

**Whitcher Wildlife Ltd.
Ecological Consultants.**



**LADYCROSS PLANTATION HOLIDAY
LODGES.**

OS REF: NZ 817 080.

ECOLOGICAL IMPACT ASSESSMENT.

Ref No: 220282/EcIA/LODGES/REV2.

Date: 19th March 2023.

Cliff Edge, Cliff Road, Darfield, Barnsley, S73 9HR.

TABLE OF CONTENTS.

	Page Number
1. INTRODUCTION.	3
2. SURVEY METHODOLOGY.	4
3. SURVEY RESULTS.	7
4. IMPACT ASSESSMENT, MITIGATION AND RESIDUAL EFFECTS.	19
5. BIODIVERSITY ENHANCEMENT MEASURES.	28
6. REFERENCES.	30
Appendix I. NESTING BIRD INFORMATION.	31
Appendix II. BAT INFORMATION.	32
Appendix III. INVASIVE PLANT SPECIES INFORMATION.	32
Appendix IV. ANNOTATED MAP OF THE SURVEY AREA.	37
Appendix V. TARGET NOTES.	38
Appendix VI. HABITAT CONDITION ASSESSMENTS – BASELINE.	39
Appendix VII. PROPOSED SITE PLANTS.	42

1. INTRODUCTION.

1.1. It is proposed to restructure the layout of approved plans for a holiday park set in a woodland near Egton, Whitby.

1.2. Whitcher Wildlife Ltd was commissioned to undertake a Preliminary Ecological Appraisal of the site during January 2021. Consultations have in the interim been ongoing with the NYMNPA and the proposals have been informed and amended to reflect the advice received. Whitcher Wildlife Ltd was commissioned to carry out a repeat Preliminary Ecological Appraisal of the site in 2022 to establish whether there are any issues that may affect the proposed works.

1.3. The repeat survey was carried out on 28th March 2022. Upon completion of that survey and all subsequent correspondence with NYMNPA, Whitcher Wildlife Ltd were subsequently commissioned to prepare an Ecological Impact Assessment (EcIA) to support the planning application.

1.4. Appendices I to III of this report provides additional information on specific species and are designed to assist the reader in understanding the contents of this report.

2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site, the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the JNCC Handbook for Phase 1 Habitat surveys.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society: -

- * Badger setts.
- * Badger latrines or dung pits.
- * Badger snuffle holes and evidence of foraging.
- * Badger paths.
- * Badger prints in areas of soft mud.
- * Badger hairs caught on fencing.

2.3. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 100m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The mammal Society, London: -

- * Water vole burrows.
- * Water vole faeces and latrines.
- * Water vole feeding stations.
- * Water vole runs.
- * Water vole prints in areas of soft mud.
- * Water vole lawns.
- * Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter and Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines*: -

- * Otter prints in soft mud.
- * Otter spraints.
- * Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for trees and structures and where found these were checked for potential bat roosting sites in line with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)* by looking for the following signs: -

- * Holes, cracks or crevices.
- * Bat Droppings.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible,

in line with P Bright, P Morris and T Mitchell-Jones *The Dormouse Conservation Handbook 2nd Edition*.

2.12. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.13. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.14. This document is prepared in line with The National Planning Policy Framework (NPPF). This sets out the government policy on biodiversity and nature conservation and places a duty on Planning Authorities to give material consideration to the effect of a development on legally protected species when considering planning applications. The NPPF and the Planning Practice Guidance on “Natural Environment” also promote sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

2.15. This report is prepared in line with the Natural Environment and Rural Communities (NERC) Act that came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

2.16. This survey was carried out by Ruth Georgiou BSc MCIEEM. Since 2004 Ruth has had experience in a professional capacity as a Wildlife Consultant carrying out ecology surveys and phase I habitat surveys. As a full member of CIEEM Ruth is subject to peer review on an annual basis. Ruth holds Natural England survey licences in respect of bats, great crested newts and white clawed crayfish and has held her own or has been named ecologist on site specific licences for badgers, great crested newts and bats. She also holds a degree in Environmental Science (BSc) and has successfully completed a number of courses run by CIEEM, BCT and FSC in the relative protected species, carrying out phase I habitat surveys and BREEAM assessments.

3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A data search request was submitted to the North and East Yorkshire Ecological Data Centre for records of protected species or designated sites within 2km of the survey area.

3.1.2. The results show there are records of various flowering plant, coniferous tree and ferns within the 2km radius. There are some bird, fish, bat and otter records close to the 2km buffer. None of these records are relevant to the survey area.

3.1.3. The results also show that the survey area lies within the North Yorkshire Moors National Park. There are no other designated sites within 2km.

3.1.4. A full copy of the data search results can be provided upon request but must not be placed in the public domain.

3.2. The Surveyed Area.

3.2.1. The survey area is located in a rural area surrounded by woodland, heathland, arable and grazing fields with a main road to the north and a minor road to the east.

3.2.2. The aerial map below shows the location of the survey area, circled in red, and the surrounding area.



3.2.3. The survey area comprises an area of woodland, part of the caravan park with existing caravan/holiday lodge plots and a proposed access route.

3.2.4. The limits of the development area are outlined in red in the aerial map below. An additional access to the lodges is to be provided via an existing vehicular access track along the dotted red line.



3.3. Description of Habitats.

3.3.1. Appendix IV of this report contains annotated maps marked up with the varying habitats that are cross referenced to target notes in Appendix V of this report. The habitats on and adjacent to the site are: -

- Coniferous Semi-natural Woodland.
- Bare Ground.
- Improved Grassland.
- Building.
- Running Water.
- Dry Ditch.
- Species Poor Hedgerow.
- Fence.

3.3.2. Coniferous Semi-natural Woodland (W2 and W3).



3.3.2.1. The new holiday cabins will be constructed within this habitat (W2). There are also some pockets of coniferous woodland in and amongst the existing areas of campsite (W3).

3.3.2.2. All these areas of woodland are predominantly Scots pine (*Pinus sylvestris*) throughout, with some very occasional silver birch (*Betula pendula*).

3.3.2.3. The ground flora throughout these areas of woodland includes tufted hair grass (*Deschampsia cespitosa*), common heather (*Calluna vulgaris*), bramble (*Rubus fruticosus*) and the occasional holly (*Ilex aquifolium*) and bracken (*Pteridium sp*) were also identified.

3.3.2.4. There is a network of ditches throughout woodland W2. It was not possible to map these due to the complexity of the layout of them. They are predominantly dry and any wet sections of ditch are isolated short sections of very shallow water. The vegetation throughout these channels is a continuity of the woodland ground flora. One section of dry ditch is shown in the photograph below.



3.3.3. Bare Ground.



This habitat has been mapped where there are existing access roads around the caravan park and existing vehicle access tracks leading to the site. It also includes three concrete pads that have been constructed for the siting of new holiday lodges.

3.3.4. Improved Grassland.



There are some areas of improved grassland in the existing caravan park area where some touring caravans have been sited and around some new holiday lodges and concrete pads that have been constructed for new holiday lodges. This grassland is regularly mown and disturbed. It comprises predominantly perennial ryegrass (*Lolium perenne*), fescue (*Festuca sp*) and daisy (*Bellis perennis*).

3.3.5. Building.

There are some buildings within the survey area, which include a large shed and two holiday lodges. The holiday lodges will remain in situ. The large shed will be removed to facilitate the new holiday lodges.

3.3.6. Running Water.



There is a small, flowing, watercourse that flows alongside and under the proposed new access. The banks are steep but low with some grass and herb species and the area is shaded by the trees in the woodland habitat. The water is shallow. The flow of water on the south side of the access track is moderate. The flow on the northern side of the access track is slower.

3.3.7. Dry Ditch.



There is a length of dry ditch along the roadside adjacent to each side of the access route onto the site.

3.3.8. *Species Poor Hedgerow.*



There are two small lengths of evergreen, coniferous, hedgerows that have been planted along an existing access road leading to two holiday lodges. This hedgerow is approximately 1m in height.

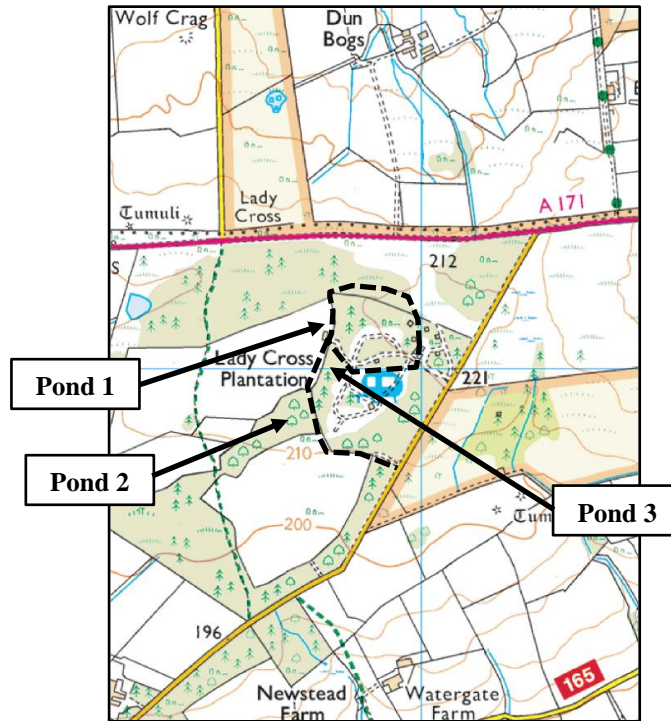
3.4. Description of Fauna.

3.4.1. No badger setts or badger field signs were identified within the survey area.

3.4.2. There is a watercourse within the survey area that is mapped as flowing water. This flows adjacent and under the access route. The banks of the watercourse are steep but low with some grass and herb species and the area is shaded by the trees in the woodland habitat. The water is shallow with a slow to moderate flow over a stony bed. No water vole burrows, otter holts or field signs for either of these species were identified along this watercourse within the survey area.

3.4.3. This watercourse is assessed as unsuitable habitat for white clawed crayfish as it is not shown on any maps and does not appear to connect into any main watercourses. There are no records of white clawed crayfish in the area making it highly unlikely they are present in the catchment.

3.4.4. Three ponds were identified during the previous survey or are shown on maps within 500m of the proposed lodges. These ponds are shown on the map below and are allocated references for the purpose of this report. The limits of the survey area are indicated by the black hatched line.



3.4.5. Pond 1 is a very small pond located on the edge of a grassland field adjacent to the area to be used for holiday lodges. It is shaded by an adjacent woodland and has a small drain that feeds it that carries run off from around the area around the building adjacent. The pond contains submerged vegetation but due to the size of the pond it is predicted that this pond is likely to dry up during periods of low rainfall.



3.4.6. Pond 2 is a medium sized pond located within a mixed woodland habitat, approximately 250m from the proposed holiday lodges and 110m from the access

road. The water appears to be fairly stagnant with dead vegetation and wood in the water with duck weed growing across the surface.



3.4.7. Pond 3 was not identified during the previous survey as it is not shown on maps and was not within the original survey area. This was found to be a medium sized pond that is fed by runoff from the adjacent woodland habitat. The water level in this pond is reported to fluctuate greatly throughout the year dependant on rainfall. It is within an area of woodland habitat and is completely shaded therefore there is very little vegetation growing in or around the edges of the pond other than grass and juncus species.



3.4.8. A Habitat Suitability Index assessment was carried out of Ponds 1, 2 and 3. A copy of the calculation tables is provided below. Ponds 1, 2 and 3 have an outcome of ‘below average’ suitability for great crested newts.

Pond ref	1	2	3
SI1 - Location	1	1	1
SI2 - Pond area	0.05	0.05	0.05
SI3 - Pond drying	0.1	1	0.1
SI4 - Water quality	0.67	0.33	0.67
SI4 - Shade	1	0.2	0.2
SI6 - Fowl	1	1	1
SI7 - Fish	1	1	1
SI8 - Ponds	0.55	0.65	0.65
SI9 - Terr'l habitat	1	0.67	0.67
SI10 - Macrophytes	0.8	0.7	0.3
HIS score	0.52	0.50	0.39
Suitability	Below Average	Below Average	Below Average

3.4.9. Taking all the above into account and the fact that there are no records of great crested newts in the area, it is assessed as highly unlikely that there are great crested newts within the survey area.

3.4.10. There are three buildings within the survey area. Two of these are holiday lodges that are constructed from timber lath walls and pitched interlocking tiled roofs. These will remain in place during the proposed development with no impact on these buildings.



3.4.11. There is also a large shed within the survey area that will be demolished to facilitate the new holiday lodges. This is constructed from wooden lath walls with corrugated sheets leaning against the walls and a pitched slate roof that has a lot of moss growing over. It is very well sealed and provides negligible potential for roosting bats.



3.4.12. There are many trees within the woodland habitats in the survey area. The larger trees are the Scots pine (*Pinus sylvestris*) and all appear to be in good condition. Scots pine don't typically tend to provide good suitability for roosting bats. It was not feasible to undertake a bat inspection of every tree due to the number of trees. However, during this walkover no obvious bat roosting features in trees were identified. Overall, it is assessed that the trees should be considered as providing **low** potential for roosting bats in the event that any occasional features that are not obvious were missed.

3.4.13. The survey area was assessed for potential for foraging and commuting bats. Woodland habitats provide good value bat foraging habitats, with the woodland edges in particular used by commuting bats. The area is at a relatively high altitude and the connectivity to and from the habitats in the localised area is limited due to roads and fragmented tree lines, restricting connectivity to a limited number of one or two tree lines to the area. It is therefore assessed that the survey area is likely to be limited to low numbers of foraging and commuting bat species.

3.4.14. There is potential for nesting birds throughout the woodland habitats. No active nests were found during this survey as the survey was carried out outside the nesting season.

3.4.15. A barn owl was seen flying through an area of mixed woodland adjacent to the access during the previous survey and the landowner had reported sightings of it during the few months prior to that survey being carried out.

3.4.16. The site is assessed to provide limited potential for reptiles due to poor connectivity to and from the local area for reptiles without having to risk crossing roads. There are also limited basking opportunities where they are not disturbed by people or dogs.

3.4.17. The woodland habitats within the survey area are generally unsuitable habitats for hazel dormouse and no hazel dormouse field signs were found during the survey. The survey area also lies outside the natural range of the species.

3.4.18. The habitats within the survey area provide some suitability for red squirrels, although there are no records of red squirrel in the area and the area lies outside the natural range of the species.

3.4.19. One rhododendron plant was identified within the survey area within the existing caravan park. This is shown in the photograph below. Rhododendron is an invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981) were identified within the survey area.



4. IMPACT ASSESSMENT, MITIGATION AND RESIDUAL EFFECTS.

4.1. Designated Sites.

4.1.1. Assessment.

The data search results show that the survey area lies within the North Yorkshire Moors National Park. The proposed works will have no impact on any of the moorland habitats within this, and any impacts to other habitats in the area will be mitigated for.

4.1.2. Mitigation.

There will be no impact on any designated sites therefore there is no requirement for any mitigation.

4.1.3. Residual Effect.

There will be **no negative impacts** on any of the designated sites in the area at a local level.

4.2. Habitats.

4.2.1. Assessment.

4.2.1.1. The habitats on the site are all locally common habitats with locally common species. The woodland habitats are assessed to be of the highest ecological value. The proposed works will involve construction of holiday lodges in the woodland setting, with the woodland setting being a key attraction. The impacts will be restricted to clearing vegetation that lies directly within the footprint of each lodge and any access to the lodges. The lodges will also be spaced to ensure that it maintains a woodland feel throughout. The lodges will be constructed from wood and will have natural external colours to blend in with the surrounding habitats. With precautionary measures in place throughout the development phase and long-term measures in place to minimise disturbance, it is assessed that the impact on the woodland habitats will be low.

4.2.1.2. There is a flowing watercourse that flows alongside and under the proposed access route. This is an existing vehicle access and the proposed use of this will be of no more impact to the watercourse than it currently stands. There will be no impact on the watercourse.

4.2.1.3. Biodiversity calculations were carried out using the Biodiversity Metric 3.0 of the habitats that lie within the development footprint, including the access route to the proposed static caravan plots. The baseline on the site was calculated at 26.24 Habitat Biodiversity Units (Bu) and 0.05 Hedgerow Bu as shown in the tables below.

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Other Scot's Pine woodland (Area of untouched woodland to be developed with holiday lodges)	2.59	Medium	Moderate	23.83
Other Scot's Pine woodland (Areas of woodland that have previously been retained throughout the exiting area of the caravan park)	0.19	Medium	Poor	0.87
Modified grassland (Improved grassland around existing area of caravan park within application boundary)	0.67	Low	Poor	1.54
Developed land; sealed surface (Hard standing and buildings within the existing caravan park that lies in application boundary)	0.91	V.Low	N/A - Other	0.00
Developed land; sealed surface (Existing track to be used for access)	0.21	V.Low	N/A - Other	0.00
Total	4.57			26.24

Hedgerow Type	Extent (km)	Distinctiveness	Condition Assessment	Biodiversity units
Hedge Ornamental Non Native	0.02	V. Low	Poor	0.02
Hedge Ornamental Non Native	0.03	V. Low	Poor	0.03
Total	0.05			0.06 (total stated in 3.1 metric)

4.2.1.4. The proposals show that there will be some loss of coniferous woodland to facilitate the holiday lodges. Overall, this equates to a loss of approximately 14.03 Bu.

4.2.1.6. Both lengths of hedgerow on the site will be retained.

4.2.2. Mitigation.

4.2.2.1. Mitigation will initially be provided by retaining as much of the woodland habitats as possible and only clearing the areas that need to be cleared. The plans have been recently revised to retain even more woodland habitat than previously proposed. This also retains a natural feel to the park for visitors. The areas cleared will either be 'building' or hard standing and some short amenity grass will be provided around the lodges similar to the other lodges on the site. In combination with the areas of habitat that will be retained, this will deliver 14.63Bu.

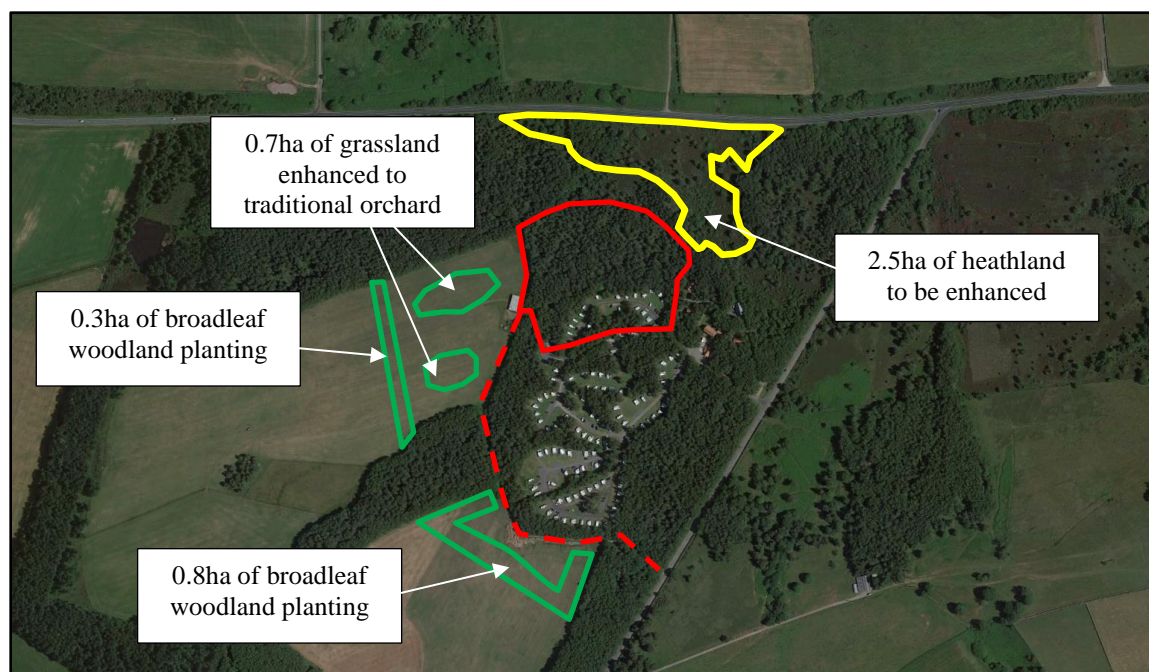
4.2.2.2. The BNG table below demonstrates the areas of habitat to be retained and habitats to be created.

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Retained habitats:				
Other Scot's Pine woodland	1.46	Medium	Moderate	11.68
Other Scot's Pine woodland	0.19	Medium	Poor	0.76
Modified grassland	0.37	Low	Poor	0.74
Developed land; sealed surface	0.91	V.Low	N/A - Other	0.00
Developed land; sealed surface	0.21	V.Low	N/A - Other	0.00
Created habitats:				
Developed land; sealed surface	0.68	V.Low	N/A - Other	0.00
Modified grassland	0.75	Low	Poor	1.45
Total	4.57			14.63

4.2.2.3. In order to generate additional biodiversity units, some additional habitat creation/enhancement will be carried out on some areas of heathland and grassland under the same land ownership.

4.2.2.4. These habitats are currently upland heathland and modified grassland and lie close to the proposed development area. These are classed as 'off-site' offsetting.

4.2.2.5. It is proposed to enhance the heathland area and plant some woodland and traditional orchard habitats on the areas of grassland. The areas are shown in the aerial map below. The area outlined in red is the proposed development area.



4.2.2.6. The area of heathland is currently in moderate condition. This is an area mapped on MAGIC maps as a priority habitat 'upland heathland' and the area used to be managed by the National Park to maintain the heathland. This area is dominated by bell heather (*Erica cinerea*) with some cross-leaved heather (*Erica tetralix*) and bilberry (*Vaccinium myrtillus*). Common gorse (*Ulex europaeus*) is also growing in some areas.

4.2.2.7. The National Park ceased managing this area approximately ten years ago, and as a result the heathland is gradually being swallowed up by the surrounding woodland habitat, and there are numerous scattered trees throughout the area, predominantly Scots pine (*Pinus sylvestris*) and birch (*Betula sp*). This is demonstrated in the photographs below.



4.2.2.8. This area will predominantly be managed by tree management, by reducing and maintaining the number of trees across the habitat to less than 10% of the area, which will also encourage new growth of the dwarf shrub species. This will restore/enhance the heathland back to a good condition.

4.2.2.9. The areas of modified grassland, which currently have a moderate (north field) condition and poor (south field) condition, will be planted with broadleaf woodland 1.1ha collectively of broadleaf woodland habitat. Approximately 650 trees have already been planted throughout these areas to help offset the biodiversity loss on the site. This also gives an excess number of trees planted to those lost. In total, 373 additional trees will be lost in the new layout of this application, on top of what have already been consented under the live planning consent. With the additional trees to be planted in the woodland habitat on top of the 650 already planted, there will be a large net gain in number of trees delivered on the site.

4.2.2.10. Species already planted are downy birch, rowan, goat willow, scots pine, sessile oak, common oak, silver birch, hawthorn, dog rose, hazel and holly. Additional trees of the same species will be planted to increase the area of woodland.

4.2.2.11. Lastly, 0.7ha of the modified grassland that is currently in moderate condition, will be enhanced by the planting of some fruit/nut trees and enhancing the grassland habitat within that area. This will be achieved by seeding the area to increase the species richness of the grassland, undergoing a cutting regime that will allow for varied sward heights throughout and management to ensure that scrub and non-native species do not encroach.

4.2.2.12. The baseline value of these off-site areas is provided in the table below and collectively have a baseline value of 35.60 Bu. This is demonstrated in the table below.

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Modified grassland	0.3	Low	Moderate	1.20
Modified grassland	0.8	Low	Poor	1.60
Upland Heathland	2.5	High	Moderate	30.00
Modified grassland (to be enhanced)	0.7	Low	Moderate	2.80
Total	4.30			35.60

4.2.2.13. The planting of higher value habitats in these areas and enhancement of the existing habitat will deliver an additional 8.2Bu.

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Enhanced habitats:				
Heathland and shrub - Upland Heathland	2.5	High - High	Moderate - Good	34.93
Grassland - Modified grassland to Traditional orchard	0.7	Low - High	Lower Distinctiveness Habitat - Good	5.05
Created habitats:				
Other woodland; broadleaved	1.1	Medium	Poor	3.82
Total				43.80

4.2.3. Residual Effect.

4.2.3.1. Collectively, after all on-site and off-site measures have been implemented, there will be a residual net gain of 0.01 (0.03%) Habitat Bu and all BNG trading rules

will be met. There will be no loss of Hedgerow Bu. This is assessed to have **a positive impact on the biodiversity at a site level.**

4.2.3.2. Considering that the live planning consent for the same area will result in a higher loss of woodland habitat with no requirement for BNG, this small net gain is considered to be highly beneficial to the local area, and in particular the long-term retention of the upland heathland is of a high importance to the local area. Without these enhancements, the heathland will inevitably be superseded by the woodland habitat.

4.3. Species – Bats.

4.3.1. Assessment.

4.3.1.1. There are three buildings within the survey area. The two holiday lodges will be left in situ and therefore not impacted by the proposed works. The large shed is assessed to provide negligible potential for roosting bats therefore the proposed works on the site will have no impact on roosting bats.

4.3.1.2. There are numerous trees within the woodland habitats within the survey area, although these are predominantly Scots pine that don't typically provide good suitability for roosting bats. As it was not feasible to inspect each and every tree, as a whole these are assessed to provide low potential for roosting bats. The proposed works will require the felling of some trees within the footprints of the new lodges and caravan plots and access to them.

4.3.1.3. The site is assessed to provide limited potential for foraging and commuting bats. The proposed development works will retain a proportion of all the habitats on the site and will create additional clearings through the woodland for bats to use.

4.3.2. Mitigation.

4.3.2.1. In line with the Bat Conservation Trust Good Practice Guidelines, any trees that are felled to facilitate the development will be soft felled and left on the ground for a minimum of twenty-four hours before they are chipped or removed from site. This allows time for any individual bats roosting in the trees to escape.

4.3.2.2. If there is a requirement for any new external lighting around the areas to be developed, this will be a sensitive lighting scheme in the form of downward directional lighting that does not illuminate any vegetation features adjacent.

4.3.3. Residual Effect.

With the above mitigation in place there will be **no negative impact** on roosting bats at a local level.

4.4. Species – Nesting Birds.

4.4.1. Assessment.

4.4.2. There is potential for nesting birds throughout the woodland habitats. The nesting bird season extends from March to September each year.

4.4.3. A barn owl was observed flying across the site during the first survey of the site. The barn owl does not nest within the survey area.

4.4.2. Mitigation.

Where possible, the works will be carried out outside the nesting bird season. If it is necessary to undertake works within the nesting season, they will be immediately preceded by a nesting bird survey and in the event that any active bird nests are found, they along with a suitable buffer around them will be left undisturbed until the young have fledged.

4.4.3. Residual Effect.

By implementing the above mitigation measures, there will be **no negative impact** on nesting birds at a site level.

4.5. Species – Invasive Plants.

4.5.1. Assessment.

One rhododendron plant was identified within the survey area. This is an invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981). It is an

offence to allow or cause this plant to spread into the wild. Rhododendrons spread via lateral horizontal growth.

4.5.2. Mitigation.

4.5.2.1. Where possible the rhododendron plant will be left in situ and will remain undisturbed by the proposed works on the site.

4.5.2.2. If there is a requirement to undertake any works that will impact on this plant precautionary measures will be put in place to ensure that the works do not cause or allow the plant to spread.

4.5.2.3. These measures will include removing the plant in its entirety, including the root system and disposing of as contaminated waste.

4.5.3. Residual Effect.

With the above mitigation in place the works will not cause or allow any Schedule 9 invasive plant species to spread.

5. BIODIVERSITY ENHANCEMENT MEASURES.

5.1. In line with the NPPF some biodiversity enhancements for fauna species will be provided on the site.

5.2. This will be achieved by providing bat and bird boxes fixed to the new woodland lodges and trees on the site.

5.3. Four Vivara Pro WoodStone bat boxes as show below, or similar will be fitted to new woodland lodges. These will be positioned at least 4m above ground level and will not be placed above any windows or doors.



5.4. Four bird boxes will be also provided. This will be two Vivara Pro 32mm WoodStone nest boxes and two Vivara Pro Barcelona WoodStone open nest boxes as show below, or similar will be fitted on the site. These will be fitted to new woodland lodges. These will be positioned at least 4m above ground level and will not be placed above any windows or doors.

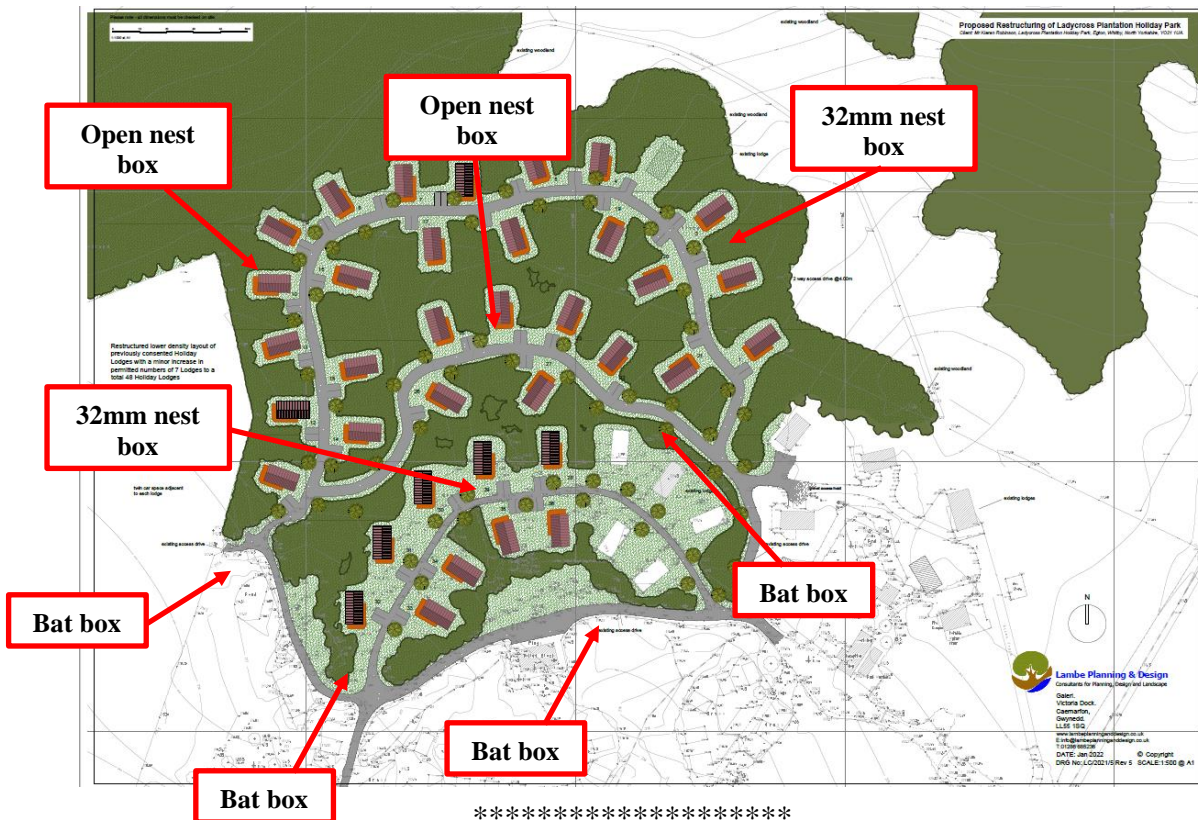


Vivara Pro 32mm WoodStone nest box.



Vivara Pro Barcelona WoodStone open nest box.

5.5. The plans below indicated the locations of the proposed bat and bird boxes.



Prepared by:	
Ruth Georgiou. BSc, MCIEEM.	Date: 19 th March 2023.

Checked by:	
Derek Whitcher, BSc, MCIEEM, MCM	Date: 4 th November 2022.

6. REFERENCES.

- Chartered Institute of Ecology and Environmental Management. 2017. *Guidelines for Preliminary Ecological Appraisal, Second Edition*. CIEEM, Hampshire.
- Chartered Institute of Ecology and Environmental Management. 2017. *Guidelines for Ecological Report Writing, Second Edition*. CIEEM, Hampshire.
1981. *Wildlife and Countryside Act*. <http://www.legislation.gov.uk/ukpga/1981/69> (accessed 18/02/16)
2000. *Countryside and Rights of Way Act*.
<http://www.legislation.gov.uk/ukpga/2000/37/contents>.
2017. *The Conservation of Habitats and Species Regulations*.
<http://www.legislation.gov.uk/uksi/2010/490/contents/made>.
2012. *National Planning Policy Statement*.
<https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Anon. 1995. *Biodiversity: the UK Steering Group report. Vol 2: Action Plans*. HMSO, London.
- Joint Nature Conservation Committee. 2004 (ed.). *Handbook for Phase 1 habitat survey: A technique for environmental audit*. JNCC, Peterborough.
1992. *Protection of Badgers Act*. <https://www.legislation.gov.uk/ukpga/1992/51/contents>.
- Harris S, Cresswell P and Jefferies D. 1989. *Surveying Badgers*. Mammal Society. London.
- Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook* (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The mammal Society, London
- Chanin P. 2003(a). *Ecology of the European Otter*. Conserving Natura 2000, Ecology Series No.10. English Nature, Peterborough.
- Chanin P. 2003(b) *Monitoring the Otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10. English Nature, Peterborough.
- Peay S. 2003. *Monitoring the White-Clawed Crayfish Austropotamobius pallipes*. Conserving Natura 2000 Rivers Monitoring Series No. 1. English Nature, Peterborough.
- English Nature. 2001. *Great Crested Newt Mitigation Guidelines*.
- Langton T, Beckett C, Foster J. 2001. *Great Crested Newt: Conservation Handbook*. Froglife, Suffolk.
- Oldham et al. 2000. *Great Crested Newt Habitat Suitability Assessment. ARG UK Advice Note 5, May 2010*.
- Collins J. (ed.) 2016. *Bat Surveys for Professional Ecologist: Good Practice Guidelines*. 3rd ed. The Bat Conservation Trust, London.
- English Nature. 2004. *Bat Mitigation Guidelines*. English Nature, Peterborough, UK.
- BTHK 2018. *Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*. Exeter: Pelagic Publishing.
- BOCC4 Eaton et al. 2015. *Birds of Conservation Concern 4: The Population Status of Bird's in the UK, Channel Islands and Isle of Man*.
- Joint Nature Conservation Committee. 2004. *Common Standards Monitoring Guidance for Birds*. 2004 ed. JNCC, Peterborough.
- Froglife. 1999. *Froglife Advice Sheet 10: Reptile Survey*. Froglife, London.
- Bright P, Morris P, Mitchell-Jones T. 2006. *The Dormouse Conservation Handbook* 2nd edition. English Nature, Peterborough.
- Joint Nature Conservation Committee. 2004 (ed.). *Common Standards Monitoring Guidance for: Reptiles and Amphibians*. JNCC, Peterborough.
- Joint Nature Conservation Committee. 1996. *UK Strategy for Red Squirrel Conservation*. JNCC, Peterborough.

Appendix I. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub, but others are ground nesting or prefer man-made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1. -(1) Of the Act states that: - If any person intentionally: - kills, injures or takes any wild bird; takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Part 1. -(5) of the Act states that: - If any person intentionally: - disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

Appendix II. BAT INFORMATION.

Ecology

There are currently 18 species of bat residing in Britain, 17 of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to habitat change and shortage of food, caused by pesticides, as insects are their sole diet.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man-made structures and will readily use these to roost and to rear their young.

Surveys

During walkover surveys, bat roosts can be identified by looking for:

- Suitable holes, cracks and crevices within any building, tree or other structure.
- Bat droppings along walls, window cills, or on the ground.
- Prey remains, such as insect wings.

Further investigations can be made using endoscopes, by carrying out aerial inspections of trees or by conducting bat activity surveys during dusk and dawn over summer months.

Legislation

Bats are protected under Appendix II and III of the Bern Convention (1982), Schedule 5 and 6 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive (some species under Annex II), Annex II of the Conservation of Habitats and Species Regulations (2010) and EUROBATs agreement. Numerous species are

also listed under section 41 of the Natural Environment and Rural Communities Act (2006) making them species of principal importance.

All bats and their roosts are therefore protected in the UK. This makes it an offence to kill, injure or take any bat, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

The UK has designated maternity and hibernacula areas as Special Areas of Conservation (SAC's) under the Habitats Directive. Implementation of the UK Biodiversity Action Plan also includes action for a number of bat species and the habitats which support them.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

Appendix III. INVASIVE PLANT SPECIES INFORMATION.

Ecology

The Government has acknowledged the problems that can be caused by non-native invasive species. In 2008 the Government launched “The Invasive Non-Native Species Framework Strategy for Great Britain”. The strategy provides a framework for a more co-ordinated approach to invasive species management. It seeks to create a stronger sense of shared responsibility across government, key organisations, land managers and the public.

The Non-Native Species Secretariat has been established to oversee the implementation of the strategy. Details of the secretariat including risk assessments and action plans for some species are available at www.nonnativespecies.org.

In general, there are four basic methods of controlling weeds: mechanical, chemical, natural and environmental.

- ***Mechanical control*** includes cultivation, hoeing, pulling, cutting, raking, dredging or other methods to uproot or cut weeds.
Where this method is used all plant material must be considered “controlled waste” and must be disposed of properly.
- ***Chemical control*** uses approved herbicides.
- ***Natural control*** uses pests and diseases of the target weed to weaken it and prevent it from becoming a nuisance.
- ***Environmental control*** works by altering the environment to make it less suitable for weed growth, for example by increasing or decreasing water velocity.

Surveys

A site will be searched for invasive plant species growing on site, from mature plants to new shoots. A site will also be searched for dead stems indicating that plants that may have seasonally died back are present.

Legislation

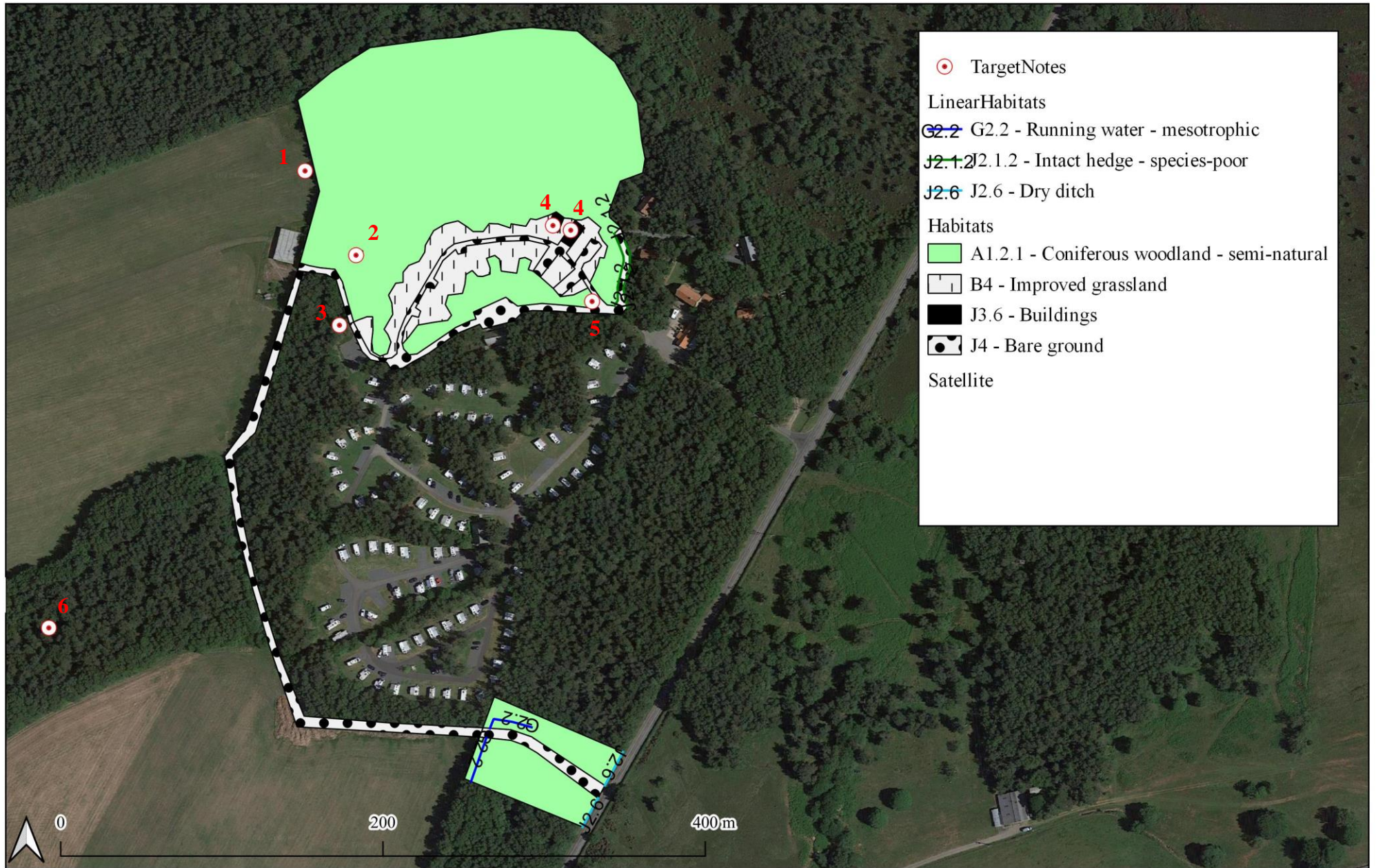
Invasive species listed under Schedule 9 are prohibited from release into the wild. Schedule 9, Section 14(2) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9.

The following is a list of all the species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981.

Common Name	Scientific Name	England & Wales	Scotland
Alexanders, Perfoliate	<i>Smyrniium perfoliatum</i>	✓	
Algae, Red	<i>Grateloupia luxurians</i>	✓	
Archangel, Variegated Yellow	<i>Lamium galeobdolon subsp. Argentatum</i>	✓	
Azalea, Yellow	<i>Rhododendron luteum</i>	✓	
Balsam, Himalayan	<i>Impatiens glandulifera</i>	✓	
Cotoneaster	<i>Cotoneaster horizontalis</i>	✓	
Cotoneaster, Entire Leaved	<i>Cotoneaster integrifolius</i>	✓	
Cotoneaster, Himalayan	<i>Cotoneaster simonsii</i>	✓	
Cotoneaster, Hollyberry	<i>Cotoneaster bullatus</i>	✓	
Cotoneaster, Small Leaved	<i>Cotoneaster microphyllus</i>	✓	
Creeper, False Virginia	<i>Parthenocissus inserta</i>	✓	
Creeper, Virginia	<i>Parthenocissus quinquefolia</i>	✓	
Dewplant, Purple	<i>Disphyma crassifolium</i>	✓	
False-acacia	<i>Robinia pseudoacacia</i>		✓
Fanwort	<i>Cabomba caroliniana</i>	✓	✓
Fern, Water	<i>Azolla filiculoides</i>	✓	✓
Fig, Hottentot	<i>Carpobrotus edulis</i>	✓	✓
Garlic, Three-Cornered	<i>Allium triquetrum</i>	✓	
Hogweed, Giant	<i>Heracleum mantegazzianum</i>	✓	✓
Hyacinth, water	<i>Eichhornia crassipes</i>	✓	✓
Kelp, Giant	<i>Macrocystis angustifolia</i>	✓	✓
Kelp, Giant	<i>Macrocystis integrifolia</i>	✓	✓
Kelp, Giant	<i>Macrocystis laevis</i>	✓	✓
Kelp, Giant	<i>Macrocystis pyrifera</i>	✓	✓
Kelp, Japanese	<i>Laminaria japonica</i>	✓	✓

Knotweed, Giant	<i>Fallopia sachalinensis</i>	✓	
Knotweed, Hybrid	<i>Fallopia japonica x Fallopia sachalinensis</i>	✓	
Knotweed, Japanese	<i>Fallopia japonica</i>	✓	
Knotweed, Japanese	<i>Polygonum cuspidatum</i>		✓
Leek, Few-flowered	<i>Allium paradoxum</i>	✓	✓
Lettuce, water	<i>Pistia stratiotes</i>	✓	✓
Montbretia	<i>Crocsmia x crocosmiiflora</i>	✓	
Parrot's-feather	<i>Myriophyllum aquaticum</i>	✓	
Pennywort, Floating	<i>Hydrocotyle ranunculoides</i>	✓	
Potato, Duck	<i>Sagittaria latifolia</i>	✓	
Primrose, Floating Water	<i>Ludwigia peploides</i>	✓	
Primrose, Water	<i>Ludwigia grandiflora</i>	✓	
Rhododendron	<i>Rhododendron ponticum</i>	✓	
Rhubarb, Giant	<i>Gunnera tinctorial</i>	✓	
Rose, Japanese	<i>Rosa rugosa</i>	✓	
Salvinia, Giant	<i>Salvinia molesta</i>	✓	✓
Seafingers, Green	<i>Codium fragile</i>	✓	
Seafingers, Green	<i>Codium fragile tomentosoides</i>		✓
Seaweed, Californian Red	<i>Pikea californica</i>	✓	✓
Seaweed, Hooked Asparagus	<i>Asparagopsis armata</i>	✓	✓
Seaweed, Japanese	<i>Sargassum muticum</i>	✓	✓
Seaweeds, Laver (except native species)	<i>Porphyra sp. except - P. amethystea P. leucosticta P. linearis P. miniata P. purpurea P. umbilicalis</i>	✓	✓
Shallon	<i>Gaultheria shallon</i>		✓
Stonecrop, Australian swamp	<i>Crassula helmsii</i>	✓	✓
Wakame	<i>Undaria pinnatifida</i>	✓	✓
Waterweed, Curly	<i>Lagarosiphon major</i>	✓	✓
Waterweeds	<i>All species of the genus Elodea</i>	✓	

Appendix IV. ANNOTATED MAP OF THE SURVEY AREA.



Site: Ladycross Plantation Holiday Lodges

Date: 27.10.2022

Reference: 220282

Produced by: Ruth Georgiou



Appendix V. TARGET NOTES.

T1 – Pond 1 with below average suitability for GCN's.

T2 – Large shed with negligible potential for roosting bats.

T3 – Pond 6 with below average suitability for GCN's.

T4 – Rhododendron plant.

T5 – Existing holiday lodges.

T6 – Pond 2 with below average suitability for GCN's.

Appendix VI. HABITAT CONDITION ASSESSMENTS – BASELINE.

Woodland.

Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator W2	Score per indicator W3
1	Age distribution of trees ¹	Three age classes present	Two age classes present	One age class present	2	1
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ²	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	3	3
3	Invasive plant species ³	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	3	3
4	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	1	1
5	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	3	3
6	Open space within woodland ⁴	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	3	3
7	Woodland regeneration ⁵	All three classes present in woodland;	One or two classes only	No classes or coppice regrowth	1	1

		trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	present in woodland	present in woodland		
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present	3	3
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	2	1
10	Woodland vertical structure⁶	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	1	1
11	Veteran trees⁷	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	1	1
12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	1	1
13	Woodland disturbance⁸	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	3	1
Total score:					27	23

Condition assessment results:	Condition assessment score:
Total score >32 (33 to 39)	Good (3)
Total score 26 to 32	Moderate (2)
Total score <26 (13 to 25)	Poor (1)

Grassland – low value (modified grassland)

1	There must be 6-8 species per m ² . Note - if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB - this criterion is non-negotiable for achieving good condition.	Fail
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	Fail
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Fail
6	Cover of bracken less than 20%.	Pass
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	Pass

Condition assessment results:	Condition assessment score:
Passes 6 or 7 of 7 criteria including non-negotiable criterion 7	Good (3)
Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7	Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria	Poor (1)

