

GOULD ECOLOGY

Ecological Consultants

Proposed Extension to Campsite at

**Tretio Caravan Park
St David's
Pembrokeshire
SA62 6DE**

Preliminary Ecological Appraisal

August 2021

(Version 1- Final)



Document Information

Report Type	Preliminary Ecological Appraisal (PEA)		
Project Details	Site Location	Commissioned By	Date
Extension to campsite	Tretio Caravan Park, St David's, Pembrokeshire SA62 6DE Central Grid Reference SM 78630 29046	Hayston Developments and Planning (agent)	July 2021

Fieldwork	Personnel	Date
Extended Phase 1 Habitat Survey	Richard Gould ACIEEM MA BSc	9 th August 2021

Document Version	Details	By	Date
1 - Draft	Prepared by	Richard Gould	30 th August 2021
	Checked by	RG	30 th August 2021
	Issued to Client		30 th August 2021
1 - Final	Incorporating Finalised Plans		18 th February 2022

Disclosure

"The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. I confirm that the opinions expressed are our true and professional bona fide opinions"

Signed



Richard Gould

Contents	Page
Executive Summary	3
1. Introduction	4
2. Legislative and Planning Context	6
3. Methodology	9
4. Results	11
5. Survey Limitations	16
6. Ecological Appraisal	17
7. Recommendations	19
8. Conclusions	21

References	22
------------	----

Appendix A: Phase 1 Habitat Map

Appendix B: Photographs

Appendix C: Species Lists by Habitat Type

Appendix D: Suggested Species for Wildlife Planting

List of Tables and Figures

<i>Figure 1: Site Location (1:25 000 Scale)</i>	4
<i>Figure 2: Site Setting</i>	11
<i>Table 1: Designated Sites</i>	12

Executive Summary

Project Details: Proposed extension to campsite at Tretio Caravan Park, St. David's, Pembrokeshire SA62 6DE		
Site Description: The site comprised an area of amenity grassland (golf course), unimproved neutral grassland banks and strips of native woodland planting on the margins.		
Survey Methods: Walkover / Extended phase 1 habitat survey conducted on the 9 th August 2021		
Key Findings: <ul style="list-style-type: none"> The main area of the site comprised amenity grassland (pitch and putt golf course) of <i>negligible</i> ecological value. Margins of the site comprised unimproved grassland on earth banks, native tree planting and native hedges. Bats are likely to use hedges and tree-lines for foraging and commuting. Nesting birds could occur in hedges and trees on the margins, reptiles and hedgehog could occur within unmanaged grassland on the site margins. The main area of site had <i>negligible</i> value to any protected or priority species. 		
Appraisal: <p>The project proposals would result in the loss of amenity grassland habitat to the new lodges and vehicle access. However, the proposals include creation of wildflower areas and new native tree planting which would deliver an overall ecological enhancement at the site.</p> <p>Risks to any protected species are very low or negligible, and can be avoided by implementing precautionary methods where appropriate.</p>		
Summary of Ecological Mitigation Recommendations <i>(Refer to Section 7 for full details)</i>		
<i>Construction Phase Mitigation</i>	<i>Medium - Long Term Mitigation</i>	<i>Habitat Enhancement</i>
Management of amenity grassland within the site to short sward height prior to commencing works. Removal of trees or shrubs (if required) outside of the bird nesting season	Lighting design to avoid illumination of boundary hedges and trees.	New native tree planting around each lodge and on the north-western margin. Creation of new wildflower meadow in the centre of the site. Installation of new bat box and bird box on existing campsite building.
Provided that all of the measures outlined within Section 7 of this report are developed and fully implemented within the scheme, the potentially adverse ecological impacts shall be avoided or mitigated, and the site shall be enhanced for wildlife.		

1 Introduction and background

- 1.1 This report is a Preliminary Ecological Appraisal (PEA) relating to a proposed extension to the camp-site at Tretio Caravan Park, St. David's, Pembrokeshire SA62 6DE
- 1.2 In July 2021, Gould Ecology were commissioned to undertake the study for the purpose of informing the project design and to accompany the planning application.
- 1.3 The project proposals include creation of 11 new lodges with parking and access road. New earth banks planted with native species shall be created around each lodge, new wildflower areas shall be created in the central area of the site, and new native trees shall be planted on the north western margin.

Site Location

- 1.4 The site was an existing 'pitch and putt' golf course located adjacent to the existing camping area at Tretio Caravan Park, north-east of the city of St. David's near to the north Pembrokeshire Coast.

Figure 1: Site Location (1:25 000 Scale)



Report aims

1.5 The aims of this report were to:

- Identify and describe the habitats and ecological features within the site and immediate surrounding area;
- Identify any designated sites, priority habitats and protected or priority species which are present (or potentially present) within the zone of influence of the project and could be affected by the proposed works;
- Provide an appraisal of the significance and implications of any potential ecological impacts which may be caused by the project;
- Identify any further surveys or other work necessary to complete the impact assessment;
- Provide recommendations for delivering appropriate impact avoidance, mitigation and ecological enhancement strategies in line with legislative and planning requirements.

Key Terminology

1.6 The following Key Terms are used within this report:

- *'Ecological feature'* is the term used to denote any habitat, species or site under consideration within the ecological appraisal.
- *'Construction Zone'* - the area in which works are taking place - including those areas used for vehicle access and parking, materials storage, temporary buildings and compounds.
- *'Zone of Influence'* - the area in which ecological features may be affected by the proposed works. This may often extend beyond the construction zone, and will vary according to the feature described.
- *'Ecological impact'* is the term used to denote actions (associated with the project) resulting in changes to an ecological feature. For example - the action of removing a hedgerow.
- *'Effect'* - the outcome on an ecological feature from an impact. For example - the *effect* on dormouse populations of the removal of a hedgerow.

Personnel

1.7 The site visit and reporting were conducted by Richard Gould, ACIEEM MA BSc.

1.8 Richard is an ecological consultant with over 16 years' experience. He is an Associate member of the Chartered Institute for Ecology and Environmental Management and has extensive experience conducting Extended Phase 1 Habitat surveys, Phase 2 protected species surveys and Ecological Impact Assessments.

2 Legislative and Planning context

2.1 Wildlife and Biodiversity in Wales are protected to varying degrees through legal statute and planning policy.

2.2 The following key wildlife legislation is relevant to this project:

- The **Conservation of Species and Habitats Regulations 2017 as amended by the Conservation of Species and Habitats Regulations (Amendment) (EU Exit) 2019**. Species protected under this legislation are known as European Protected Species (EPS).
- The **Wildlife & Countryside Act (1981, as amended)**;
- The **Environment (Wales) Act (2016)**, in conjunction with the **Wellbeing of Future Generations (Wales) Act (2015)**, the **Nature Recovery Plan for Wales (2015)** and the **Planning (Wales) Act (2015)**;
- The **Protection of Badgers Act (1992)**.

2.3 A number of **Sites, Habitats and Species** are included within the legislation. The following paragraphs summarise the key aspects relating to each, with particular reference to those relevant to development proposals. A more detailed summary is provided in Appendix C, and for further clarification, it is recommended that the legislation is referred to directly, and (if necessary) legal advice is sought.

Designated Sites

2.4 **Designated Sites** are sites which are protected for their importance to biodiversity. These include:

- **Special Areas of Conservation (SACs), Special Protected Areas (SPAs) and Marine Protected Zones (MPZs)** - sites of international importance, protected under UK legislation (*The Conservation of Habitats and Species Regulations 2017 as amended*);
- **Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)** - sites of national importance, protected under UK legislation (*Wildlife and Countryside Act (1981)*).
- **Sites of Interest for Nature Conservation (SINCs) and Local Nature Reserves (LNRs)** are of importance at the regional or local level, and are protected within planning policy guidance.

Priority Habitats and Species

2.5 A number of **Priority Habitats and Species** are listed as being of principle importance to wildlife conservation in Wales within *Section 7 of the Environment (Wales) Act (2016)*. In general, projects which would cause adverse impacts to priority habitats or species would not be granted planning permission without appropriate mitigation.

2.6 The Section 7 lists of Priority Habitats and Species for Wales can be downloaded from <https://www.biodiversitywales.org.uk/Environment-Wales-Act>.

Protected Species

- 2.7 A range of **legally protected species** are included within different pieces of legislation, which offer varying forms of protection. Many protected species are also priority species, but also have specific legal protection from particular actions.
- 2.8 Commonly occurring examples of protected species include:
- **Bats** (*Conservation of Species and Habitats Regulations and Wildlife and Countryside Act (WACA), 1981, as amended*);
 - **Dormice** (*Conservation of Species and Habitats Regulations & WACA*);
 - **Otter** (*Conservation of Habitats and Species Regulations & WACA*);
 - **Great crested newt** (*Conservation of Species and Habitats Regulations and WACA*);
 - **Water Vole** (*Wildlife and Countryside Act, 1981 - Full protection*)
 - **Marsh Fritillary Butterfly** (*Wildlife and Countryside Act, 1981 - Full Protection, Conservation of Species and Habitats Regulations 2017 - protection of core habit areas*);
 - **Reptiles**- slow worm, grass snake, common lizard and adder - (*Wildlife and Countryside Act, 1981 - Partial protection*). Rare and locally occurring species (Smooth snake, Sand Lizard) have additional protection under the *Conservation of Species and Habitats Regulations*.
 - **Badgers** (*The Protection of Badgers Act, 1992*). Includes protection of badger setts from digging or disturbance;
 - **Nesting Birds** (*Wildlife and Countryside Act, 1981*) Protected from disturbance when active, additional protection is given to certain rare or sensitive species listed in Section 1 of the Act).
 - **Certain rare plants and invertebrates** are also protected within the *Wildlife and Countryside Act, (1981)*.
- 2.9 This list is not exhaustive, and there are many more protected species which may occur within specific locations in the country and/or in particular habitats. Where relevant, any legislative constraints around other species are described within the report text.

Licensing

- 2.10 Any action which might breach the legislation in relation to protected species would risk causing a criminal offence (e.g. destroying a bat roost). In some cases it is possible to gain a licence from Natural Resources Wales (NRW) to permit otherwise unlawful actions.
- 2.11 There are two main forms of licence (in the context of development) - a **survey licence** held by individuals to permit certain survey techniques for protected species and a **development or derogation licence** for a particular project (e.g. a development) which might cause an offence - (e.g. to disturb a bat roost). Projects requiring development licences must meet certain criteria, and applications must contain a detailed method statement prepared by an ecologist to ensure that effective mitigation measures are delivered.

Invasive Species

- 2.12 A number of **invasive plant species** are listed within the Wildlife and Countryside Act (Schedule 9, part II), which includes the commonly occurring **Japanese Knotweed** and **Himalayan balsam**, as well as a number of other terrestrial and aquatic plants. In the context of development, these must not be caused to spread off site.

Planning Policy

- 2.13 Local planning policy is informed by National Planning Policy, which includes provision for protection of wildlife and biodiversity under Technical Advice Note (TAN) 5.
- 2.14 Specific policy guidance relating to biodiversity varies by local authority, and can be found within the appropriate Local Development Plan or Supplementary Planning Guidance.
- 2.15 In general, development projects with the potential to cause significant adverse ecological effects or to breach the legislation are required to submit sufficient information to ensure that such risks are assessed. This will be based on site surveys which describe the existing 'baseline' ecological conditions.
- 2.16 Where the risk of causing a legal offence or a significant adverse ecological effect has been identified, the project design must incorporate appropriate impact avoidance, mitigation or compensation measures, as required under UK legislation and planning policy.
- 2.17 Section 6 of the Environment (Wales) Act 2016 also places a '**Biodiversity and Resilience of Ecosystems Duty**' on planning authorities to "maintain and enhance biodiversity" where it is within the proper exercise of their functions. In doing so, public authorities must also seek to "promote the resilience of ecosystems".
- 2.18 Therefore, it is usually a requirement that development proposals can demonstrate that there will be no net loss to biodiversity caused by the proposals, and that appropriate ecological enhancements are integrated into the project design.

3 Methodology

Survey Scope

- 3.1 The survey area comprised the proposed site, as shown in Figure 1, above and the Phase 1 Habitat Map provided in Appendix A.
- 3.2 The appraisal included consideration of all those **designated sites, priority habitats, protected species and priority species** which occur, or potentially occur, within the *zone of influence* of the project.
- 3.3 In addition, habitats and species which have ecological value at the scale of the *site* or *district* were considered where relevant (for instance, in relation to the conservation of biodiversity at the site and the development of ecological enhancement strategies).
- 3.4 The *zone of influence* for the project was considered to comprise the site area, but also included consideration of potential ecological effects to adjacent habitats or sites, functionally connected habitats (e.g. those linked by watercourses or hydrology), or to mobile species occurring in the wider area.

Desk Study Methods

- 3.5 Aerial photographs (Google Earth Pro) and Ordnance Survey maps were used to gain an overview of the study area and surrounding habitats.
- 3.6 A data search from the local Biodiversity Records Centre was not ordered, as risks to all protected and priority species were *negligible, or were very low* and could be avoided by simple precautionary methods.
- 3.7 Details of statutory designated sites within 2km of the site were obtained using the Multi-Agency Geographic Information Centre (MAGIC) Interactive Map.

Field Survey Methods

Extended Phase 1 Habitat Survey

- 3.8 On the 9th August 2021, an extended Phase 1 Habitat Survey was conducted at the site by Richard Gould.
- 3.9 The distribution of habitats and features within the survey area was recorded based upon the JNCC Handbook for Phase 1 Habitat Survey (2010).
- 3.10 The site and wider area was assessed for its potential to support any protected or priority species of flora or fauna, as well as any invasive species. This included:

- *Bats* - an assessment of the presence and value of potential roost features and an assessment of the value of habitats for foraging and commuting;
- *Dormice* - an assessment of the value of features on site and adjacent habitats to dormice;
- *Water vole and otter* - the river was walked and searched for evidence of either of these species, as well as areas of suitable habitat;
- *Badger* - a search for signs of presence including holes, trails, feeding remains and latrines. Identification of the presence of any setts and characterisation of the use of setts where applicable;
- *Reptiles* - assessment of the value of habitats and features to reptiles within the zone of influence of the project;
- *Amphibians* - assessment of the value of habitats on site and in the surrounding area to amphibians. Risk assessment of the potential presence of great crested newt based upon known geographical distribution, existing records habitat on site and presence of nearby ponds;
- *Birds* - identification of any habitat of potential value to nesting birds. Assessment of the risk of disturbance to any Schedule 1 bird species likely to occur on site or in the wider area;
- *Invertebrates* - assessment of the value of habitats on site to invertebrates) based upon geographical distribution, field identification (where applicable) and existing records;
- *Protected or priority plants* - positive identification or risk assessment of occurrence based upon habitats field recording and existing records;
- *Invasive Species* - Identification of the presence of Schedule 9 and other invasive species on site or in the immediate vicinity.

Value criteria

3.11 In order to inform the significance of any ecological impact, ecological features within the survey area were valued according to their importance on a geographic scale. Determination of value was based on a range of criteria, discussed within CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the United Kingdom*'. The following paragraphs describe the terminology used for valuation, with an indicative guide to their application:

- *Negligible* - Negligible ecological value at any scale - e.g. areas of hardstanding, bare ground, road surfaces etc;
- *Site/ Zone of influence only* - Features which contribute to the biodiversity of the site or immediate surrounding area - e.g. habitats supporting commonly occurring or non-priority species;
- *'District'* - Habitats and species of importance to the district, but not the County or Region. May include local wildlife sites or habitats containing non-priority species assemblages which are distinctive or notable at the local level;
- *'Regional'* - Habitats and species of importance at the county or the regional level, which may include features listed on Local Biodiversity Action Plans and Section 7 lists, as well as SINC's and County Wildlife Sites;
- *National* - Habitats and species of national importance - this may include SSSIs and National Nature Reserves, as well as sites of importance to priority or

protected species or species assemblages;

- *International* - Sites containing habitats or species of international importance, including those covered by international legislation, such as Special Areas of Conservation or Special Protected Areas, Biosphere Reserves or Marine Protected Areas, as well as sites supporting populations of priority species of international importance.

3.12 Determination of value was then used to assess the likely significance of any ecological effects which may be caused by the proposed works. Assessment of significance is broadly based upon the *sensitivity* of the resource affected and the *magnitude* of the impact.

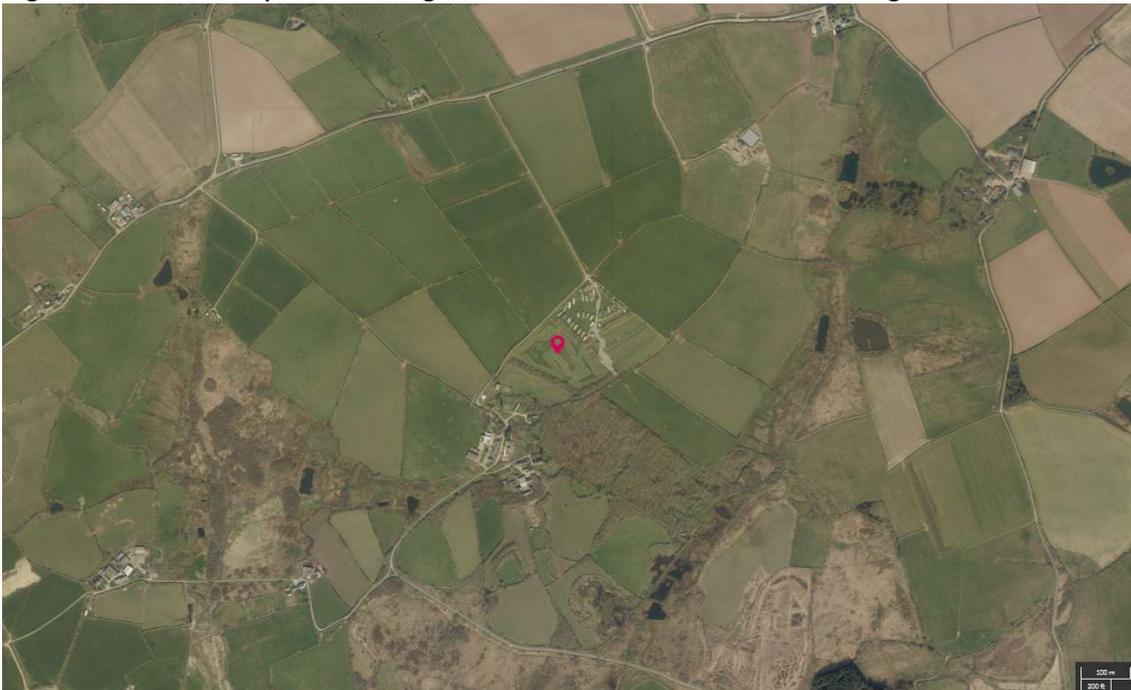
3.13 Where project actions have potential to cause *significant* effects, further survey work or impact avoidance or mitigation strategies are required. It should be noted that within a Preliminary Ecological Appraisal (PEA), it may only be possible to provide an indicative assessment of likely value until further work has been conducted.

4 Results - Baseline Conditions

Site Overview and Setting

- 4.1 The site comprised an area of amenity grassland ('pitch and putt' golf course) adjacent to the existing campsite at Tretio Caravan Park. Site boundaries comprised earth banks with rough grassland (north-east and north-west) and native tree planting (south-west and south-east).
- 4.2 Habitats in the wider area were dominated by agricultural grassland and arable fields. Unimproved marshy grassland and other habitats associated with Tretio Common occurred just over 300m to the south of the site.

Figure 2: Overhead plan showing the site in relation to surrounding habitats.



Designated sites

- 4.3 The following table summarises the statutory designated sites within 2km of the project site, and the bat related Sites of Special Scientific Interest (SSSIs) and Special Areas of Conservation (SACs) within 10km.

Table 1: Designated Sites

Name of Designated Site	Distance from Development Site	Reason for designation
Tretio Common	310m south-east at nearest point	Unimproved pasture - fen-mosaic lowland heath. Small pearl bordered fritillary, short-eared owl and hen harrier (wintering). Part of the North-west Pembrokeshire Commons SAC
North-west Pembrokeshire Commons SAC	350m east at nearest point	Habitats: Dry heaths, purple-moor grass meadows, wet heathland with cross-leaved heath, transition mires and quaking bogs. Species Floating water-plantain
Dowrog Common SSSI	1.3km south-west at nearest point	Diverse example of fen-mosaic lowland heaths. Diverse assemblage of wintering waterfowl and birds of prey. Part of the North-west Pembrokeshire Commons SAC
Hendre Eynon Pastures SSSI	1.4km south-west at nearest point	Diverse habitats - heathy grassland, neutral grassland, acidic marshy grassland and inundation communities. The site supports the marsh fritillary butterfly, green hairstreak and scarlet tiger moth. Curlew have bred at the site and otter occur within the adjacent watercourse.
St David's Peninsula Coast SSSI	1.5km north-west	Geology and biology including maritime grassland, heath and scrub, grey seal, peregrine falcon, cough.
Ramsey and St David's Peninsula Coast SPA	1.5km north-west	Maritime habitats supporting breeding bird populations, including cough, peregrine falcon and sea-birds.
St David's SAC	1.5km north-west	Dry heath, floating water plantain, vegetated sea cliffs.
Arfordir abereiddi SSSI	1.5km north-west	The site is of special interest for its littoral zone including sea caves, its grey seals, which breed and haul out along the foreshore, and for two important geological sites
Pembrokeshire Marine SAC	1.5km north-west	Annex 1 Habitats (primary): Estuaries, Large shallow inlets and bays, Reefs Annex 1 Habitats (qualifying): Sandbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by seawater at low tide, Coastal lagoons, Atlantic salt meadows (Glauco-Puccinellietalia

		maritimae), <u>Submerged or partially submerged sea caves.</u> Annex II Species (primary): Grey Seal, Shore dock Annex II Species (qualifying): Sea lamprey, River lamprey, Allis shad, Twaite shad, Otter
West Wales Marine SAC	1.7km north	Harbour porpoise

- 4.4 The project site was in the near vicinity of the Tretio Common SSSI, part of the North-west Pembrokeshire Commons SAC.

Habitats

- 4.5 The following paragraphs describe the habitats and features which were identified within the survey area. A Phase 1 Habitat Map is provided within Appendix A. Photographs are provided within Appendix B.
- 4.6 Flora and fauna are referred to by their common names only within the text. A species list including scientific names and abundance is provided in Appendix C. Species abundance (for each habitat type) was described using the DAFOR scale: 'Dominant', 'Abundant', 'Frequent', 'Occasional' or 'Rare'.

Amenity Grassland

- 4.7 The main area of the site was an existing 'pitch and putt' golf course which comprised intensively managed amenity grassland.
- 4.8 The grassland was mown regularly to very short sward height at the time of survey. A relatively low diversity of forb species were recorded within the sward, which included white clover, creeping buttercup, dandelion, greater plantain, rough hawkbit, yarrow and self-heal.
- 4.9 The habitat type was considered to have *negligible* ecological value under the current intensive management.

Unimproved neutral grassland bank

- 4.10 The north-western and north-eastern borders of the site comprised an earth bank (approx. 2m in height) dominated by unmanaged unimproved neutral grassland, with occasional small trees.
- 4.11 The grassland bank was dominated by false oat grass and contained a moderate diversity of plant species including cocksfoot, fescues, Yorkshire fog, red clover, upright hedge parsley, greater bird's foot trefoil, ground ivy, bramble, hogweed, stinging nettle, foxglove, common knapweed, dandelion, docks, yarrow, common mouse-ear, bindweed, common vetch, ox-eye daisy, hedge woundwort, ragwort and

ivy. Rarely occurring species included betony, musk mallow, hart's tongue fern, gorse, common restharrow, navelwort, bush vetch and meadow vetchling.

4.12 The habitat type was considered to have ecological value at the scale of the *District*.

Broadleaved plantation woodland

4.13 The south-western and south-eastern boundaries of the site comprised a narrow band of native, broadleaved woodland planting, the majority of which was immature - probably around 15 years in age.

4.14 The dominant woodland tree was sycamore, with occasional ash, goat willow and beech, and individual wild service, wild cherry and rowan.

4.15 There was no understorey or shrub layer and the ground flora was relatively bare and depleted due to the dense shading. Abundant or frequent plant species included dandelion, stinging nettle, ground ivy, long-stalked cranesbill, herb Robert, white clover, sow thistle, scarlet pimpernel and toad rush.

4.16 The woodland habitat would provide value to a moderate range of common invertebrate and bird species, but was relatively immature and was considered to have value at the scale of the *Site*.

Native hedge on bank

4.17 Western and southern boundaries were marked by a native hedge on bank. Woody species included hawthorn, blackthorn, buckthorn, beech, sycamore, hazel and ash.

4.18 The habitat fell within the Priority habitat description for 'Hedgerows' and was considered to have value at the *Regional* scale.

Protected and Priority Species

Bats

4.19 No potentially suitable bat roost features were observed within the site (including within the plantation woodland habitat).

4.20 The hedges and woodland surrounding the site were likely to have value to local bats for foraging and commuting.

Dormouse

4.21 The site had *negligible* potential of supporting dormice, due to its open nature and the limited diversity of trees species, lack of understorey or shrub layers within the woodland habitat.

Otter and Water vole

- 4.22 No water-courses occurred at the site or in the near vicinity. The site had *negligible* value to otter or water vole.

Badger

- 4.23 No evidence of regular badger presence at the site was observed during the site visit (for instance, setts, latrines, foraging marks, main trails, hairs).
- 4.24 However, badger are likely to be active in the wider area, and could potentially occur within the site on an occasional basis.

Hedgehog

- 4.25 Vegetated banks on the site margins had potential value to hedgehog for foraging, dispersal and refuge.

Birds

- 4.26 The hedgerows, trees and scrub at the site margins could potentially support nesting birds during the breeding season.

Reptiles

- 4.27 Grassland and hedgerow habitats on the site margins could potentially support reptile species including common lizard, slow worm and grass snake. The amenity grassland in the main area of the site had *negligible* value to reptiles.

Amphibians

- 4.28 Habitats at the site were of relatively low value to reptiles. The site margins could be used by common amphibian species for foraging and dispersal.

Invertebrates

- 4.29 Unimproved grassland on the site margins was likely to have value to a range of invertebrate species, but the amenity grassland in the main area of the site had *negligible* value to invertebrates.

Priority plant species***Field Observations***

- 4.30 No priority plant species were noted during the site visit.

Invasive plant species

- 4.31 No invasive non-native plant species were noted during the site visit.

Summary of Key Results

Designated Sites

- 4.32 Tretio Common **SSSI**, part of the **North-west Pembrokeshire Commons SAC** occurred 310m from the site. A block of broadleaved woodland separated the site from the SSSI.

Habitats

- 4.33 The main area of site (amenity grassland) had *negligible* ecological value. Broadleaved woodland planting on the western margin had ecological value at the scale of the *site*.
- 4.34 **Native hedgerows** on the south-western and south-eastern margins were *priority* habitat features with ecological value at the *Regional* scale. Earth banks with unimproved grassland on the eastern and northern margins were considered to have value at the *District* scale

Protected and Notable Species

- 4.35 The main area of the site (amenity grassland) affected by the proposals had *negligible* value to any protected or priority species.
- 4.36 Hedges and woodland at the site margins had potential value to **bats** for foraging and commuting.
- 4.37 Woodland, hedges and scrub had potential value to **nesting birds**.
- 4.38 Earth banks with unimproved grassland, as well as hedge-banks had potential value to **reptiles and hedgehog**.

5 Survey Limitations

General

- 5.1 The survey was based on Extended Phase 1 Habitat Survey. This survey method provides an assessment of the broad habitat types in the area, along with an appraisal of the habitat suitability, and presence of field signs, for protected or notable species.
- 5.2 Various species of flora and fauna may only be apparent at certain times of year and, in some cases, may not be apparent every year. Zero observation of a species during a single site visit cannot therefore confirm absence. The Extended Phase 1 Habitat survey can only provide an indication of habitat suitability for the species assessed, and to inform further survey requirements.

Season

- 5.3 The information provided within this report is based on a walkover survey conducted in August 2021. The season was therefore optimal for recording plant species and the majority of flowering plants and grasses would generally have been apparent. However, recent mowing of the amenity grassland reduced the detectability of grass species within this habitat

Visibility and Access

- 5.4 All areas of the site were accessible, with good visibility.

Invasive species

- 5.5 Japanese knotweed is usually likely to be detected during a walkover survey, if present. However, under some circumstances the plant (or other invasive species) may not be detected.
- 5.6 Japanese knotweed is dormant during the winter, and only begins to emerge above the ground in spring. Whilst it is usual for larger stands of Japanese knotweed to be evident during the winter (due to the presence of dead stems and bare ground), it is possible for the presence of Japanese knotweed to be concealed by management practices (such as regular cutting and removal of stems).
- 5.7 In some cases, Japanese knotweed rhizomes may extend underground for up to 7m from the visible part of a plant, and may remain undetected beneath the soil until triggered to grow in areas where it has previously not done so through changes to management practices (e.g. cutting/spraying).
- 5.8 Therefore a Preliminary Ecological Appraisal alone should not be used to confirm absence of Japanese knotweed. A targeted survey, conducted at an appropriate time of year would be required for this purpose.

6 Ecological Appraisal

- 6.1 This section contains an appraisal of the potential ecological impacts which may be caused by the proposals, both in the short term (during the construction phase) and (in the long term (during occupation).

Overview of Key Project Actions

- 6.2 The project design includes the following elements (Ref. *Drawing No. 04b: Location and Block Plan, provide by Hayston Developments and Planning Ltd*)
- Creation of eleven new lodges with parking in amenity grassland habitat. New earth banks with native planting around each lodge;
 - Creation of a new vehicle access track within field (amenity grassland habitat);
 - Creation of new wildflower areas within amenity grassland;
 - New native tree planting along north-western boundary (unimproved grassland bank).

Impacts to Designated Sites

- 6.3 The risk of adverse impacts to designated sites was considered to be *negligible* due to the relatively small scale nature of the works and the 'buffer' of the intervening area of woodland between the project site and Tretio Common SSSI.

Impacts to Habitats

- 6.4 The project proposals would cause the loss of amenity grassland habitats to the new lodges and access track.
- 6.5 In addition, planting of trees on the north western margin could cause the loss of an area of unimproved grassland of value at the *district* scale due to shading of the bank.
- 6.6 However, creation of new wildflower areas and earth banks with native tree planting would result in an overall enhancement to habitats at the site.

Impacts to Species

Bats

Roosting

- 6.7 No trees or structures with potential suitability for bat roosting would be affected by the proposals.

Foraging and Commuting

- 6.8 The project proposals do not directly affect habitats of significant value to bats for foraging or commuting.
- 6.9 Under some circumstances, additional external lighting can be detrimental to bats - particularly where habitat features of higher value to bats (such as hedges or woodland) are illuminated for significant periods of the night. Therefore external lighting should be designed in accordance with good practice principles (as described in Section 7, below)

Badger

- 6.10 As no evidence of badger was noted during the survey, risks of disturbing badgers or badgers setts during works or in the long term were considered to be *negligible*.

Hedgehog

- 6.11 Habitats of potential value to hedgehog would be unaffected by the project proposals, and the risk of potentially adverse impacts to hedgehog were considered likely to be *negligible*.

Birds

- 6.12 The main areas of the site affected by the project proposals did not include any areas of potentially suitable bird nesting habitat.
- 6.13 Should it be necessary to remove any trees or shrubs, there would potentially be risks of disturbing nesting birds, and appropriate precautions should be taken (described in Section 7, below).

Reptiles and Amphibians

- 6.14 Potential risks to reptiles associated with the project proposals are likely to be *negligible* provided that the amenity grassland is retained at short sward height under current management.
- 6.15 Risks to reptiles would be higher if the grassland was left unmanaged for an extended period of time prior to beginning works on site. If this were the case, precautionary working methods should be applied prior to working (described in Section 7, below).

7 Recommendations

- 7.1 This section provides recommendations for any required further survey, outline mitigation in relation to the ecological impacts described in Section 7 and opportunities for ecological enhancement at the site.

Further Survey

- 7.2 No further survey was considered necessary to inform the impact assessment.

Mitigation

Bats - Night Time Lighting

- 7.3 In order to avoid disturbance to commuting or foraging bats, any new external lighting shall avoid illumination of trees, hedges or the pond and shall accord with the guidance provided within the *BCT/ILP Guidance Note 8 'Bats and External Lighting in the UK'*). Key principles are summarised below:

External Lighting:

- Should only be used where necessary;
- Should be of the minimum brightness required for the task;
- Should illuminate only the area required - should be cowled and directed downwards;
- Should avoid illuminating bat roosts, hedgerows, trees or other vegetation;

- Should not contain ultra-violet (UV) elements (such as metal halide lamps);
- Should be on only when necessary - for instance on PIR sensors or timers;
- LED lighting is generally preferred for its controllability, energy efficiency and lack of UV element.

Nesting Birds

- 7.4 In the event that any potentially suitable bird nesting habitat must be disturbed (e.g. trees, hedges, shrubs), this shall be done outside the main bird breeding season (Mid Feb - 1st September).
- 7.5 If it is necessary to work within the breeding season, all areas of suitable nesting habitat shall be checked visually and confirmed clear of nests before commencing.
- 7.6 However, any active nests found must be protected by a suitable buffer zone (established by the ecologist) until chicks have fledged. As this measure could potentially cause significant timing delays, it is recommended that bird nesting habitat is removed outside of the breeding season.

Reptiles

- 7.7 Preferentially, the grassland habitats affected by the works (construction zone) shall be maintained at short sward height for the season prior to working. If this is done, risks to reptiles and other fauna will be *negligible*.
- 7.8 However, if any areas of longer grassland occur within the construction zone (due to an intervening period of low management, the following measures shall be implemented:
- Areas of long grassland areas shall be subject to a sequential cut in order to minimise suitability for reptiles;
 - The first cut shall be to approximately 15 - 20cm sward height, with a second cut to 5 - 10cm following a period of 24 - 48 hours. All arisings (cut vegetation) shall be removed from the working area;
 - Grassland shall be maintained at short sward height for the duration of works on site.

Habitat Enhancement

New Bird and Bat Boxes

- 7.9 1 x new Beaumaris Woodstone Midi and 1 x new bird boxes (suitable for small birds) shall be installed on an existing campsite building (as shown in the plan entitled 1a - Expanded Location Plan).

Wildflower Meadow creation

- 7.10 New areas of wildflower meadow shall be created within the centre of the site (as shown in the plan entitled 04b - Proposed Site Plan and 05b - Proposed Site Plan Extract).
- 7.11 Successful wildflower meadows are dependent on low fertility within the soil, and reduced dominance of grasses.
- 7.12 Depending on the fertility of the soil and dominance of the grasses, it may be possible to establish a wildflower meadow by allowing the grass to grow and cutting once in the late summer or early autumn after plants have set seed. If arisings (cut grass) are removed from the area, soil fertility will gradually decline and an increasing number of local wildflower species may establish - potentially seeding in from the surrounding banks.
- 7.13 However, it may be necessary to either:
- Cut the grass short, scarify the ground (ensuring that areas of bare soil are present), and sow a wildflower seed mix (ideally containing yellow-rattle, which reduces the dominance of grasses);
- Or*
- Remove the top layer of turf and soil (hence dramatically reducing soil fertility) prior to sowing a wildflower seed mix.
- 7.14 Use of wildflower turf is also an option - more expensive than seed, but more reliable in establishment.
- 7.15 Once established, wildflower grassland should be cut once annually in the late summer, and all arisings removed. Targeted removal of weed species (such as dock, hogweed or thistles) may be necessary in early years. This is best done by hand pulling or cutting before flowering.
- 7.16 Wildflower meadow creation can take time, and can be variable in success, but even a moderately diverse grassland managed in the way described in Section 7.14 will enhance habitats at the site.

New native tree and shrub planting

- 7.17 New planting shall be implemented around each lodge and along the northern margin (as shown in the plan entitled 05b - Proposed Site Plan Extract). These areas shall be planted with a range of native tree and shrub species of benefit to wildlife. A list of suggested species are contained within Appendix D.

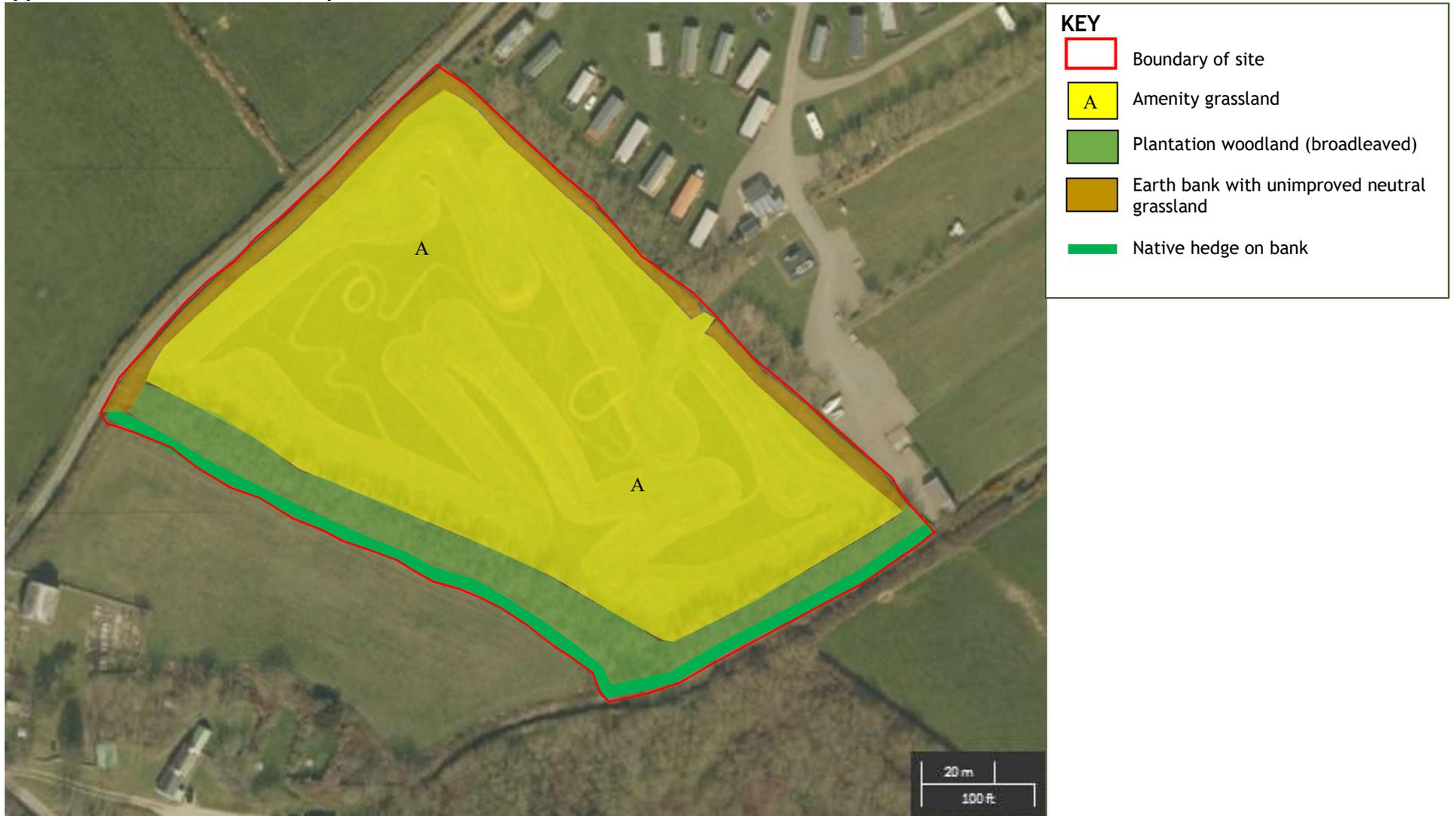
8 Conclusions

- 8.1 Provided all of the recommendations within Section 7 of this report are integrated into the project design and successfully implemented, adverse ecological impacts shall be avoided or minimised and the scheme shall deliver an overall enhancement of habitats at the site.

References

- Bat Conservation Trust (2016)** *Bat Surveys for Professional Ecologists - Good Practice Guidelines (3rd Ed)*. Bat Conservation Trust. London.
- Bat Conservation Trust and Institute of Lighting Professionals (2018)** - *Guidance Note 08-18: Bats and Artificial Lighting in the UK*.
- Bright P & Morris P (2005)**. *The Dormouse. Second Edition*. The Mammal Society London.
- Bright, P., Morris, P. & Mitchell-Jones, A. (2006)**. *Dormouse Conservation Handbook (2nd Ed.)* EN, Peterborough.
- CIEEM (2018)** *Guidelines for Ecological Impact Assessment in the United Kingdom*. Chartered Institute of Ecology and Environmental Management. Winchester.
- CIEEM (2017)** *Guidelines for Preliminary Ecological Appraisal (2nd Ed)*. Chartered Institute of Ecology and Environmental Management. Winchester.
- Dean, M., Strachan, R., Gow, D., Andrews, R. (2016)** *The Water Vole Mitigation Handbook 3rd Ed (The Mammal Society Mitigation Guidance Series)*. Eds. Fiona Matthews and Paul Chanin. The Mammal Society, London
- Harris, S., Cresswell, P. & Jefferies, D. (1989)**. *Surveying Badgers*. Occasional Publication of the Mammal Society No 9. Available from the Mammal Society, London.
- Joint Nature Conservation Committee (JNCC) (2007)** *Handbook for Phase 1 habitat survey: a technique for environmental audit (revised reprint)*. JNCC: Peterborough.
- Joint Nature Conservation Committee (JNCC) (2011)** *UK Biodiversity Action Plan; Priority Habitat Descriptions*. Ed. Ant Maddock. <http://www.jncc.gov.uk/page-5155>
- Nature Conservancy Council (NCC) (1989)** *Guidelines for the Selection of Biological SSSIs*. NCC, Peterborough.
- Natural Resources Wales (2018)** *Badgers - A Guide for Developers*.
- Rose, F. (1991)** *Wild Flower Key*.
- Strachan, R and Moorhouse, T (2006)**. *Water Vole Conservation Handbook (2nd Ed.)*
- Welsh Assembly Government (2009)** *Technical Advice Note (TAN) 5 - Nature Conservation and Planning*.
- Welsh Assembly Government (2017)** Section 7 lists of priority habitats and species downloaded from <https://www.biodiversitywales.org.uk/Environment-Wales-Act>
- Wales Biodiversity Partnership 2008 - Wildlife Sites Guidance Wales -** <http://www.biodiversitywales.org.uk/>

Appendix A: Phase 1 Habitat Map



Appendix B: Photographs

Image 1: Amenity grassland - looking west



Image 4: Grassland bank on north-eastern margin, looking north



Image 2: Amenity grassland - looking south



Image 5: Grassland bank - north western margin, looking west



Image 3: Amenity grassland, looking north



Image 6: Plantation woodland - south-western margin, looking south



Image 7 - Plantation woodland on south-western margin



Image 8: Hedge on bank - south-western margin



Image 9: Plantation woodland - south eastern margin



Appendix C: Plant Species Recorded and Frequency within each Habitat Type

NB. Frequency is recorded according to the 'DAFOR' Scale:- Dominant (D), Abundant (A), Frequent (F), Occasional (O), Rare (R). Where species occurrence is localized to one or more areas within the habitat type, but not widespread, the prefix (L) is used, for instance LA = locally abundant.

Common Name	Species	Abundance by habitat type (DAFOR Scale)			
		Amenity Grassland	Plantation woodland	Hedge on earth bank	Grassland on earth bank
Ash	<i>Fraxinus excelsior</i>		O	O	
Beech	<i>Fagus sylvatica</i>		R	O	
Betony	<i>Betonica officinalis</i>				R
Blackthorn	<i>Prunus spinosa</i>			A	R
Bindweed	<i>Convolvulus spp.</i>				O
Bramble	<i>Rubus fruticosus</i>		O	A	LF
Bush vetch	<i>Vicia sepium</i>				R
Cleavers	<i>Galium aparine</i>			F	
Clover (Red)	<i>Trifolium arvense</i>				F
Clover (White)	<i>Trifolium repens</i>	A	O		
Cocksfoot	<i>Dactylis glomerata</i>				F
Creeping buttercup	<i>Ranunculus repens</i>	F			
Creeping thistle	<i>Cirsium arvense</i>	O			
Common knapweed	<i>Centaurea nigra</i>				O
Common mouse-ear	<i>Cerastium fontanum</i>	A			O
Common vetch	<i>Vicia sativa</i>				O
Cranesbill (long-stalked)	<i>Geranium columbinum</i>		F		
Daisy	<i>Bellis perennis</i>	O			
Dandelion	<i>Taraxacum officinale</i>	A	O		O
Dock (Broad-leaved)	<i>Rumex obtusifolia</i>				O
Elder	<i>Sambucus niger</i>		R		
False Oat Grass	<i>Arrhenatherum elatius</i>				D
Ferns (Dryopteris)	<i>Dryopteris species</i>				R
Fescue	<i>Festuca species</i>				F
Foxglove	<i>Digitalis purpurea</i>				O
Greater Plantain	<i>Plantago major</i>	O			
Greater Birds foot Trefoil	<i>Lotus pedunculata</i>				LF
Gorse	<i>Ulex spp.</i>				R
Ground ivy	<i>Glechoma</i>		F		F

	<i>hederacea</i>				
Hart's Tongue Fern	<i>Asplenium scolopendrium</i>				R
Hazel	<i>Corylus avellana</i>			O	
Hawthorn	<i>Crataegus monogyna</i>		O	F	
Hedge woundwort	<i>Stachys sylvatica</i>				O
Herb robert	<i>Geranium robertianum</i>		O		
Hogweed	<i>Heracleum sphondylium</i>				O
Ivy	<i>Hedera helix</i>				O
Meadow vetchling	<i>Lathyrus pratensis</i>				R
Musk mallow	<i>Malva moschata</i>				R
Navelwort	<i>Umbilicus rupestris</i>				R
Ox-Eye Daisy	<i>Leucanthemum vulgare</i>				O
Ragwort	<i>Senecio jacobaea</i>				O
Red Champion	<i>Silene dioica</i>		F		O
Restharrow	<i>Ononis repens</i>				R / LF
Rosebay willowherb	<i>Chamerion angustifolium</i>				LA
Rough Hawkbit	<i>Leontodon hispidus</i>	F			
Rowan	<i>Sorbus aucuparia</i>		R		
Scarlet pimpernel	<i>Anagallis arvensis</i>		LF		
Scots pine	<i>Pinus sylvestris</i>		R		
Selfheal	<i>Prunella vulgaris</i>	LA			
Smooth sow-thistle	<i>Sonchus oleraceus</i>		O		
Stinging nettle	<i>Urtica dioica</i>		O	A	O
Sweet vernal grass	<i>Anthoxanthum odoratum</i>		O		
Sycamore	<i>Acer pseudoplatanus</i>		D	F	R (saplings)
Toad rush	<i>Juncus bufonius</i>		O		
Upright hedge parsley	<i>Torilis japonica</i>				F
Willow (Goat)	<i>Salix caprea</i>		O	F	

Willow species	<i>Salix spp</i>		O		
Wild cherry	<i>Prunus avium</i>		R		
Wild Service	<i>Sorbus torminalis</i>		R		
Wood avens	<i>Geum urbanum</i>				O
Yarrow	<i>Achillea millefolium</i>	O			O
Yorkshire fog	<i>Holcus lanatus</i>				O

Appendix D: Suggested Species for Wildlife Friendly Planting**Larger Trees**

- Pedunculate / Sessile Oak (*Quercus robur/petrea*)
- Sweet chestnut (*Castanea sativa*)
- Willow species (*Sorbus spp.*)
- Birch (*Betula pendula, Betula pubescens*)
- Wild cherry (*Prunus avium*)
- Beech (*Fagus sylvatica*)
- Hornbeam (*Carpinus betulus*)
- Small-leaved lime (*Tilia cordata*)

Small - Medium sized Tree and Shrubs

- Rowan (*Sorbus aucuparia*)
- Whitebeam (*Sorbus aria*)
- Hawthorn (*Crataegus monogyna*)
- Blackthorn (*Prunus spinosa*)
- Hazel (*Corylus avellana*)
- Dogwood (*Cornus sanguinea*)
- Field maple (*Acer campestre*)
- Guelder rose (*Viburnum opulus*)
- Wayfaring tree (*Viburnum lantana*)
- Elder (*Sambucus nigra*),
- Crab apple / apple (*Malus spp.*)
- Pear (*Pyrus spp.*)
- Buckthorn (*Rhamnus cathartica*)
- Wild Service Tree (*Sorbus torminalis*)

Climbers

- Dog rose (*Rosa canina*)
- Field rose (*Rosa arvensis*)
- Wild honeysuckle (*Lonicera periclymenum*)
- Wild clematis (*Clematis vitalba*)