magnitude)

Reptiles

No reptiles or their signs were seen during the present survey but species recorded from within 2km of the survey site are Common Lizard, Slow-worm and Grass Snake.

The habitats within the survey site are considered to be generally unsuitable to support reptiles. However, potential habitat is present around the sunny edges of the grassland in the south of the site and along the open section of the grassy track connecting the grassland to the road along the north-eastern site boundary (see figure 3). Here there may be potential for small numbers of Slow-worm and/or Common Lizard to occur.

In order to minimize potential harm to reptiles, amphibians or other fauna, during site clearance work or levelling ground-surface irregularities, a visual "finger-tip" search of the habitat should be undertaken and initial disturbance be carried out with hand-tools prior to the use of mechanical plant. Site personnel should be mindful of the likely presence of reptiles and amphibians and be instructed to avoid disturbing, damaging or killing them. Emphasis should be given to the protection afforded to reptiles and the potential consequences of killing animals during site work which would be construed as 'intentional killing' as defined in the protection legislation. In order to provide potential refuges for reptiles, habitat piles constructed from arisings produced during site clearance works should be sited in convenient undisturbed areas as advised by the site ecologist.

Anticipated impact during the construction phase:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Residual impact without mitigation:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Anticipated Impact following the completion of the development assuming habitat piles have been located and constructed as advised by the site ecologist:

NEGLIGIBLE to POTENTIAL NET GAIN

(UK/National ecological value, No impact to potential net gain)

Should more than a few animals be encountered during site clearance works, the site ecologist will need to reconsider the reptile clearance method which may include the provision of exclusion fencing and trapping of individual animals to translocate them from the site to a safe area nearby.

Amphibians

No amphibians or their signs were seen during the present survey but species additional to the European Protected Great Crested Newt recorded from within 2km of the survey site are Common Frog, Common Toad and Palmate Newt.

There is no amphibian breeding habitat located within the survey site but small numbers of terrestrial-phase amphibians (principally Common Frog, Common Toad and Palmate Newt) may occur in damp and shaded areas and may take refuge in edge habitats similar to those attractive to reptiles (see figure 3).

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

In order to minimize potential harm to reptiles, amphibians or other fauna, during site clearance work or levelling ground-surface irregularities, a visual "finger-tip" search of the habitat should be undertaken and initial disturbance be carried out with hand-tools prior to the use of mechanical plant. Site personnel should be mindful of the likely presence of reptiles and amphibians and be instructed to avoid disturbing, damaging or killing them. In order to provide potential refuges for terrestrial-phase amphibians, habitat piles constructed from arisings produced during site clearance works should be sited in convenient undisturbed areas as advised by the site ecologist.

Anticipated impact during the construction phase:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Residual impact without mitigation:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Anticipated Impact following the completion of the development assuming habitat piles have been located and constructed as advised by the site ecologist:

NEGLECTIBLE to POTENTIAL NET GAIN

(UK/National ecological value, No impact to potential net gain)

Hedgehog

Hedgehogs seek cover in dense vegetation and under banks, etc and may occur from time to time within the survey site. When undertaking site clearance work or vegetation removal, site personnel should be mindful of the possibility of the presence of Hedgehogs on the site and ensure that any animals found come to no harm. In order to minimize potential harm to Hedgehogs, the same advice should be followed as recommended for reptiles and amphibians during site clearance work or levelling ground-surface irregularities. A visual "finger-tip" search of the habitat should be undertaken and initial disturbance be carried out with hand-tools prior to the use of mechanical plant. 130mm x 130mm holes cut a maximum of 10m apart should be provided in the bases of boundary fences and walls to allow free passage to Hedgehogs and, In order to provide potential refuges, habitat piles constructed from arisings produced during site clearance works should be sited in convenient undisturbed areas as advised by the site ecologist.

Anticipated Impact during the construction phase:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Anticipated Impact after the completion of works assuming habitat piles have been located and constructed as advised by the site ecologist:

NEGLECTIBLE to POTENTIAL NET GAIN

(UK/National ecological value, No impact to potential net gain)

Polecat

The Polecat is a very wide-ranging species and may visit the survey site rarely but its widely-ranging activity would indicate that the loss of a very small area of habitat resulting from the development will be of no significance to this species.

Impact during the construction phase:

NEGLECTIBLE (UK/National ecological value, No impact)

Residual impact:

NEGLECTIBLE (UK/National ecological value, No impact)

Invertebrates

An assessment of protected invertebrates has not been carried out for this appraisal but the range of habitats within the survey site is generally unsuitable to support such species.

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