ECOLOGICAL IMPACT ASSESSMENT & BAT SURVEY

NEWTON POINT WOMEN'S INSTITUTE BUILDING

CLIENT:	George F White
PROJECT NUMBER:	7183
AUTHOR:	Richard Thompson
POSITION:	Ecologist
CONTACT DETAILS:	richard.thompson@e3ecology.co.uk

DOCUMENT & QUALITY CONTROL

Report Version	Status	Date	Changes	Author	Proof Read	Version Approved by
R01	Draft	July 2023	1st draft	RT	SG	MEM
R02	Final	August 2023	Finalised	RT	-	-

ENVIRONMENTAL RECORDS DATA

Unless requested otherwise, the information below can be used by the Local Environmental Records Centre. E3 has an agreement with the Environment Records Centre North East whereby any information included in the below table can be stored.

Species	Recorder	Date	Location	Abundance	Comment
Variegated yellow arch-angel	E3 Ecology	10/05/2023	NU 23702 25199	Abundant	-
Japanese Rose	E3 Ecology	10/05/2023	NU 23702 25199	1-2 shrubs	-

COPYRIGHT, CONFIDENTIALITY & LIABILITY

Further information is provided at Appendix 1 – Copyright, Confidentiality & Liability.

CONTENTS

TABLES

FIGURES

A. SUMMARY

E3 Ecology Ltd was commissioned to undertake an Ecological Impact Assessment (EcIA) of a parcel of land at High Newton-by-the-sea, where it is proposed to demolish the existing building and construct two new houses on the site footprint. A desk study was completed, including consultation with DEFRA's MAGIC website and the Environmental Records Information Centre North East (ERIC NE), and an ecological walkover and bat risk assessment survey was undertaken on 10th May 2023 in order to inform this assessment. A subsequent bat presence/absence survey was undertaken on the 26th June 2023.

The results of the desk study indicate that there are eight statutorily protected sites within 2km of the proposed development site. The closest of these is Northumberland Coast Area of Outstanding Natural Beauty (AONB), which the site lies within. No direct development impacts are envisaged on this or any other nearby protected sites but there is a low risk of increased recreational disturbance on the coastal protected sites. Therefore, new residential developments in this area are required to make financial contributions towards the Coastal Mitigation Service. No non-statutorily protected sites or granted European Protected Species (EPS) mitigation licences were highlighted within 2km during the desk study and no Priority Habitats were highlighted on or adjacent to site.

The proposed development site measures approximately 0.05ha and is dominated by a single building with coarse grassland and some shrubs surrounding it. Overall, the habitats on site are of low value. Two invasive species listed on Schedule 9 of the Wildlife and Countryside Act (1981) were recorded on site: variegated yellow arch-angel and Japanese rose.

The habitats in the local area are of low-moderate suitability for foraging and commuting bats.

There is one building on site which was subjected to a detailed external and internal inspection. The building is single storey with a corrugated metal roof and fully rendered breezeblock walls. Potential external roosting features were very limited. However, some of the windows were fully open, allowing easy access to the building's interior. Internally, the building was previously used by the local Women's Institute (WI) but is now used for storage. Potential bat foraging signs (moth and butterfly wings) were recorded inside, though there was also numerous rat and bird field signs. Gaps internally were again limited however there is a small roof void above a false ceiling which was inaccessible.

Overall, the building is considered to be of low suitability to support roosting bats. However, the building may occasionally be used by bats as a sheltered foraging space.

The bat presence/absence survey recorded no roosts within the building and no bats were recorded entering the building to forage. Bat activity was largely associated with common and soprano pipistrelles commuting to and from a nearby block of woodland, mostly from the direction of the nearby village. Swallows were recorded nesting within the building.

The site is considered of up to local value for birds, common toad, brown hare and hedgehog, with other protected and priority species likely to be absent.

Ecological Receptor	**Impact**	**Mitigation**
Protected Sites		
Various coastal sites	Increased recreational disturbance.	Financial contributions to the Coastal Mitigation Service.
Habitats		

Trees	Loss and damage to retained trees, including those immediately adjacent to site.	Trees will be retained where possible. Any tree removal will be compensated for through planting of new trees with a 2:1 replacement ratio. Only native species will be planted. Works will be undertaken in accordance with BS5837-2012 'Trees in relation to construction' and retained trees will be protected, including protection of roots.
Grassland	Loss and degradation during construction and operational phase.	Wildflower bulb planting will be incorporated into the landscape proposals.
Invasive species	Spread of Japanese rose and variegated yellow arch-angel on and off site.	Works will be undertaken to a precautionary invasive species method statement.
Species		
Bats	Low residual risk of harm/disturbance to bats in the unlikely event that they are present during works	Works will follow a precautionary bat method statement.
	Increased lighting affecting foraging/commuting areas potentially used by bats (and other nocturnal wildlife).	Light levels around foraging/commuting areas will be low level, below 2m in height, and low lux (below 1 lux 5m from the light source). Light spillage to areas used by foraging or commuting bats, e.g. the surrounding woodland, must be less than 2 lux. Warm-light LEDs with very low UV will be used, with cowls designed to accurately target which areas are lit. Where security lights are required, these will be of minimum practicable brightness, be set on a short timer and will be motion sensitive only to larger objects.
	Small loss of bat foraging/commuting habitat.	Landscape planting to include native plants bearing flowers, nectar and fruits which are attractive to invertebrates, thereby helping to maintain the food resource for bats and wildlife generally.
Birds	Harm/disturbance to nesting birds if building works or vegetation clearance are carried out during the bird breeding season	A pre-commencement check for nesting birds will be undertaken by a suitably experienced ornithologist if building works/vegetation clearance are undertaken between March and August inclusive.
	Loss of bird nesting opportunities of up to local value	Installation of four bird nest boxes – two each of; hole, open fronted and sparrow terrace box types. Boxes should be min 2m high and ideally north to east facing, near foraging habitat and with direct flight access. Open fronted structures such as bin and cycle stores will be accessible to swallows.

Hedgehog	Creation of barriers to hedgehog movement	Close boarded fences will be avoided, or gaps 13cm x 13cm will be provided in fences between gardens and landscaped areas to allow hedgehogs to forage and commute across the site.
Wildlife (general)	Entrapment of wildlife during construction if trenches are left open overnight	Any excavations left open overnight will have a means of escape for wildlife that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.

The development presents an opportunity for ecological benefit within the site. The following are recommended;

- Landscape planting is to be designed to enhance structural diversity and will include plants bearing flowers, nectar and fruits which are attractive to invertebrates, thereby helping to maintain food resources for wildlife in general.
- Planting of native, species-rich mixtures of scrub and trees.
- Creation of hedgehog/reptile/amphibian hibernacula or habitat piles.
- Provision of two integrated bird nesting opportunities suitable for species such as swift, house sparrow, starling, house martin and/or swallow and two bat roosting features in the new buildings on site. Bird nesting opportunities should ideally be north to east facing and a minimum of 2m high (swift 4m+). Bat roosting features should be a minimum of 3-4m high, on gable ends or at eaves height. Both should be near suitable foraging habitat and away from windows.

The Local Planning Authority is likely to require the means of delivery of the mitigation to be identified. It is recommended that mitigation, compensation and enhancement proposals are incorporated into the planning documents.

Provided that the above recommendations are implemented, it is anticipated that the proposals may proceed with no significant adverse effect on protected or notable habitats and species. Ecological opportunities including landscaping focussed on biodiversity, control of non-native invasive species and bat and bird nest box provision, contributing to local and national conservation targets.

If you are assessing this report for a Local Planning Authority and have any difficulties interpreting plans and figures from a scanned version of the report, E3 Ecology Ltd would be happy to email a PDF copy to you. Please contact us on 01434 230982.

B. INTRODUCTION

E3 Ecology Ltd was commissioned by George F White in April 2023 to undertake an EcIA and bat survey of a proposed development site at Newton Point WI building in High Newton-by-the-sea, Northumberland. A subsequent bat presence/absence survey was undertaken on the 26th June 2023.

This assessment has been prepared taking account of the Chartered Institute of Ecology and Environmental Management's (CIEEM) "Guidelines for Ecological Impact Assessment in the UK and Ireland" (2019).

B.1 AUTHOR, SURVEYORS & QUALIFICATIONS

The author's professional qualifications and survey licences are detailed in the table below, as well as those of additional lead surveyors who completed survey work at the proposed development site:

TABLE 1: LEAD SURVEYORS

Name	Position	Professional Qualifications	Natural England Survey Licence Numbers
Richard Thompson	Ecologist	BSc MSc	2023-11254-CL17-BAT (Bats)

Further details of experience and qualifications are available at www.e3ecology.co.uk.

All surveyors have the knowledge, skills and experience identified within the relevant CIEEM Competencies for Species Survey guidance, or were under the supervision of a surveyor with the required competencies.

B.2 OBJECTIVES

The objectives of the assessment are to:

- Establish baseline ecological conditions and determine the importance of ecological features present or potentially present within the survey area;
- Complete comprehensive building inspections to search for evidence of bat use;
- Establish the bat roosting suitability of any buildings, structures or trees which may be present on site and at risk of impact by the development;
- Identify and describe potentially significant ecological constraints and effects associated with the proposed development;
- Make recommendations for design options to avoid significant effects on important ecological resources at an early stage of development planning where possible;
- Identify the potential requirement for further surveys on protected species and habitats which may be present on site;
- Set out the mitigation, compensation and enhancement measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects;
- Identify how these measures could be secured; and
- Identify any requirements for post-construction monitoring of the site.

B.3 PROPOSED DEVELOPMENT SITE

The site is located in High Newton-by-the-sea, at an approximate central grid reference of NU 23702 25199.

The figures below illustrate firstly the survey boundary and secondly the broad habitats present on site and within an approximate 500m buffer zone.

FIGURE 1: SITE BOUNDARY
(Reproduced under licence from Google Earth Pro.)

FIGURE 2: SITE AND 500M SETTING
(Reproduced under licence from Google Earth Pro.)

B.4 DEVELOPMENT PROPOSALS

It is proposed to demolish the existing building on site and construct two new residential dwellings. Development proposals are shown in the figure below.

FIGURE 3: DEVELOPMENT PROPOSALS

C. METHODOLOGY

C.1 SCOPE OF STUDY

The scope of the study, in terms of the survey area and the desk study area, is based on professional judgement. The likely zone of influence of the proposal has been considered, including both potential direct effects, such as habitat loss, and potential indirect effects, such as disturbance. Consideration has been given to potential effects both during the construction and operational phases of the development.

For this site the survey area comprised the green line boundary as defined within the figures in section B.

In some circumstances field signs and habitat suitability may indicate the potential presence of nearby protected species and/or habitats immediately adjacent to the site which may fall within the zone of influence. In this scenario, if access was available the survey boundary was extended to include these areas. If access was not possible at the time of initial survey, the EcIA and required mitigation measures have been prepared taking this limitation into account.

The desk study included an assessment of land-use in the surrounding area and a data search covering a 2km buffer zone (see below for further detail).

The following types of ecological receptors have been considered:

- Statutorily designated sites for nature conservation;
- Non-statutorily designated sites for nature conservation;
- Species protected by law;
- Species and/or habitats listed under the NERC Act (2009) as being of principal importance for conservation of biodiversity; and
- Species and/or habitats listed in relevant local biodiversity action plans.

Further details on planning and legislative context are provided in the appendices of this report.

C.2 DESK STUDY

Initially, the site was assessed from aerial photographs and 1:25,000 Ordnance Survey maps.

Following this, a data search was submitted to the Local Records Centre in July 2023, requesting data relating to bats within 2km of the survey area.

In addition, a search was made of the MAGIC website[1] for all statutorily protected sites for nature conservation within 2km of the survey area, as well as notable habitats or species records.

C.3 FIELD SURVEY

An ecological walkover survey of the site was completed, comprising a phase 1 habitat survey and a preliminary appraisal for protected and otherwise notable species.

[1] MAGIC Website: www.magic.gov.uk

C.3.1 PHASE 1 HABITAT SURVEY & PROTECTED SPECIES APPRAISAL

C.3.1.1 PHASE 1 HABITAT SURVEY METHODOLOGY

The field survey of the proposed site was conducted using the methodology of the Joint Nature Conservation Committee's Phase 1 Habitat Survey, as outlined in their habitat-mapping manual[2]. Each parcel of land was assessed by a trained surveyor and classified as one of ninety habitat types. These were then mapped and the habitat information supplemented by dominant and indicator species codes and target notes where appropriate. Where areas within the study area do not fall into the Phase 1 Habitat Survey classification, alternative methods of classification have been used.

C.3.1.2 PRELIMINARY PROTECTED/NOTABLE SPECIES APPRAISAL METHODOLOGY

A preliminary appraisal of the site was completed to search for field signs or evidence of protected or notable[3] species and to assess the suitability of habitats to support such species.

When conducting the survey, particular focus was concentrated on, but not restricted to, the following taxa:

- Amphibians, including great crested newt (GCN)
- Badger
- Bats
- Birds
- Brown hare
- Fish
- Hedgehog
- Notable butterfly species
- Non-native invasive species
- Otter
- Red squirrel
- Reptiles
- Water vole
- White-clawed crayfish

Assessment of habitat suitability to support such species was based on professional judgement and experience, species-specific habitat preferences, knowledge of local and broad geographical species distribution and connectivity to other areas of suitable habitat.

Where it is considered likely that there is a significant risk of protected or otherwise notable species being affected, or where habitats are of particularly high value, additional specialist survey work has been recommended. Further survey work may also be recommended where development proposals have the potential to affect statutorily designated sites in the vicinity.

BATS

The potential suitability of the habitats within the survey area and surrounding landscape in relation to commuting and foraging bats was classified as negligible, low, moderate or high, based on Bat Conservation Trust (BCT) guidelines and using the surveyor's professional judgement.

A daytime assessment was made of all structures affected by the proposed development, in order to evaluate their suitability to support bat roosts, and, where present, to record field signs of use by bats.

Buildings/structures were inspected both externally and internally where access was available. Binoculars and extendable ladders were used to assist with the inspection for potential

[2] Handbook for Phase 1 habitat survey, A Technique For Environmental Audit, JNCC, 2010
[3] To include national priority species as listed in Section 41 of the NERC Act (2006) and local or regional priority species as listed within the relevant Biodiversity Action Plan

roosting features and bat field signs, such as droppings, feeding remains, grease/urine staining, corpses/skeletons or bats themselves.

Where possible, species identification was either confirmed visually, through DNA analysis of droppings or acoustically through further survey work at dusk or dawn. If endoscope use or handling of bats were required to identify particularly cryptic species or to assess roost type, this was completed by appropriately licensed individuals and minimised where possible to reduce disturbance.

Structures were categorised as having negligible, low, moderate or high suitability to be used by roosting bats, based on guidelines provided by the BCT[4] and detailed within the table below.

TABLE 2: ASSESSMENT OF BAT ROOSTING SUITABILITY OF BUILDINGS/STRUCTURES & TREES *(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TAKEN FROM TABLE 4.1 OF BCT'S BAT SURVEY GUIDELINES)*	
Suitability	**Roosting Habitats**
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A building/structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A building/structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Note that any comments within this report on the state or condition of buildings/structures relate solely to their potential use by bats and must not be taken as a professional assessment of the structural integrity or safety of the structures.

C.3.1.3 SURVEY EQUIPMENT

- High-powered torch
- Binoculars
- Camera

C.3.1.4 SURVEY DATES & ENVIRONMENTAL CONDITIONS

The table below details the environmental conditions during the survey.

TABLE 3: SURVEY CONDITIONS				
Date	**Temperature (^{0}C)**	**Cloud Cover (%)**	**Precipitation**	**Wind Conditions (Beaufort scale)**
10/05/23	14	90	Dry	F2

[4] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

C.3.2 BAT PRESENCE/ABSENCE SURVEY

C.3.2.1 SURVEY EFFORT

The level of survey effort employed has taken account of the guidance provided by the BCT[5] and summarised within the table below.

TABLE 4: RECOMMENDED NUMBER AND TIMING OF PRESENCE/ABSENCE SURVEY VISITS REQUIRED TO PROVIDE CONFIDENCE IN NEGATIVE PRELIMINARY ROOST ASSESSMENT RESULTS (FROM TABLE 7.1 AND TABLE 7.3 BCT GUIDELINES)

	Low Roost Suitability*	Moderate Roost Suitability	High Roost Suitability
Recommended minimum number of survey visits for presence/absence survey to give confidence in a negative result	One survey visit. One dusk emergence or dawn re-entry survey (structures). For trees with low roost suitability, no further surveys required.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.
Recommended timings for presence/absence surveys	May to August	May to September with at least one of the surveys between May and August	May to September with at least two of the surveys between May and August

***** *If a structure is classified as having low suitability for bats an ecologist should make a professional judgement on how to proceed based on all of the evidence available. If sufficient areas of a structure have been inspected and no evidence found (and is unlikely to have been removed by weather or cleaning or be hidden), then further surveys may not be appropriate.*

Note: Where a roost is confirmed as being present, further surveys may be required to fully characterise the roost

The recommendations provided above are guidelines and it is recognised by BCT that '*the number of visits could be adjusted (up or down) if necessary by the ecologist, bearing in mind the site-specific circumstances*.'

Details of dates, timings, weather, and surveyor numbers and names are provided in the results section.

C.3.2.2 SURVEY METHODS

Activity surveys were undertaken in suitably mild conditions when bats are active. Surveyors were positioned to ensure coverage of all high-risk areas of the site, including any potential flight-lines from structures within the site to adjacent cover such as woodland blocks. If bats were recorded within the site before bats were seen in the wider area, or seen flying into the site, it is assumed that roosts are present within the site.

All surveyors used both Batbox Duet bat detectors to listen for bats and Anabat Express detectors, at each surveyor location, to record and better identify bat species.

Timings for observations of key bat activity such as emergence, first records of each species and commuting routes were recorded. All data were recorded using the Anabat Express for future reference and to allow confirmation of species identification through call analysis (using Analook software), and to capture brief echolocation calls that could not be reliably identified in the field[6]. Field survey recorded numbers of bats detected, feeding activity, flight paths, species (as far as is practicable), and social calls.

---

[5] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

[6] Reviewing data recorded by surveyors using Duet detectors and the Anabat data indicated that reliable *Myotis* records increased through Anabat use, particularly once conditions were too dark for

A total of three person-nights work was undertaken. Figures provided within the results section of this report illustrate the approximate location of each surveyor.

C.3.2.3 SURVEY EQUIPMENT

- Duet bat detectors
- Anabat Expresses
- Light meter

C.3.3 DATA ANALYSIS

All bat calls were analysed using Analook with calls identified to species where possible, referencing call parameters as detailed within Russ (2012)[7] and Middleton et al (2014)[8].

If identification to species is not practicable, then where possible calls are identified to genus.

C.4 SURVEY CONSTRAINTS

Certain plant species may not be identifiable throughout the year. However, it is considered that sufficient botanical identification was possible to facilitate a robust assessment of habitats for the purposes of this report.

The survey completed at the site will provide reasonably typical data for the season in which it was undertaken, and internal field signs are likely to reflect activity over the preceding active season. Assessment of the bat use of the site at other times of year and the potential impacts of the proposed development is based on professional judgement. This is an approach supported by the BCT Good Practice Guidelines[9].

The building has a false ceiling and the space above could not be accessed during the preliminary survey. Few gaps were recorded in the false ceiling however, or outside of the building that might lead into a hidden void. A single dusk survey is considered suitable to negate being unable to assess this space.

C.5 ASSESSMENT METHODOLOGY

The relative value of the ecological receptors (habitats, species and designated sites) was assessed using a geographical frame of reference. For designated sites this is generally a straightforward process with the assigned designation generally being indicative of a particular value, e.g. Sites of Special Scientific Interest are designated under national legislation and are therefore generally considered to be receptors of national value. The assignment of value to non-designated receptors is less straightforward and as recognised by the Guidelines for Ecological Impact Assessment produced by CIEEM[10], is a complex and subjective process and requires the application of professional judgement.

When assessing the value of species and habitats, relevant documents and legislation are considered including the lists of species and habitats of principal importance annexed to the NERC Act (2006) and those provided within relevant local Biodiversity Action Plans. Data

---

visual cues to assist in identification, when there was a lot of bat activity, and with bats in clutter. It also reduces errors where pipistrelles in clutter can be mis-identified as *Myotis* bats.

[7] Russ, J. (2012) British Bat Calls: A Guide to Species Identification. Pelagic Publishing

[8] Middleton, N., Froud, A. and French, K. (2014) Social Calls of the Bats of Britain and Ireland. Pelagic Publishing

[9] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

10 Chartered Institute for Ecology and Environmental Management (2019) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

provided through consultation is also considered. These data sources can provide context at a local, regional and national scale.

The table below provides examples of receptors of value at different geographical scales.

TABLE 5: ECOLOGICAL RECEPTOR VALUATION	
Level of Value	**Examples**
International	An internationally designated site or candidate site.
	A site meeting criteria for international designation.
	A substantial* area of a habitat listed on Annex I of the EC Habitats Directive or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.
	The site is of functional importance** to a species population with internationally important numbers (i.e. >1% of the biogeographic population)
National	A nationally designated site.
	A substantial* area of a habitat listed as a Habitat of Principal Importance within Section 41 of the NERC Act (2006) or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.
	The site is of functional importance** to a species population with nationally important numbers (i.e. >1% of the national population)
Regional	An area of habitat that falls slightly below the criteria necessary for designation as a SSSI but is considered of greater than county value.
	The site is of functional importance** to a species population with regionally important numbers (i.e. >1% of the regional population)
County	A Local Wildlife Site (LWS) or equivalent, designated at a County level
	A substantial* area of a habitat listed within the relevant County Biodiversity Action plan or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.
	The site is of functional importance** to a species population of county value (i.e. >1% of the county population)
District	A Local Wildlife Site (LWS) or equivalent, designated at a District level
	A substantial* area of a habitat listed within the relevant District Biodiversity Action plan or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.
	The site is of functional importance** to a species population of district value (i.e. >1% of the district population)
Parish	Area of habitat or species population considered to appreciably enrich the habitat resource within the context of the parish.
	Local Nature Reserves
Local	Habitats and species that contribute to local biodiversity but are not exceptional in the context of the parish.
Low	Habitats that are unexceptional and common to the local area.
**Substantial defined as 'of considerable size or value within that area based on professional judgement, rather than a small, inconsequential area'*	
*** Functional importance defined as 'a feature which, based on professional judgement, is of importance to the day to day functioning of the population, the loss of which would have a detectable adverse effect on that population',*	

The site lies within Newton-by-the-sea Civil Parish which covers approximately 1642ha and is mainly agricultural land with some low density residential villages and scattered farmsteads including High and Low Newton-by-the-sea. The eastern boundary of the parish follows the Northumberland coastline with associated dunes and beaches.

D. RESULTS

D.1 DESK STUDY

D.1.1 PRE-EXISTING INFORMATION

D.1.1.1 ORDNANCE SURVEY MAPPING AND AERIAL PHOTOGRAPHY

The most recent aerial photograph of the site (2023) indicates that habitats on site are dominated by a potentially dilapidated building. Historic imagery suggests that the site has remained very similar since at least 2004.

Aerial photography shows that the general land use in the surrounding area is predominantly arable agriculture to the north and east. To the west lies the small village of High Newton-by-the-sea while a grassland field lies to the south.

D.1.1.2 MAGIC WEBSITE[11]

PROTECTED SITES

The table below details the internationally and nationally statutorily designated sites within 2km of the survey area. There are no internationally and nationally statutorily designated sites for bats within 2km.

TABLE 6: DESIGNATED SITES

Designation	Site Name	Brief Reason for Designation	Distance from Survey Area
Area of Outstanding Natural Beauty (AONB)	Northumberland Coast	Sparsely populated region of north-east Northumberland that holds a large mix of sand beaches, sand dunes, cliffs, mudflats and high quality grasslands.	Site lies within
Ramsar	Northumbria Coast	Several discrete sections of rocky foreshore regularly supporting internationally important numbers of purple sandpiper and turnstone. The Ramsar site also supports a nationally important breeding colony of little tern and parts of three artificial piers which form important roost sites for purple sandpiper.	550m east
Special Protection Area **(SPA)**	Northumbria Coast	This site is designated for internationally important populations of breeding little tern and non-breeding purple sandpiper and turnstone. It also supports nationally important breeding populations of arctic tern.	550m east
	Northumberland Marine	A large site designated to protect the feeding and breeding zones for a number of nationally and internationally important seabirds. Also includes some coastal areas such as rocky headlands, sand dunes and inter-tidal rocky beaches.	550m east
Special Area of Conservation **(SAC)**	North Northumberland Dunes	Embryonic shifting dunes, shifting dunes along the shoreline with *Ammophilla arenaria* (white dunes), fixed coastal dunes with herbaceous vegetation (grey dunes), dunes with *Salix repens ssp. argentea (Salicion arenariae*), humid	795m north

[11] Multi Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk

		dune slacks and the Annex 2 species petalwort (*Petalophyllum ralfsii*).	
	Berwickshire & North Northumberland Coast	Mudflats and sandflats not covered by seawater at low tide, large shallow inlets and bays, reefs, submerged or partially submerged sea caves and the Annex 2 species grey seal.	550m east
Site of Special Scientific Interest (SSSI)	Northumberland Shore	The Northumberland Shore consists largely of sandy bays separated by rocky headlands with wave-cut platforms, backed by dunes or soft and hard cliffs. Discrete areas of estuarine intertidal mudflats and saltmarsh are also present. Species for which the SSSI are designated include internationally important numbers of wintering turnstone and purple sandpiper and nationally important wintering populations of sanderling, ringed plover, redshank and golden plover.	550m east
	Newton Links	One of Northumberland's best examples of calcareous dune, supporting a rich variety of botanical species including bloody cranesbill, pyramidal orchid and crested hair grass. There are also salt marsh areas with are associated with the nearby colony of little terns at Long Nanny.	1.7km north

The site falls within a SSSI Impact Risk Zone for this type of development and the Local Planning Authority may be required to consult with Natural England on the application.

HABITATS
No Priority Habitats are mapped on or immediately adjacent to the site.

SPECIES
There are no records of granted EPS mitigation licences affecting GCN within 2km. One location is highlighted where GCN survey licence returns have indicated GCN presence, approximately 1.2km south from the site.

No granted EPS mitigation licences or bat survey licence returns are shown within 2km of the site.

D.1.2 CONSULTATION

LOCAL RECORD CENTRE
The table below summarises the bat records provided by the local records centre. The full data search results can be provided on request.

TABLE 7: CONSULTATION RECORDS

Species	No. of Records	Closest distance (m – if sufficient record resolution provided)	Most recent date
Bats	1	1251	22/08/2015
Common Pipistrelle	6	796	11/07/2019
Myotis Bat species	2	810	11/07/2019

Noctule Bat	3	810	11/07/2019
Pipistrelle Bat species	2	1879	14/06/2019
Soprano Pipistrelle	3	810	11/07/2019

D.2 FIELD SURVEY

D.2.1 HABITATS

The proposed development site covers approximately 0.05ha and is dominated by a single building, surrounded by some rough grassland and small shrubs.

D.2.1.1 HABITAT DESCRIPTIONS

SCATTERED TREES

Within the site there is a large elder *Sambucus nigra* tree, adjacent to the building's western aspect and a small immature willow *Salix* sp just west of this. A small number of mature ash *Fraxinus excelsior* trees are present just out with the north-eastern site boundary.

POOR SEMI-IMPROVED GRASSLAND

Surrounding the building there is an area of coarse semi-improved grassland that is species-poor, containing a number of tall ruderal species. The habitat is generally around 2m in width around the building except for in the west, where there is an approximately 4x6m area of grassland.

Yorkshire fog *Holcus lanatus* and cock's-foot *Dactylis glomerata* generally dominate the sward however there are other patches dominated by tall forb species such as common nettle *Urtica dioica,* bramble *Rubus fruticosus* agg. and common hogweed *Heracleum sphondylium*. Other species found include false oat-grass *Arrhenatherum elatius,* meadow foxtail *Alopecurus pratensis*, cow parsley *Anthriscus sylvestris*, white dead-nettle *Lamium album*, dandelion *Taraxacum* agg., cleavers *Galium aparine,* ribwort plantain *Plantago lanceolata,* creeping thistle *Cirsium arvense,* creeping buttercup *Ranunculus repens,* daffodils and Spanish bluebells *Hyacinthoides hispanica.* To the north there are also piled grass cuttings.

INVASIVE SPECIES

Two invasive plant species lie within the site, both listed on Schedule 9 of the Wildlife and Countryside Act (1981). Along much of the land to the north of the building is a dense patch of variegated yellow arch-angel *Lamiastrum galeobdolon subsp. argentatum.* To the south of the building is a stand of Japanese rose *Rosa rugosa.*

BUILDINGS & HARDSTANDING

The building on site is discussed below in Section D.2.3.

The access road to the site is an old tarmac track.

FENCES

There is a low stone wall that forms the site's northern boundary. This slightly encircles the site's western boundary, where there is also a dilapidated barbed wire fence which continues along the southern boundary.

SURROUNDING HABITATS

To the north and north-west of the site are residential properties with associated gardens. To the east, south and west are green spaces including grassland fields, arable fields and some narrow stands of plantation woodland.

D.2.1.2 HABITAT ASSESSMENT

The development site is considered to be of up to low value for the habitats it supports.

D.2.2 SPECIES

BATS

See following section of report.

GREAT CRESTED NEWT

There are no mapped ponds within 500m of the site.

The grassland habitats present on the proposed development site are broadly suitable for use by GCN in their terrestrial phase, offering sheltered foraging opportunities in the grassland and wall boundaries.

Due to the lack of suitable breeding habitat within 500m, GCN are considered likely to be absent from the site. However common amphibians, including common toad, may be present on occasion. If present, the site is likely to be of up to local value to these common amphibian species.

BIRDS

The building on site has some windows which are open, allowing internal access for birds. Within the building there are various nests, many of which were active during the survey. Species recorded nesting within the building included woodpigeon (Amber listed species of UK Conservation Concern), swallow, blackbird and wren, though other species may use it throughout the year.

The elder tree on site, as well as the building, provide nesting and foraging opportunities to an assemblage of locally common bird species.

Overall, the site is considered to be of local value to birds.

BADGER
The site contains a very limited amount of suitable foraging opportunities for badger however, no field signs directly attributable to badger were found during the survey.

Badger setts are considered to be absent from the site and badger presence on the site is likely to be limited to occasional foraging and commuting.

The site is therefore considered to be of low value to badger.

REPTILES
Overall, the site is considered to lack the typical mosaic of habitat types and vegetation structures used by reptiles. They are therefore considered likely to be absent from the site.

RED SQUIRREL
The habitats are considered sub-optimal to support this species, with no woodland or mature trees on site. They are therefore considered likely to be absent from the site.

INVERTEBRATES
The site lacks any key larval food-plants for priority butterfly species and also lacks typically favoured habitat mosaics. Notable populations of priority butterfly species are considered likely to be absent.

OTTER, WATER VOLE & WHITE-CLAWED CRAYFISH
There are no aquatic habitats on or within the vicinity of the site with suitability to support these species and they are considered likely to be absent from the site.

OTHER NATIONAL PRIORITY AND LOCAL BAP SPECIES
The site contains some suitable habitat for hedgehog, common toad and brown hare and is considered to be of local value for these species.

D.2.3 BAT PRELIMINARY ROOST ASSESSMENT

D.2.3.1 HABITATS

FORAGING HABITATS & COMMUTING ROUTES

The nearby fields are likely to provide poor foraging opportunities. However, a nearby line of coniferous trees will provide some foraging and commuting habitat.

SHELTERED FLIGHT AREAS
The building on site is open through some windows and bats could use the internal space as a sheltered flight area or for light sampling.

ALTERNATIVE ROOST LOCATIONS
To the north-west there are numerous alternative roosting opportunities in the nearby residential dwellings.

D.2.3.2 BUILDINGS/STRUCTURES

Descriptions of the building are detailed below.

Where recorded, field signs that confirm bat use are in bold.

External

- Single-storey building, previously used by the local WI.
- Pitched roof with corrugated metal sheeting, largely intact though slightly corroded to the very north-east of the building.
- Sheet metal ridge with no suitable gaps
- Wooden fascia boards with a narrow gap behind. The gap is shallow (~3-5cm) and generally unsuitable for bat roosting. Missing section of fascia at the north-east of the building, above a window.
- Walls fully rendered with pebbledash; no gaps recorded
- Windows largely boarded up however two windows on the northern aspect were fully open.
- A small wooden porch extension on the western aspect has a pitched metal roof, a wooden door/doorframe with fully rendered walls. Similar extension on the eastern gable, used as a shed.
- No external field signs of bats recorded

Internal

- Mostly one large room inside, used for storage and very cluttered. False ceiling above much of the building, with a small roof void above that.
- Roof void above the false ceiling was not accessible.
- Very limited cracks or gaps within the walls of the building, which was generally well-plastered. Some gaps at the edge of the false ceiling where roof riles have potentially warped.
- A number of butterfly and moth wings were recorded scattered throughout the building though no bat droppings were recorded. There were numerous bird and rodent field signs.
- No internal field signs of bats recorded.

Overall the building is considered to be of low suitability








D.2.3.3 OTHER SPECIES

Rat droppings were abundant in the building and rats were evidently living in the building with numerous runs and holes recorded in the walls and in stored furniture. A variety of birds' nests were recorded including at least two swallow's nests, one blackbird nest and one woodpigeon nest. No barn owl fields signs were recorded despite careful searching.

D.2.3.4 TREES

Detailed above, there is one semi-mature elder tree and an immature willow. No potential roosting features were observed within the trees and they are therefore of negligible suitability to support roosting bats.

D.2.3.5 **OVERVIEW OF BAT SUITABILITY**

TABLE 8: OVERVIEW OF HABITATS AND SETTING[12]

	NEGLIGIBLE	LOW	MODERATE	HIGH
HABITATS AND COVER WITHIN 200M	City Centre	Open, exposed arable or pasture with no hedges, amenity grassland, or relatively built up	Hedges and trees linking site to wider countryside, mature linked gardens	Excellent cover with mature trees/ woodland and/or good hedges
HABITATS WITHIN 1KM	City Centre	Little tree cover, few hedges, arable dominated, scattered green spaces	Semi-natural habitats e.g. trees, hedgerows	Good network of woods, wetland and hedges
ALTERNATIVE ROOSTS WITHIN 1KM	City centre	Numerous alternative roosting opportunities of a similar nature	A number of similar buildings in the local area	Few alternative buildings and site of good quality for roosts
SETTING	Inner city	Urban with little green space	Lowland countryside but well-spaced with large, arable fields	Rural Lowland with woodland and trees.
DISTANCE TO WATER/ MARSH	>1km	500m-1000m	200m-500m	<200m
DISTANCE TO WOODLAND/ SCRUB	>1km	500m-1000m	200m-500m	<200m
COMMUTING ROUTES	Isolated by development, major roads, large scale agriculture	No direct potential flyways linking site to wider countryside	Some potential commuting routes to and from site	Site is well connected to surrounding area with multiple flyways

TABLE 9: OVERVIEW OF BUILDING/STRUCTURES[2]

	NEGLIGIBLE	LOW	MODERATE	HIGH
AGE (APPROX.)	Modern	Post 1940's	1900-1940	Pre 20th C
BUILDING/ COMPLEX TYPE	Industrial complex of modern design	Single, small building	Several smaller buildings, larger single structures	Traditional farm buildings, large country house, large hospital/school
BUILDING - STOREYS	N/A	Single storey	Multiple storeys	Multiple storeys with large roof voids

[12] Building and habitat risk assessment technique audited in a research project with York University which compared the risk assessment scoring with the results of detailed field assessment for over 100 sites. Statistically significant associations were found between habitat setting and building features and the presence of absence of different bat species. For example habitat connections and nearby woodland were significant for brown long-eared bats and the presence of species-rich grassland is important for many species.

TABLE 9: OVERVIEW OF BUILDING/STRUCTURES[2]				
STONE/BRICK WORK	No detectable crevices	Well pointed, limited or superficial gaps	Some cracks and crevices	Poor condition, many deep crevices, thick walls
ROOF COVERING	Modern sheet materials, tightly sealed, very well sealed roof tiles	Good condition or very open, not weatherproof, modern sheet materials, generally well-sealed roof tiles	Some potential access routes e.g. raised, slipped or missing slates or tiles, low number of gaps in bedding/end mortar	Numerous gaps, not too open, e.g. uneven stone slates, many gaps in mortar
ADDITIONAL FEATURES	None	Very limited features with potential access	Some features with low number of potential access points	Numerous or good quality gaps in features such as hanging tiles, cladding, barge boards, soffits
EXTERNAL LIGHTING	Extensive security lights covering much of the site	Widespread areas above 2 lux at night	Intermittent lights of low intensity	Minimal
BUILDING USE	Very noisy, dusty	Regular use	Intermittent use	Disused

Overall, the site is situated in an area of low-moderate suitability for bats.

Although the risk assessment table above shows varying levels of suitability in the different parameters, overall the building is generally well sealed and considered to be of only low suitability. Externally there are very few features which may offer roost sites however bats can easily access the interior of the building through the open windows and there is some limited roosting potential within some internal crevices.

D.2.4 BAT PRESENCE/ABSENCE SURVEY

D.2.4.1 DUSK SURVEY SURVEYORS, TIMINGS & CONDITIONS

Date	Start	End	Sunset	Sunset Temp (°C)	End Temp (°C)	Cloud %	Precipitation	Wind (Force)
26/06/2023	21:35	23:20	21:49	17	16	20	Dry	F2

Date	Lead Surveyor	Assistant surveyors
26/06/2023	R Thompson	G Carlin, E Chisholm

D.2.4.2 26TH JUNE 2023 DUSK SURVEY RESULTS

Survey was undertaken in very good conditions for bat survey, being warm and dry with only a mild breeze. No bat roosts were identified in the building and no bats were recorded entering the building to forage. The first bat, a noctule, was recorded at 22:21, commuting high over the north-east of the site. Following this a soprano pipistrelle was recorded at 22:22, 33 minutes after sunset at around 15Lux. It was recorded foraging across the road from the site, to the west. At this time a common pipistrelle was also recorded over the adjacent garden to the north of the site. Throughout the remainder of the survey common and soprano pipistrelle were regularly recorded commuting back and forth along the track to the south of the site, mostly to forage in the adjacent woodland belt. No bats were recorded interacting with the building and no bats were recorded near the north-east of the building, where large open windows would allow access inside.

Swallows were recorded entering the building and a barn owl foraged over an arable field off-site to the east.

The figure below provides a summary of the results of dusk emergence survey. More detailed data is available on request.

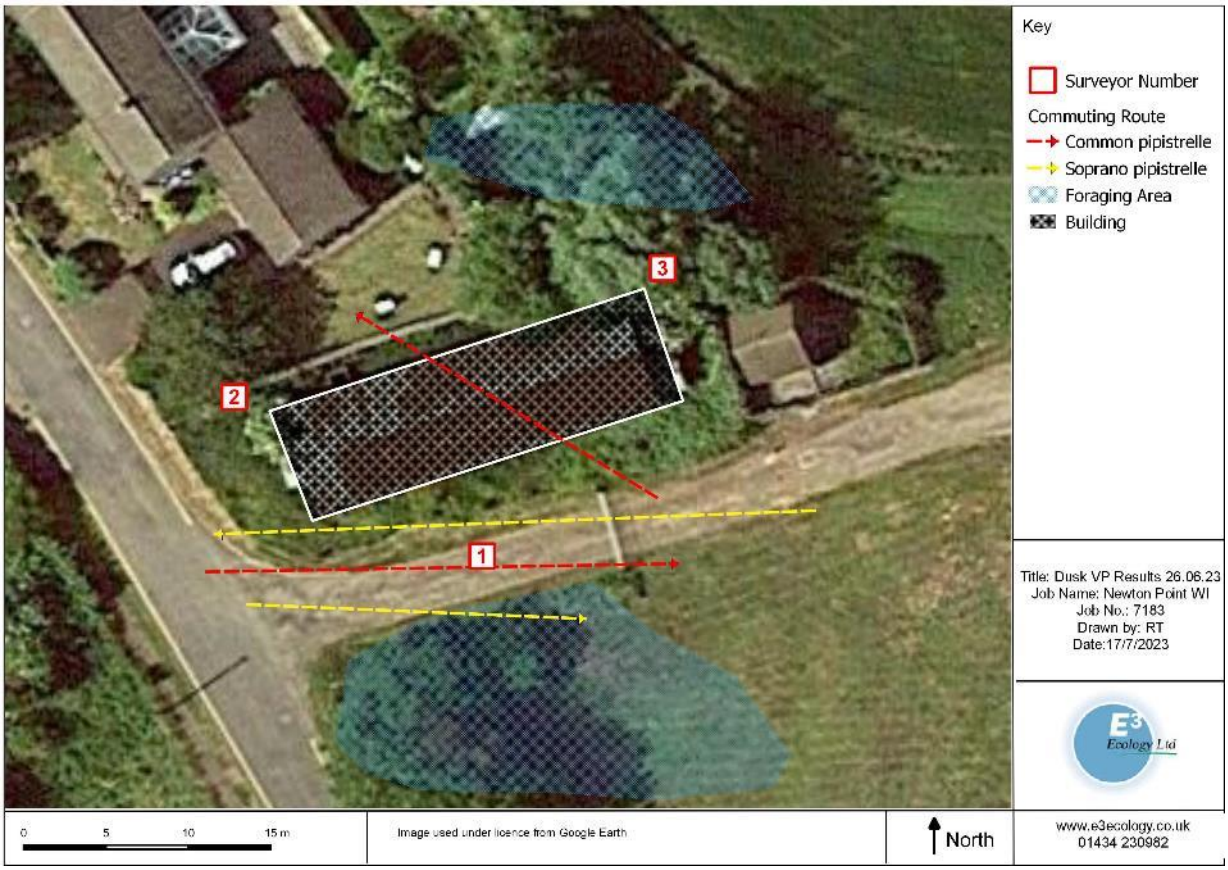

FIGURE 4: SUMMARY OF DUSK SURVEY RESULTS
(Reproduced under licence from Google Earth Pro.)

D.2.5 BAT SURVEY ASSESSMENT

The habitats on site are considered to be of low value to foraging and commuting bats.

The building is considered to be of low suitability for roosting bats. No roosts were recorded on site and bats were only recorded commuting and foraging in nearby, off-site habitats.

Hibernation use of the building is considered unlikely.

E. IMPACT ASSESSMENT & RECOMMENDATIONS

E.1 POTENTIAL IMPACTS, MITIGATION, COMPENSATION & FURTHER SURVEY

The likely impacts of the proposed development, without appropriate targeted mitigation and/or compensation, are detailed in the table below.

It should be noted that if development does not happen within 12 months of the last survey, an updating survey will be required, ideally to be undertaken between May and August.

Ecological Receptor	Impact	Mitigation
Protected Sites		
Various coastal sites	Increased recreational disturbance.	Financial contributions to the Coastal Mitigation Service.
Habitats		
Trees	Loss and damage to retained trees, including those immediately adjacent to site.	Trees will be retained where possible. Any tree removal will be compensated for through planting of new trees with a 2:1 replacement ratio. Only native species will be planted. Works will be undertaken in accordance with BS5837-2012 'Trees in relation to construction' and retained trees will be protected, including protection of roots.
Grassland	Loss and degradation during construction and operational phase.	Wildflower bulb planting will be incorporated into the landscape proposals.
Invasive species	Spread of Japanese rose and variegated yellow arch-angel on and off site.	Works will be undertaken to a precautionary invasive species method statement.
Species		
Bats	Low residual risk of harm/disturbance to bats in the unlikely event that they are present during works	Works will follow a precautionary bat method statement.
	Increased lighting affecting foraging/commuting areas potentially used by bats (and other nocturnal wildlife).	Light levels around foraging/commuting areas will be low level, below 2m in height, and low lux (below 1 lux 5m from the light source). Light spillage to areas used by foraging or commuting bats, e.g. the surrounding woodland, must be less than 2 lux. Warm-light LEDs with very low UV will be used, with cowls designed to accurately target which areas are lit. Where security lights are required, these will be of minimum practicable brightness, be set on a short timer and will be motion sensitive only to larger objects.

	Small loss of bat foraging/commuting habitat.	Landscape planting to include native plants bearing flowers, nectar and fruits which are attractive to invertebrates, thereby helping to maintain the food resource for bats and wildlife generally.
Birds	Harm/disturbance to nesting birds if building works or vegetation clearance are carried out during the bird breeding season	A pre-commencement check for nesting birds will be undertaken by a suitably experienced ornithologist if building works/vegetation clearance are undertaken between March and August inclusive.
	Loss of bird nesting opportunities of up to local value	Installation of four bird nest boxes – two each of; hole, open fronted and sparrow terrace box types. Boxes should be min 2m high and ideally north to east facing, near foraging habitat and with direct flight access. Open fronted structures such as bin and cycle stores will be accessible to swallows.
Hedgehog	Creation of barriers to hedgehog movement	Close boarded fences will be avoided, or gaps 13cm x 13cm will be provided in fences between gardens and landscaped areas to allow hedgehogs to forage and commute across the site.
Wildlife (general)	Entrapment of wildlife during construction if trenches are left open overnight	Any excavations left open overnight will have a means of escape for wildlife that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.

E.2 RESIDUAL & CUMULATIVE IMPACTS

Provided that the measures detailed in the above table are implemented, no significant residual adverse impacts are envisaged.

No cumulative impacts have been identified during the impact assessment.

E.3 MONITORING

Given the nature of the proposed mitigation and compensation strategy, no monitoring is proposed.

E.4 ADDITIONAL ENHANCEMENT RECOMMENDATIONS

The development presents an opportunity to ecologically enhance the site and it is a planning requirement to provide a net gain in biodiversity as part of the development. The following enhancements are recommended.

- Landscape planting is to be designed to enhance structural diversity and will include plants bearing flowers, nectar and fruits which are attractive to invertebrates, thereby helping to maintain food resources for wildlife in general.
- Planting of native, species-rich mixtures of scrub and trees.
- Creation of hedgehog/reptile/amphibian hibernacula or habitat piles.
- Provision of two integrated bird nesting opportunities suitable for species such as swift, house sparrow, starling, house martin and/or swallow and two bat roosting features in the new buildings on site. Bird nesting opportunities should ideally be north to east

facing and a minimum of 2m high (swift 4m+). Bat roosting features should be a minimum of 3-4m high, on gable ends or at eaves height. Both should be near suitable foraging habitat and away from windows.

Good working practice

- Timber treatments that are toxic to mammals will be avoided. If required, timber treatment will be carried out in the spring or autumn. Both pre-treated timbers and timber treatments will use chemicals classed as safe for use where bats may be present (see https://data.jncc.gov.uk/data/e5888ae1-3306-4f17-9441-51a5f4dc416a/Batwork-manual-3rd-edn.pdf - Chapter 10).

F. CONCLUSIONS

Provided that the recommendations in this report are implemented, it is anticipated that proposals may proceed with no significant adverse effect on notable species and/or habitats. Ecological enhancement opportunities include landscaping focused on biodiversity, control of non-native invasive species and bat and bird nest box provision, contributing to local and national conservation targets

APPENDICES

APPENDIX 1 – INVASIVE PLANT METHOD STATEMENT

INVASIVE PLANT METHOD STATEMENT FOR THE DEVELOPMENT OF NEWTON POINT WI BUILDING

THIS STATEMENT MUST BE COPIED TO THE SITE OWNER, DESIGNER, CLERK OF WORKS, AND TO THOSE CONTRACTORS WHOSE WORK MAY AFFECT BATS, INCLUDING THOSE INVOLVED IN ALL ELEMENTS OF THE WORK DETAILED ABOVE. A SIGNED COPY SHOULD BE KEPT AT THE SITE OFFICES.

This method statement contains information regarding:

- **Relevant legislation**
- **Species-specific background and identification**
- **and site working methods**

	Print Name	**Signature**	**Date**
Supervisor:			
Operative:			
Operative:			
Operative:			
Operative:			

We have read and fully understood this method statement and all key aspects have been explained to the site operatives.

RELEVANT LEGISLATION

Alien plant species that pose a serious threat to the UK's native flora are listed on Part II of Schedule 9 of The Wildlife and Countryside Act 1981 (Updated 2010).

Section 14 of the same Act states that if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence.

Negligent or reckless behaviour, such as inappropriate disposal of garden or building waste, where this results in a Schedule 9 species becoming established in the wild would constitute an offence.

GENERAL WORKING METHODS

- Initially works should aim to avoid areas where invasive species have been identified.
- Any polluted soil or plant material that you discard, intend to discard or are required to discard is classed as 'controlled waste' and should be accompanied by appropriate Waste Transfer documentation.
- Invasive species should be disposed of in a licensed, lined landfill site. Be sure that you notify your waste haulier that the waste to be removed contains the species in question. You should also contact the landfill site several days before any invasive material is taken there to allow a suitable area to be prepared for its disposal.
- All haulage lorries or dumpers carrying the invasive species/polluted material should be covered.
- All site operatives should be made aware of the requirements associated with the removal/disposal of this species in order to help limit accidental spread.
- Anyone planning to spray a herbicide must be "competent in their duties and have received adequate instruction and guidance in the safe and efficient use of pesticides." This means that the person who will be undertaking the spraying must hold a Certificate of Competence for herbicide use or should work under the direct supervision of a certificate holder. A Certificate of Technical Competence can be obtained by attending a short course at an agricultural college or similar institution.

VARIEGATED YELLOW ARCHANGEL

Background

Variegated yellow archangel (*Lamiastrum galeobdolon subsp. agentatum*) is a garden variety of the native woodland wildflower, yellow archangel (*L. galeobdolon).* It first appeared in the 1970's and has since become widespread. It prefers damp and shady places and it grows via rooting runners that spread across the ground. This plant can be easily identified by its green variegated leaves, with silvery-white bands or patterns. The leaves are hairy with toothed margins, growing in opposite pairs. Flowers are yellow with hoods on top and lips below, while the flowering stalks are around 30cm in height.

Variegated yellow archangel spreads by seeds and long runners which root at the nodes. It can dominate habitats, forming dense mats of vegetation, outcompeting and covering native species.

5: SILVER AND GREEN LEAVES

6: YELLOW FLOWERS IN SUMMER

7: FORMS DENSE PATCHES

8: CARPET-LIKE SPREAD ON SITE

Site details

North of the building on site there is a narrow strip of habitat between the building and a small wall. This habitat is largely dominated by common nettle and variegated yellow arch-angel, which forms a dense mat, especially towards the east.

Species-specific Working Methods

- The plant can be sprayed using an appropriate glyphosate based herbicide. This should be carried out while the plant is actively growing (e.g. from April to June) to achieve maximum effectiveness. Soil movement should not be attempted until no plants, runners or roots remain in a viable condition.
- Alternatively, as this plant has shallow roots, it can be pulled or mechanically removed, though care must be taken to remove all of the plant material, including runners and roots, which can break off easily when disturbed. These fragments have the potential to propagate and form new growths.

- Areas with variegated yellow archangel should be clearly marked out on site. Areas that do not need to be disturbed during the works should be fenced off, allowing a buffer of at least two metres to allow for the likely extent of the roots.
- Use of tracked machinery should be limited until areas polluted with variegated yellow archangel have been cleared and/or identified and cordoned off.
- If tracked machinery must be used in areas where variegated yellow archangel is known to be present, then consider using a strong geotextile overlain with hardcore as a base for vehicles to travel on.
- Never stockpile potentially polluted material within 10 metres of a watercourse.
- On leaving areas of the site known to contain variegated yellow archangel, any tracked machinery that has been used should be thoroughly cleaned within a designated area. This area should be as close as possible to the polluted area on which the machinery has been working to avoid the spread of the species. This area should be monitored in the spring for variegated yellow archangel growth and a spraying/mechanical control programme implemented if necessary. Any machinery used in clearing polluted areas should be similarly cleaned.
- Care should be taken to ensure that polluted material is not dropped or transferred to other areas of the site.
- Never use a strimmer, mower (without collection bucket) or chipper on variegated yellow archangel material.

JAPANESE ROSE

Also Known As
Beach Rose, rugose rose, Ramanas rose, beach tomato, saltspray rose or letchberry

Background
Japanese rose, *Rosa rugosa,* is a species of rose native to eastern Asia where it is commonly found on beaches and sand dunes. It was first brought to the UK in 1796 as an ornamental plant and is still commonly planted today as part of shrub beds.

The leaves are roughly oval in shape and are wrinkled (latin, *rugosa)* on top. The flowers tend to be large and sweet smelling, though relatively basic in structure compared to other garden roses. Usually deep-pink in colour the flowers can vary in shades of pink and white. The stems are densely covered in short prickles. The hips resemble cherry tomatoes and are much more rounded and squat than the native dog rose *Rosa canina.*

The shrub suckers with new plants forming from the roots that spread beneath the ground. This means that it can quickly form large, dense thickets up to 1-1.5m in height. These growths are largely impenetrable and will crowd out native flora.

9: DENSELY THORNY STEMS

10: FORMS LARGE, DENSE SHRUBS

11: BRIGHT GREEN, OVAL LEAVES WITH PINK FLOWERS

Site details

To the south of the building, alongside the access track, is a large thicket of Japanese Rose.

Species-specific Working Methods

- If aiming to remove the species; small, individual plants can be removed by hand, ideally before seed heads develop to prevent further spread, although most growth and spread is by rhizomes.
- Larger plants or groups of plants can be removed with mechanical equipment, with the roots dug out. It is essential that the stumps and roots are completely removed, as both can re-sprout. In such a situation it pays to remove too much material – which can involve clearing the area 2m around the plant to a depth of 1m, in order to ensure that the entire root system has been removed.

- This species can be treated with glyphosphate to control spread. Smaller plants can be sprayed directly while larger individuals should be mechanically cut to the stump with the stump then painted with glyphosphate.

In case of queries please contact the project ecologists E3 Ecology Ltd 01434 230982.

APPENDIX 2 - COPYRIGHT, CONFIDENTIALITY & LIABILITY

Copyright to all written or recorded work howsoever held on whatever medium is vested in E3 Ecology Ltd. On settlement of all agreed fees, written work produced specifically for the named clients is thereafter regarded as joint copyright between the named client and E3 Ecology Ltd for the specific purposes for which the report was produced. No attempts should be made to reproduce any element of this report for commercial or other purposes, without explicit written permission from E3 Ecology Ltd.

Subject to the clause below, the consultant agrees to keep all the information obtained from the client confidential where the client so specifies in writing, except where such information is known to the consultant already or exists already in the public domain until (i) the information enters the public domain; (ii) the consultant is given the same information by a third party; (iii) the consultant is released from its confidentiality requirement by the client; or (iv) 3 years have elapsed since the formation of the contract.

The consultant may disclose in whole or in part any information or knowledge obtained from the client to a third party where required by law, court order or any governmental or regulatory authority. If the consultant becomes aware or has a reasonable belief that the client or any director, officer, agent, employee or subcontractor of the client has breached or is likely to breach any legislation, regulation, court order, or term or condition of any licence permit or consent ('licences'), the consultant shall be entitled to bring all relevant details, as the consultant sees fit, to the attention of the relevant authority, including the police or the statutory nature conservation body. The consultant shall also be entitled to request the relevant authority to remove the name of any officer, director or employee of the consultant from any licence on which they appear.

This report has been prepared by E3 Ecology Ltd and contains opinions and information produced with all reasonable skill, care and diligence within the terms of the Contract with the client. Any recommendation, opinion or finding stated in this report is based on circumstances and facts as they existed at the time that E3 Ecology Ltd performed the work. No explicit warranty is made in relation to the content of this report. E3 Ecology Ltd assumes no liability for any loss resulting from errors, omissions or misrepresentation made by others.

This report has been prepared for the exclusive use of the commissioning party and, unless otherwise agreed by E3 Ecology Ltd or the commissioning party, no other party may use, make use of or rely on the contents of the report. No liability is accepted by E3 Ecology Ltd for any use of this report, other than for the purposes for which it was originally prepared and provided.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

The contents and layout of this report are subject to copyright owned by E3 Ecology Ltd save to the extent that copyright has been legally assigned to us by another. It may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in this report.

APPENDIX 3 - PLANNING POLICY AND LEGISLATIVE CONTEXT

NATIONAL PLANNING POLICY

The table below details the key paragraphs from the National Planning Policy Framework (NPPF)[13] relating to the natural environment:

TABLE 10: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	**Paragraph**
Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate	*174*
Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework[14]; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.	*175*
Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads[15]. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.	*176*
When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development[16] other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of: a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy; b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated	*177*
Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 176), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.	*178*

[13] National Planning Policy Framework (July 2021), Department for Communities and Local Government,
[14] Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.
[15] English National Parks and the Broads: UK Government Vision and Circular 2010 provides further guidance and information about their statutory purposes, management and other matters.
[16] For the purposes of paragraphs 177 and 178, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

TABLE 10: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	**Paragraph**
To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity[17]; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation[18]; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.	*179*
When determining planning applications, Local Planning Authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons63 and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.	*180*
The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites[19]; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.	*181*
The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.	*182*

Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity.

Planning Practice Guidance[20] states:

- Planning authorities need to consider the potential impacts of development on protected and priority species, and the scope to avoid or mitigate any impacts when considering site allocations or planning applications. (para. 016)
- Information on biodiversity and geodiversity impacts and opportunities needs to inform all stages of development (including site selection and design, pre-application

[17] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
[18] Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.
[19] Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.
[20] Planning Practice Guidance: Natural Environment (www.planningguidance.communities.gov) Updated July 2019

consultation and the application itself). An ecological survey will be necessary in advance of a planning application if the type and location of development could have a significant impact on biodiversity and existing information is lacking or inadequate. (para. 018)

- Even where an Environmental Impact Assessment is not needed, it might still be appropriate to undertake an ecological survey, for example, where protected species may be present or where biodiverse habitats may be lost. (para. 018)
- As with other supporting information, Local Planning Authorities should require ecological surveys only where clearly justified. Assessments should be proportionate to the nature and scale of development proposed and the likely impact on biodiversity. (para. 018)
- The National Planning Policy Framework encourages net gains for biodiversity to be sought through planning policies and decisions. Biodiversity net gain delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. Biodiversity net gain can be achieved on-site, off-site or through a combination of on-site and off-site measures. (para. 022)

PROTECTED SPECIES LEGISLATION

The table below details the relevant legislation for the protected species covered within the scope of the survey.

TABLE 11: SUMMARISED SPECIES LEGISLATION

Species	Relevant Legislation	Level of Protection
Bats (All species)	• Protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Classified as protected species under The Conservation of Habitats and Species Regulations 2017 (as amended) • Bats are also protected by the Wild Mammals (Protection) Act 1996	The WCA (1981) and The Conservation of Habitats and Species Regulations 2017 (as amended) make it an offence to: • Intentionally kill, injure, or take any species of bat • Intentionally or recklessly disturb bats • Intentionally or recklessly damage destroy or obstruct access to bat roosts
Otter	• Protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Classified as protected species under The Conservation of Habitats and Species Regulations 2017 (as amended) • Otters are also protected by the Wild Mammals (Protection) Act 1996	The WCA (1981) and The Conservation of Habitats and Species Regulations 2017 (as amended) make it an offence to: • intentionally kill, injure, or take otters • intentionally or recklessly disturb otters • intentionally or recklessly amage destroy or obstruct access to otter holts or any place used by the animal for shelter or protection
Great Crested Newt	• Protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Classified as protected species under The Conservation of Habitats and Species Regulations 2017 (as amended)	The WCA (1981) and The Conservation of Habitats and Species Regulations 2017 (as amended) make it an offence to: • intentionally kill, injure, or take great crested newts • intentionally or recklessly disturb great crested newts • intentionally or recklessly damage destroy or obstruct access to any place used by the animal for shelter or protection
Red Squirrel	• Full protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Red squirrels are also protected by the Wild Mammals (Protection) Act 1996	The WCA (1981) makes it an offence to: • intentionally kill, injure, or take red squirrels • intentionally or recklessly damage destroy or obstruct access to any place used by the animal for shelter or protection or disturb red squirrels whilst they are using such a place.

TABLE 11: SUMMARISED SPECIES LEGISLATION		
Species	**Relevant Legislation**	**Level of Protection**
Birds	• Protection under the Wildlife and Countryside Act (1981) as amended with the exception of some species listed in Schedule 2 of the Act	The WCA (1981) makes it an offence to (with exceptions for certain species): • Intentionally kill, injure or take any wild bird • Intentionally take, damage or destroy nests in use or being built (including ground nesting birds) • Intentionally take, damage or destroy eggs • Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst they are at their nests
White-clawed Crayfish	• Partially protected by the Wildlife and Countryside Act (1981)	The WCA (1981) makes it an offence to: • Take a white-clawed crayfish from its habitat • Sell, offer for sale, advertise for sale, possess or transport for the purposes of selling any live or dead white clawed crayfish
Badger	• Protection of Badgers Act 1992 • Badgers are also protected by the Wild Mammals (Protection) Act 1996	The Protection of Badgers Act (1992) makes it an offence to intentionally or recklessly: • Damage a badger sett or any part of it • Destroy a badger sett • Obstruct access to, or any entrance of a badger sett • Disturb a badger whilst it is occupying a badger sett
Water Vole	• Full protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Water voles are also protected by the Wild Mammals (Protection) Act 1996	The WCA (1981) makes it an offence to: • intentionally kill, injure, or take water voles • intentionally or recklessly damage destroy or obstruct access to any place used by the animal for shelter or protection or disturb water voles whilst they are using such a place
Common reptiles (Slow-worm, Adder, Grass Snake, Common Lizard)	• Partially protected by the Wildlife and Countryside Act	The WCA (1981) makes it an offence to: • intentionally kill or injure these animals • sell, offer for sale, advertise for sale, possess or transport for the purposes of selling any live or dead animals or part of these animals
Under the Countryside and Rights of Way Act 2000 (CROW Act) the offence in section 9(4) of the Wildlife and Countryside Act 1981 of damaging a place of shelter or disturbing those species given full protection under the act is extended to cover reckless damage or disturbance.		

INVASIVE SPECIES LEGISLATION

The table below details the legislation in relation to invasive species and lists those invasive species most likely to be found in this region.

TABLE 12: SUMMARISED INVASIVE SPECIES LEGISLATION		
Relevant Legislation	**Description of Offence**	**Species** *(Covered by the Legislation and most likely to be found in this Region)*
Listed on Part II of Schedule 9 of the Wildlife and Countryside Act (1981 as amended)	Section 14 of the WCA (1981) states: • if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an	Himalayan balsam Cotoneaster Montbretia Japanese knotweed Giant hogweed

TABLE 12: SUMMARISED INVASIVE SPECIES LEGISLATION		
Relevant Legislation	**Description of Offence**	**Species** *(Covered by the Legislation and most likely to be found in this Region)*
	offence.	Rhododendron Pirri-pirri bur New Zealand pygmyweed Giant rhubarb Japanese rose

PROTECTED SITE LEGISLATION

CONTEXT IN REGARD TO THE UK'S EXIT FROM THE EUROPEAN UNION

As of 1st January 2021, the UK is no longer bound by the Birds Directive and Habitats Directive. However, the Conservation of Habitats and Species Regulations still applies, which formerly acted to transpose the Birds Directive and the Habitats Directive into English and Welsh law. These are still referred to below for contextual purposes, as designated site citations and conservation objectives may not have been updated following the changes to applicable legislation and may still refer to the Directives.

STATUTORILY DESIGNATED SITES

Ramsar Site

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention recognises wetlands as important ecosystems and includes a range of wetland types from marsh to both fresh and salt water habitats. The wetlands can also include additional areas adjacent to the main water-bodies such as river banks or coastal areas where appropriate.

Special Protection Area (SPA)

SPAs are classified by the UK Government under the EC Birds Directive and comprise areas which are important for both rare and migratory birds.

Special Areas of Conservation (SAC)

SACs are designated under the EC Habitats Directive and are areas which have been identified as best representing the range and variety of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 unless they are offshore.

Sites of Special Scientific Interest (SSSI)

SSSIs are designated as sites which are examples of important flora, fauna, or geological or physiographical features. They are notified under the Wildlife and Countryside Act 1981 with improved provisions introduced by the Countryside and Rights of Way Act 2000.

National Nature Reserve (NNR)

NNRs are designated by Natural England under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 and support important ecosystems which are managed for conservation. They may also provide important opportunities for recreation and scientific study.

Country Parks

Country Parks are statutorily designated and managed by local authorities in England and Wales under the Countryside Act 1968. They do not necessarily have any nature conservation importance, but provide opportunities for recreation and leisure near urban areas.

Local Nature Reserves (LNR)

LNRs are designated under the National Parks and Access to the Countryside Act 1949 by local authorities in consultation with Natural England. They are managed for nature conservation and used as a recreational and educational resource.

NON-STATUTORILY DESIGNATED SITES

Non-Governmental Organisation Property

These are sites of biodiversity importance which are managed as reserves by a range of NGOs. Examples include sites owned by the RSPB, the Woodland Trust and the Wildlife Trusts.

Local Wildlife Site (LWS)

These are sites defined within the local plans under the Town and Country Planning system and are material considerations of any planning application determination. They are designated by the local authority although criteria for designation can vary between authorities.

PRIORITY SPECIES

Although not afforded any legal protection, national priority species (species of principal importance, as listed in Section 41 of the NERC Act (2006)), and local and regional priority species, as detailed within the relevant biodiversity action plans, are material considerations in the planning process and as such have been assessed accordingly within this report.

The tables below detail the species/species groups and habitats listed as priorities within the biodiversity action plans of the main Local Planning Authorities' within the north-east of England.

TABLE 13: BIODIVERSITY ACTION PLANS

Northumberland Biodiversity Action Plan

Species			**Habitats**		
Barn Owl	Bats	Black Grouse	Blanket Bog	Built Environment	Brownfield Land
Coastal Birds	Common Seal	Dingy Skipper	Calaminarian Grassland	Coastal heathland	Fen, Marsh & Swamp
Dormouse	Farmland Birds	Freshwater Fish	Gardens & Allotments	Heather Moorland	Lowland Heathland
Freshwater Pearl Mussel	Garden Birds	Great Crested Newt	Lowland Meadows & Pastures	Maritime Cliffs & Slopes	Native Woodland
Grey Seal	Hedgehog	Otter	Ponds, Lakes & Reservoirs	Recreational & Amenity Space	Reedbed
Red Squirrel	River Jelly Lichen	Upland Waders	Rivers & Streams	Rocky Shore, Reefs & Islands	Saline Lagoons
Violet Crystalwort	Water Rock-bristle	Water Vole	Saltmarsh & Mudflat	Sand Dunes	Transport Corridors
White-Clawed Crayfish			Trees & Hedgerows	Upland Hay Meadows	Whin Grassland