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Updated Preliminary Ecological Assessment

PROJECT TITLE: Goitre Field School
SITE ADDRESS: Goitre Lane, Merthyr Tydfil.

DATE: 13th December 2023

The applicant is seeking permission to develop a parcel of land adjacent to Goitre Lane, Merthyr Tydfil. The site is located on the northern outskirts of Merthyr Tydfil town in the county borough of Merthyr Tydfil. Current proposals include the construction of a new school on the plateau area of the site. A site specific Ecological Impact Assessment (EcIA) will be provided for the full planning application for the new school in the future.

The proposed development site comprises a parcel of land which measures approximately 8 ha and is centred at NGR SO 05040 08306. The site is roughly square in shape; the southern section is flat while the northerly section slopes downwards from north to south. The site lies adjacent to Pen Y Dre School in the north and Goitre Lane in the south and west, beyond which lies the Gurnos Estate. To the east lies Galon Uchaf Housing Estate. There are pathways within the site used by the general public, with evidence of fly-tipping in the east of the site.

In the south, south east and south west the wider landscape is dominated by residential dwellings and associated infrastructure with the town of Merthyr Tydfil approximately 1.8km to the south of the site. To the north just beyond Pen Y Dre School lies the A465, the landscape beyond comprises open countryside with hedge bound fields, small areas of woodland and open moorland.

The nearest watercourse, Taf Fechan, lies approximately 1km away to the north west at its nearest point. The River Taff lies approximately 1.6km away to the south west at the confluence of the Taf Fechan and Taf Fawr.

Previous Survey Work

Preliminary Ecological Survey 2021

The site was previously subject to a Preliminary Ecological Assessment in September 2021 by Ecological Services. Habitats within the site comprise semi-improved grassland, marshy grassland, scattered trees, a line of trees, woody scrub, bramble scrub, stream

and Japanese knotweed. Proposals at the time were for the construction of a new school, although exact plans were not available.

A data search via Aderyn (Reference DERF 0212-470) was undertaken at this time. No records were returned for the site itself, the nearest record being for badger, approximately 322 m away to the north-west of the site, as road kill on the A465.

Within the 2km buffer zone of the data search 76.08% of the land lies within a B-Line, including the site itself. B-Lines are non-statutory protected sites which aim to restore and create wildflower habitats forming stepping stones that link existing wildlife areas together creating a network of habitats across the landscape benefitting not only pollinators but a host of other wildlife.

There are no other statutory or non-statutory protected sites within or adjacent to the proposed development site. The nearest being Gyrnos Wood Site of importance for Nature Conservation (SINC) approximately 234m away to the north east of the site.

The site was assessed as being suitable to support a population of reptiles and the presence of marsh fritillary butterfly could not be ruled out within the site. Further survey work for reptiles and invertebrates were recommended.

Ecological Appraisal 2022

A further Ecological Appraisal was undertaken in July 2022, by Ecological Services Ltd. Habitats were found to be the same as in the previous survey in 2021.

Further survey work was recommended and included a reptile survey and invertebrate survey.

Invertebrate Survey 2022

An invertebrate survey was undertaken by Christian Owen Bio-Surveys in August 2022. A single prolonged daytime visit on 4th August 2022, during suitable weather conditions, included a variety of sampling techniques such as aerial netting, hand searching, suction sampling, sweep netting and visual searching. This survey targeted Araneae (spiders), Coleoptera (beetles), Hemiptera (true bugs) and Hymenoptera (bees, wasps, ants etc. A further survey, undertaken on 30th August 2022 concentrated on Marsh Fritillary, undertaking a larval web search.

A total of 228 invertebrate species were recorded at Goitre Field, with 36 of these species deemed to be of ‘conservation importance’ -

- 2 x Section 7 species - research only;
- 3 x Nationally Scarce (NS) or Notable (NA or Nb) species ; and
- 31 x Nationally/Wales Local species (including 1 new VC41 record?)

The results indicate that the site as a whole is an important site for a number of scarce and local invertebrate species and clearly provides suitable habitats for a wide range of invertebrates. The survey found that the conservation value to invertebrates is not evenly distributed across the site, with the areas considered to be of greatest conservation value to invertebrates identified in the map below, taken from Invertebrate Survey Report, dated October 2022, v1, prepared by Christian Owen Bio-Surveys

Map 4: An aerial view showing key habitats and areas considered to be of greatest conservation value to invertebrates at Goitre Field (outlined in black). Image © Google 2022.

Reptile Survey 2022

A reptile survey was undertaken during August/September 2022, by Ecological Services Ltd. The reptile survey focused on land within the northern half of the site only.

No reptiles were found during any of the checks, however a precautionary approach will need to be adopted as a number of refugia were lost during the course of the survey. Horses are known to graze the fields and there are a number of pathways across the site, used by local residents, with evidence of some anti-social behaviour present which may well have contributed to the loss of reptile refugia.

Recommendations were made for the precautionary approach to clearing vegetation across the site.

Site Visit 2023

Vicky Hannaford and Lee Gregory from Ecological Services visited the site on 12th July 2023 to re-assess the quality of the habitats within the site. Photographs of the site can be found in Appendix 1. The site is grazed by horses, although one horse was present during this survey, compared to four previously. A habitat map based on the 2023 visit is provided in Appendix 2.

Habitats in the site are comparable to the previous PEA in September 2021, the amount of bramble has increased as has the Japanese knotweed, which is not surprising as both species are vigorous in their growth habits. The current list of species recorded is more than the previous survey visit as the timing is a little earlier in the year when some species are more prominent than later in the season. A species list can be found in Appendix 3.

There is evidence that some exploratory groundworks have taken place since the previous visit. In addition, a small amount of site clearance has taken place along the north western boundary with Pen-Y Dre High School (the school's southern boundary) in relation to improvement works currently being undertaken at the school site. This area is currently fenced off with heras fencing.

Boundaries are defined across the site by post and wire fencing to the north, south and south west. Along the eastern boundary a post and wire fence is present behind which are a variety of fences to the rear of the adjacent properties. The boundary to the north west, around Pen-Y-Dre High School is metal palisade fencing and heras fencing as mentioned above.

The site is dominated by grassland, a mixture of species rich neutral grassland and species rich marshy grassland, the two often overlapping.

Species rich **neutral semi improved grassland** is the most dominant grassland and occurs across the site covers the periphery of the southern plateau and the northern Grass species present include common bent, Yorkshire fog, small cat's tail, crested dog's tail, perennial rye grass, sweet vernal grass, rough meadow grass with false oat grass and tufted hair grass also present. Floral species include common species such as common mouse-ear, creeping thistle, self heal, creeping cinquefoil, ragwort, soft rush, creeping buttercup, bird's foot trefoil, and meadow buttercup with knapweed, autumn hawkbit and lesser hawkbit also present. In the middle of the plateau area there is an area of dense hard rush and compact rush.

Marshy grassland is present in the north west of the site, species include sneezewort, marsh valerian, meadowsweet, jointed rush, soft rush, tufted hair grass, a species of sweet grass, water mint, lesser spearwort, betony and devil's bit scabious. A few specimens of a species of orchid, thought to be common spotted orchid, was also found in this area.

In the middle of the southern plateau, within the dense stand of rush there is another small area of **marshy grassland.** Species present include remote sedge, star sedge, glaucous sedge and hairy sedge. Other floral species present include marsh bedstraw, square-stemmed St John's wort, brooklime, common spike rush, lesser spearwort, greater bird's foot trefoil, and tufted forget me not. Other species present include red bartsia, silverweed, marsh foxtail, cock's foot, hoary willowherb and broad leaved dock.

There are a number of trees across the site. There is a **scattering of trees** along the southern boundary with Goitre Lane. Species include hawthorn, hazel, elm, and willow, whilst some are within the site boundary some lie just outside. In the south east corner there are several small stands of **Japanese knotweed** around the trees. Other scattered trees are present in the northern section of the site, willow is the dominant species with oak, alder and sycamore also present. A **line of trees** lies adjacent to the boundary with Pen-Y-Dre High School in the north west of the site. Species include alder, willow and silver birch, amongst the trees there is **dense bramble scrub.**

Along the eastern boundary there is band of **woody scrub**, blackthorn and hawthorn the dominant species with honeysuckle and a species of climbing rose. In front of the woody scrub there is a band of **dense bramble scrub** with some nettle and bindweed. There is evidence of fly-tipping along this eastern edge. There is a stand of woody scrub in the northern section of the site, also dominated with blackthorn and hawthorn with bramble scrub and ruderal species such as rosebay willowherb, thistle and nettle.

There are several stands of **Japanese knotweed** within the site. Approximately midway along the site, at the base of the north sloping section there are four stands, previously there were three stands present. There are small stands in the south east of the site adjacent to the boundary with Goitre Lane, previously there were just small two stands, now four small stands were visible.

The **stream**, visible during the previous visit in 2021, had no water flowing along it during the present survey, likely due to the prolonged hot weather experience during May and June.

In the north east corner of the site a tarmac pathway leads from the adjacent houses and follows the outside of north boundary of the site to the adjacent Pen-Y-Dre High School. In this north east corner a more informal **pathway** enters the site and soon splits in two. One pathway leads westwards and runs across the top of the northern section of the site. The other pathway travel diagonally downwards across the site, ending in the south west corner of the site where there is access onto Goitre Lane.

Potential Development Impacts

- The diversity of habitats across the site have potential to support a population of reptiles, vegetation clearance across the site would negatively impact such species.
- The Invertebrate Survey, 2022 indicates the site is supports a number of scarce and local invertebrate species and provides suitable habitats for a wide range of invertebrates. Clearance of vegetation will negatively impact on such species.
- The removal of scrub and any trees have potential to impact on nesting birds, appropriate measures, including timings of vegetation removal will be required.
- The use of lighting within the proposed development site, particularly along the northern and eastern edges of the site can adversely affect activity by a variety of fauna, particularly foraging bats, nesting birds and invertebrate.
- The loss of the mosaic of habitats within the site boundary could result in a loss of biodiversity value for local wildlife.

Conclusions and Recommendations

Given the potential impacts of the proposed development the below mitigation measures are proposed:

- Invertebrate surveys within the site found the mosaic of habitats to be important for scare and local invertebrate species. The key areas of importance for invertebrates were found to be the north and east of the site as shown in the aerial image on page 3 of this report. Impacts to these habitat areas should be avoided.
- Effort must be made within the overall site design to promote habitat connectivity and green corridors around the periphery of the site, ideally central corridors would be provided as well.
- Long term management of green spaces within the overall site which is sympathetic to wildlife must be agreed and a funding mechanism secured to ensure management work is undertaken in perpetuity.
- The site has potential to support a small population of reptiles. A reptile survey of the entire site has been completed by Ecological Services Ltd in September 2023. No reptiles were found to be present within the site boundary during the survey visits. However the overall site has potential to be used by reptiles through out the year. As a precaution reptile mitigation measures are still recommended to be implemented as part of any future planning application.

- A **reptile mitigation strategy**, agreed with the LPA ecologist, will be required to support the proposed development. Measures suitable for reptiles must be included within the site design to allow movement across the site post development work completion. A reptile mitigation strategy can only be finalised once reptile surveys have been undertaken and development proposals agreed. A reptile mitigation strategy will include, but not be limited to:

  - Habitat clearance measures such as sensitive timing of works and a two stage vegetation cut and destructive searching of tree roots if required.

  - Any tree trunks should be lifted and removed by hand from site

  - Timing of works to avoid the reptile hibernation period November to March inclusive

- Any scrub/tree removal will need to be undertaken outside of bird breeding season, March - August inclusive, if this is not possible a nesting bird check may be carried out immediately prior to cutting by a suitably qualified ecologist. If evidence of nesting birds is found a buffer zone of 5m will be put in place around the nest and remain in situ until the chicks have fledged.

- A root protection zone (RPZ) must be implemented around any retained trees which lie within and adjacent to the proposed works. British Standard BS 5837, Trees in relation to design, demolition and construction - Recommendations will be followed. Measures will include clear marking of the RPZ to guarantee no machinery/ material storage or digging carried out in that area. This will ensure that there is no detrimental impact to the trees and the flora or fauna it supports.

- No night time working will be permitted to prevent incidental light spillage onto retained vegetation and habitats which nocturnal species may use at night. No work between the hours of 7pm and 7am which requires the use of artificial lighting will be allowed.

- All excavations within the site will be securely covered over if left unattended. Any excavations that have a depth in excess of 0.5m and that are left open overnight will have a means of escape left for any mammals (e.g. hedgehog) that may fall into them. A wooden board or equivalent will be left from the bottom to the top of the hole at an angle no steeper than 45^{o}. This will allow any mammal to escape and avoid increased stress from being trapped.

The Environment Act (Wales) 2016 places a duty on competent authorities such as Merthyr Tydfil County Borough Council to conserve and enhance biodiversity. The below bullet points are some simple measures that could be achieved to enhance the biodiversity of the site:

- The provision of integrated bat boxes to be incorporated into the new buildings. Exact types of boxes to be agreed once external finishes to the proposed buildings have been agreed and locations to be agreed by an ecologist once plans have been finalised. Examples of bat boxes can be found in Appendix 4.
- The provision of integrated bird boxes to be incorporated into the new buildings. Exact types of boxes to be agreed once external finishes to the proposed buildings have been agreed and locations to be agreed by an ecologist once plans have been finalised. Examples of bird boxes can be found in Appendix 4.
- All fencing around the site will be hedgehog friendly in design. A friendly design is considered to allow the passage of small animals across the site. It should provide either a continuous gap between the bottom of the fence and ground of approximately 13cm or gaps cut a set distance along fencing.
- Any soft landscaping within the site to use native species where possible, of local (at least UK) provenance.
- The creation of at least 1 pond would create an additional habitat type within the site boundary. A pond would help provide a water source for local wildlife and provide aquatic habitat.
- An invasive non native species strategy to eradicate Japanese knotweed from within the site boundary would be beneficial. If left untreated the knotweed will spread reducing native habitat types available within the site.
- The provision of native species hedgerow planting instead of fencing, especially around the solar array, would help create additional habitat within the site boundary. Hedgerow can create foraging and commuting corridors around the site for a variety of animals.
- The creation of at least 1 reptile hiberncaula within the site boundary is recommended.
- The creation of at least 1 butterfly bank within the site boundary is recommended.

Best Wishes

Vicky Hannaford
Senior Ecologist
Ecological Services Ltd

Signed: *Vicky Hannaford* ***Date: December 2023***

Reference List

- Ecological Services Ltd (dated 10th February 2022) *'Preliminary Ecological Assessment: Land adjacent to Goetre Lane, Merthyr Tydfil) V1.0*

- Ecological Services Ltd (dated 4th July 2022) *'Ecological Appraisal: Proposed Solar Panel Development)*

- Ecological Services Ltd (dated 13th December 2023) *'Reptile Survey Report; Goitre Field School, Merthyr Tydfil)* V3.0

- Ecological Services Ltd (dated 10th October 2022) *'Reptile Survey Report; Proposed PV Array at Land of Goetre Lane, Merthyr Tydfil)* V1.0

- Christian Owen Bio-Surveys (dated October 2022) *'Invertebrate Survey Report; Goetre Field - Merthyr)*

Appendix 1 – Site Photographs

Southern plateau looking east

Site looking north

Site looking west

Site looking south

Tree line with scrub along east boundary

Access to site in north east corner

Site looking north towards areas of woody scrub

North west boundary with Pen Y Dre School

Area of marshy grassland in north west of site

Scattered trees in north of site

Area of bare earth adjacent to south of Pen Y Dre School

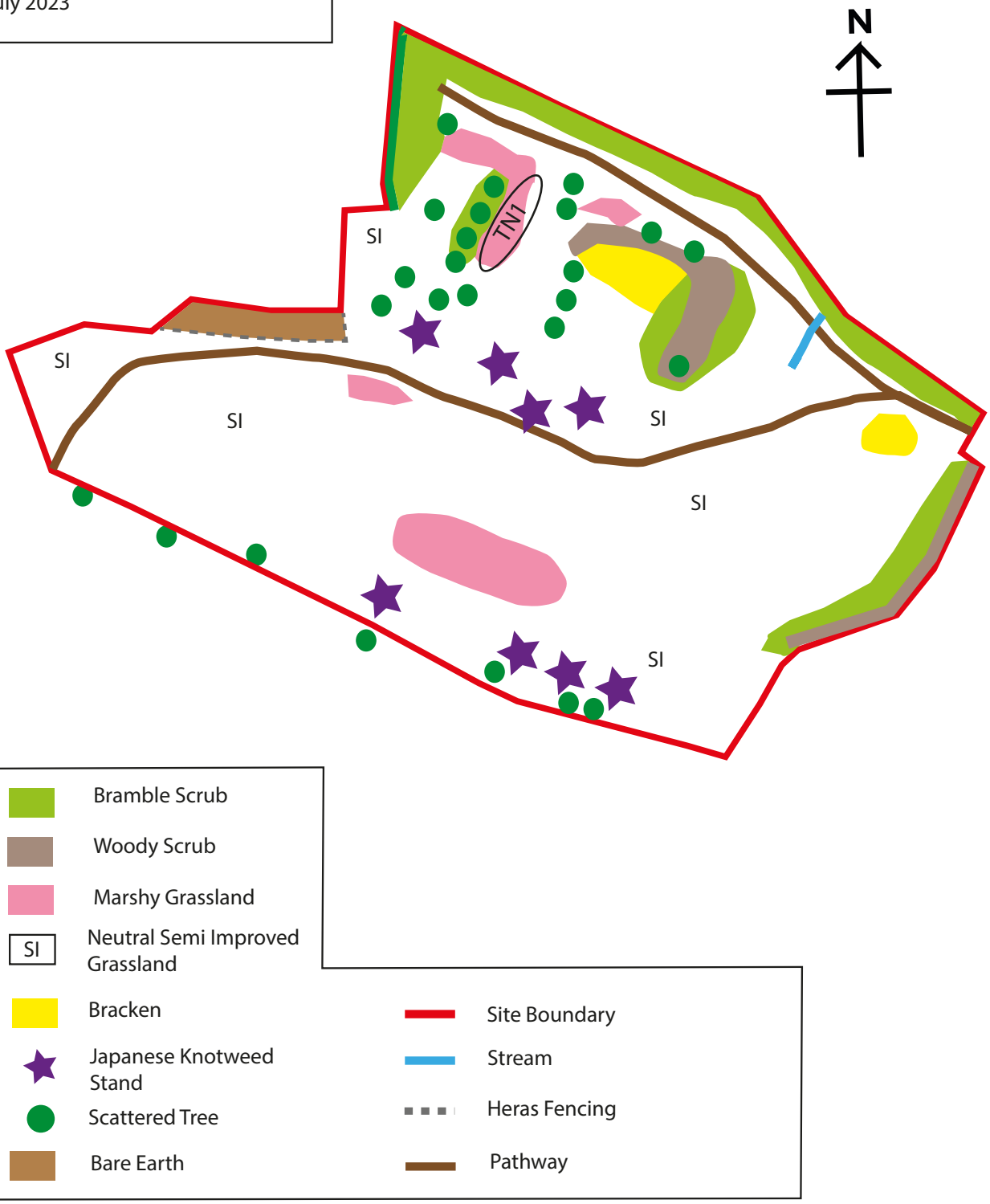
Trees along south boundary of site

Appendix 2 – Habitat Map

LAND ADJACENT TO GOETRE LANE, MERTHYR TYDFIL

Habitat Map

July 2023



Appendix 3 – Species List

Species	Common Name
Trees & Scrub	
Acer campestre	field maple
Acer pseudoplatanus	sycamore
Alnus glutinosa	alder
Corylus avellana	hazel
Crataegus monogyna	hawthorn
Fraxinus excelsior	ash
Lonicera periclymenum	honeysuckle
Prunus spinosa	blackthorn
Quercus sp.	oak
Rosa sp	wild rose
Rubus fruticosus agg	bramble
Salix caprea	goat willow
Salix cinerea	grey willow
Sambucus nigra	elder
Ulex europaeus	common gorse
Ulex gallii	western gorse
Ulmus sp	elm species
Herbaceous Plants	
Achillea millefolium	yarrow
Achillea ptarmica	sneezewort
Agrostis capillaris	common bent
Agrostis stolonifera	creeping bent
Alchemilla sp	lady's-mantle
Alopecurus geniculatus	marsh foxtail
Anthoxanthum odoratum	sweet vernal-grass
Arrhenatherum elatius	false oat-grass
Artemisia vulgaris	mugwort
Calystegia sepium	hedge bindweed
Carex divulsa ssp. divulsa	grey sedge
Carex echinata	star sedge
Carex flacca	glaucous sedge
Carex hirta	hairy sedge
Carex ovalis	oval sedge
Carex remota	remote sedge
Centaurea nigra	common knapweed
Cerastium fontanum	common mouse-ear
Chamerion angustifolium	rosebay willowherb
Cirsium arvense	creeping thistle
Cynosurus cristatus	crested dog's-tail
Dactylis glomerata	cock's-foot

Species	Common Name
Dactylorhiza fuchsii	common spotted orchid
Deschampsia cespitosa	tufted hair-grass
Dipsacus fullonum	teasel
Eleocharis palustris	common spike-rush
Epilobium parviflorum	hoary willowherb
Equisetum arvense	field horsetail
Fallopia japonica	Japanese knotweed
Filipendula ulmaria	meadowsweet
Galium aparine	cleavers
Galium palustre	marsh bedstraw
Glyceria sp	sweet-grass sp.
Heracleum sphondylium	hogweed
Holcus lanatus	yorkshire fog
Hypericum maculatum	imperforate St John's-wort
Hypericum tetrapterum	square-stemmed St John's-wort
Juncus articulatus	jointed rush
Juncus conglomeratus	compact rush
Juncus effusus	soft rush
Juncus inflexus	hard rush
Juncus tenuis	slender rush
Lathyrus pratensis	meadow vetchling
Leontodon autumnalis	autumn hawkbit
Leontodon saxatilis	lesser hawkbit
Leucanthemum vulgare	oxeye daisy
Linum catharticum	fairy flax
Lolium perenne	perennial rye-grass
Lotus corniculatus	common bird's-foot trefoil
Lotus pedunculatus	greater bird's-foot-trefoil
Matricaria discoidea	pineapple-weed
Mentha aquatica	water mint
Myosotis laxa	tufted forget-me-not
Odontites vernus	red bartsia
Persicaria maculosa	redshank
Phleum bertolonii	small timothy grass
Phleum pratense	timothy grass
Plantago lanceolata	ribwort plantain
Plantago major	greater plantain
Poa trivialis	rough meadow-grass
Potentilla anserina	silverweed
Potentilla reptans	creeping cinquefoil
Prunella vulgaris	self heal
Pteridium aquilinum	bracken

Species	Common Name
Ranunculus acris	meadow buttercup
Ranunculus flammula	lesser spearwort
Ranunculus repens	creeping buttercup
Rhinanthus minor	yellow rattle
Rumex acetosa	common sorrel
Rumex crispus	curled dock
Rumex obtusifolius	broad-leaved dock
Senecio jacobaea	common ragwort
Stachys officinalis	betony
Stellaria graminea	lesser stitchwort
Succisa pratensis	devil's-bit scabious
Trifolium dubium	lesser trefoil
Trifolium hybridum	alsike clover
Trifolium pratense	red clover
Trifolium repens	white clover
Urtica dioica	common nettle
Valeriana dioica	marsh valerian
Veronica beccabunga	brooklime

Appendix 4 - Bat and Bird Boxes

2FR Schwegler Bat Tube

Ibstock Enclosed Bat Box ‘B’

Schwegler Brick Nest Box

Vivara Pro WoodStone House Sparrow Nest Box