Ecological Impact Assessment
Harton Quay, South Shields

December 2020
Final

E3 Ecology Ltd
Pasture House, Wark, Hexham, Northumberland, NE48 3DG
01434 230982
www.e3ecology.co.uk
mail@e3ecology.co.uk

CLIENT	Ryder Architecture
PROJECT NAME	Harton Quay
PROJECT NUMBER	6428

LEAD AUTHOR	Mike Perkins
POSITION	Senior Ecologist
CONTACT DETAILS	**Mike.Perkins@e3ecology.co.uk**

REPORT VERSION	STATUS	DATE	CHANGES	AUTHOR	PROOF READ	APPROVED
R01	Final	October 2020	1st Issue	MP	JW	DG

CONTENTS

TABLES

FIGURES

A. SUMMARY

E3 Ecology Ltd was commissioned by Ryder architecture in October 2020 to undertake an Ecological Impact Assessment (EcIA) for the proposed development of land at Harton Quay, South Shields.

It is proposed to construct a new office block at the north of the site with associated soft and hard landscaping.

The site lies 1.5-1.6km west of the Northumbria Coast Special Protection Area (SPA & Ramsar Site), Northumberland Shore Site of Special Scientific Interest (SSSI) and the Durham Coast SSSI. The site falls within the impact risk zones of these nationally and internationally protected coastal sites and the terms are relevant for this development. As such, the Local Planning Authority (LPA) will be required to consult with Natural England on the application. Given the type of development and the location, no direct or indirect impacts on these site are anticipated and as such, no report to inform an Appropriate Assessment is considered necessary. The River Tyne Local Wildlife Site (LWS) is located on the north bank of the Tyne adjacent to the site. No impacts on this non-statutory site are anticipated.

The Phase 1 Habitat Survey of the site found the site comprises a partially enclosed area of bare ground, ephemeral / short perennial habitat and poor semi-improved grassland with some scattered tall ruderal vegetation. Two structures are present within the site boundary; a Victorian chimney and a modern electricity sub-station. A brick wall is also present at the east of the site. All of these are being retained. Overall, habitats on site are considered to be of largely low habitat value, with the ephemeral habitats being of local value.

A small range of typically urban bird species will likely utilise the site, with habitats providing a small foraging resource. Ground nesting is considered unlikely although the interior of the chimney may provide a nesting opportunity if this is still open. Given the small size of the site and the habitats present, overall the site is likely to be of low value to bird species.

Of the structures on site, potential bat roosting features are limited to a single gap in the barge board of the northern aspect of the sub-station and some very shallow gaps in the brickwork of the wall. The chimney appears well-sealed, although it is unknown if the flue remains open at the top allowing bat access into the interior. Overall, the structures are considered to be of negligible to low roosting suitability, whilst the habitats present are likely to provide a small area of low suitability foraging habitat to bats in the local area. The site is therefore likely to be of low value to bats overall.

The priority species hedgehog may be present on the site on occasion. Should this be the case, the site is likely to be of no more than local value to this species. No other protected or priority species are likely to be significantly affected by the proposed development.

Potential impacts of the development include:

- Loss of habitats of at most local habitat value, but largely of low habitat value.
- Disturbance to any commuting/foraging bats and nesting birds in the local area due to potential increased light spill post development.
- Potential pollution impacts on the River Tyne during enabling and construction phases.
- Low risk of harm to hedgehog and other mammals through becoming trapped in any excavations that remain open overnight.

Key mitigation measures include:

- Increased lighting will be avoided wherever possible. Should security lighting be required within the new development, this will be low lumen and directed away from any adjacent vegetation.
- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- Works will be undertaken to Environment Agency good practice guidelines to prevent pollution of the Tyne.
- The landscape planting will be designed to enhance structural diversity, and will include plants bearing flowers, nectar and fruits which are attractive to invertebrates, thereby helping to maintain the food resource for bats and wildlife generally.

The local planning authority and Natural England are likely to require the means of delivery of the mitigation to be identified. It is recommended that mitigation and enhancement proposals are incorporated into the planning documents.

If development does not happen within 12 months of this report, an updating survey will be required, ideally to be undertaken between May and August.

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 Ryder Architecture in October 2020 to undertake an Ecological Impact Assessment (EcIA) of land at Harton Quay, South Shields.

The purpose of this report is:

- To identify and describe all potentially significant ecological effects associated with the proposed development
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects
- To identify how mitigation measures will/could be secured
- To provide an assessment of the significance of any residual effects
- To identify appropriate enhancement measures

The site is located on the river front in South Shields at an approximate central grid reference of NZ359669.

The figures below illustrate firstly the site 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 SETTING
(Reproduced under licence from Google Earth Pro.)

It is proposed to construct a new office block at the north of the site with associated soft and hard landscaping. The development footprint of the office block encompasses only the north of the site.

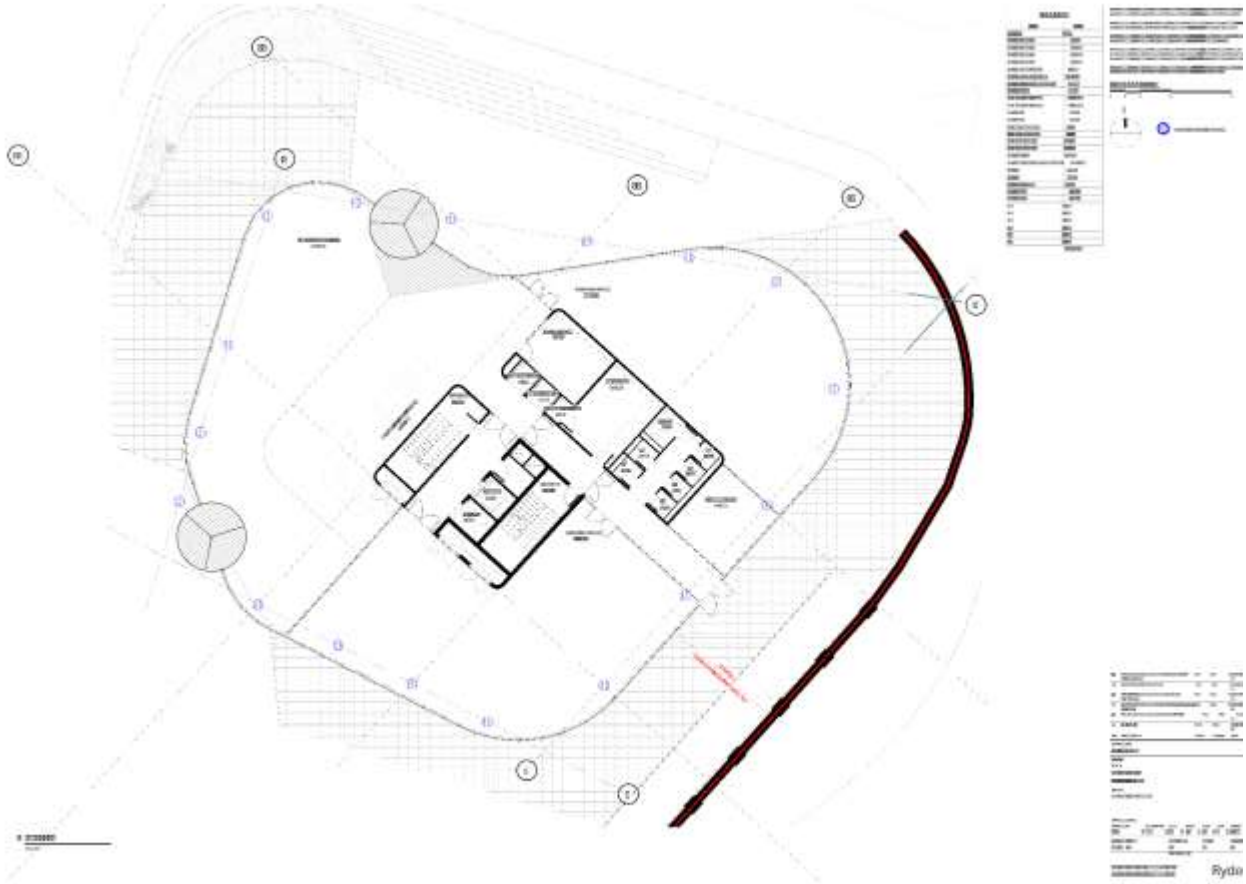

FIGURE 3: DEVELOPMENT PROPOSALS

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 figure in section B. 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
- Species and/or habitats listed in relevant local biodiversity action plans

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 October 2020, requesting data relating to protected or otherwise notable species and non-statutory sites for nature conservation 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.

C.3 PRELIMINARY FIELD SURVEY METHODOLOGY

C.3.1 PHASE 1 HABITAT SURVEY

C.3.1.1 *SURVEY METHODS*

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.

[1] MAGIC Website: www.magic.gov.uk
[2] Handbook for Phase 1 habitat survey, A Technique For Environmental Audit, JNCC, 2010

C.3.2 PRELIMINARY PROTECTED AND PRIORITY SPECIES APPRAISAL

C.3.2.1 *SURVEY METHODS*

Where there is a risk of legally protected species and/or otherwise notable species[3] being present, an initial appraisal was completed to inform the proposals. This appraisal included the following key elements:

- Structures and trees were assessed for the risk of supporting roosting bats (see below).
- Wetlands, where present, were reviewed for their potential use by great crested newt, otter and water voles,
- If present, any trackways regularly used by badger were noted and any badger sett usage assessed by the presence of freshly dug earth or bedding at the entrance.
- The suitability of the suite of habitats present for use by reptiles was assessed.
- Likely use of the site by birds was assessed from the species seen during the survey, and the habitats present.
- Potential use by otherwise notable species was determined based on the broad habitat types present on site, any recent records obtained through the desk study and the geographical distribution of the species. Where specific habitat requirements for notable species have been recorded on site these have been noted, and used as part of this appraisal. The species groups assessed are limited to birds, freshwater fish, amphibians, reptiles, terrestrial mammals, butterflies and dragonflies.

A preliminary assessment, based on inspection from within the site boundary, was made of any trees affected by the proposed development. Trees were inspected and assessed for their potential to support roosting bats and were categorised as negligible, low, moderate or high suitability for roosting bats based on guidelines provided within the Bat Conservation Trust Bat Survey: Good Practice Guidelines[4] and detailed within the table below.

TABLE 1: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF ROOSTING HABITAT FEATURES (TREES)
(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)

Suitability	Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A 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 tree with one or more potential roost site 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.

The assessment is based upon the age and species of the tree, the presence of features with potential to support roosting bats and the location of the tree and habitats present in the surrounding area. Any potential roosting locations and field signs that could indicate bat use, such as droppings, staining and scratch marks were noted.

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

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.

C.3.3 DAYTIME BAT RISK ASSESSMENT (STRUCTURES)

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

Structures were inspected externally only, as no internal access was possible for the two structures on site (Building 1 (chimney) has no external door and Building 2 is a sealed sub-station).

The building was examined for potential roost access points indicated by clean crevices, urine marks, polished wood or stonework and droppings. Particular attention was given to sheltered areas under the eaves of buildings and window ledges.

Structures were categorised as having negligible, low, moderate or high suitability to be used by roosting bats, based on guidelines provided by the Bat Conservation Trust[5] and detailed within the table below.

TABLE 2: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF ROOSTING HABITAT FEATURES (STRUCTURES)
(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 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).
Moderate	A structure 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 structure with one or more potential roost site 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 comments on the state of the structures within the site 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. For example, descriptions of walls and roofs being in 'good' or 'poor condition' relate to likely provision of roost sites for bats, potential access routes to roost sites, and likely persistence of field signs such as droppings and feeding remains, which will not persist in exposed conditions. Maternity roosts are less likely to be present in cool, exposed, damp and draughty locations which may develop in a building in poor condition.

C.3.4 PRELIMINARY SURVEY - EQUIPMENT

- Clulite CB2 high powered torch
- 8 x 32 binoculars
- Digital camera
- Extendable ladders

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

C.3.5 PRELIMINARY SURVEY – DATES & ENVIRONMENTAL CONDITIONS

TABLE 3: DAYTIME SURVEY CONDITIONS				
DATE	TEMPERATURE	CLOUD COVER	PRECIPITATION	WIND CONDITIONS
16.10.20	12°C	100%	Dry	F0

C.4 PERSONNEL

The table below details the personnel who undertook the survey work.

TABLE 4: PERSONNEL			
Name	**Position**	**Professional Qualifications**	**Natural England Survey Licence Numbers**
Mike Perkins	Senior Ecologist	BSc MSc ACIEEM	2015-5121-CLS-CLS (GCN*), 2018 34088 CLS CLS (Bats)

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

C.5 SURVEY CONSTRAINTS

The survey was undertaken at a time of year which is sub-optimal for the identification of some plant species. However, given the habitats present this is not considered to be a significant constraint to the assessment.

Internal access was not possible for the substation and chimney. However, it is still considered that a sufficient assessment could be carried out from the exterior.

C.6 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 the Chartered Institute of Ecology and Environmental Management[6], 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 habitat of principal importance annexed to the NERC Act (2006) and those provided within relevant local Biodiversity Action Plans. Data 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**

6 Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

TABLE 5: ECOLOGICAL RECEPTOR VALUATION	
Level of Value	**Examples**
International	An internationally designated site or candidate site.
	A site meeting criteria for international designation.
	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.
	The site is of functional importance* to a species population with nationally important numbers (i.e. >1% of the national population)
Regional	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
	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
	The site is of functional importance* to a species population of district value (i.e. >1% of the district population)
Parish	A species population considered to appreciably enrich the nature conservation resource within the context of the parish.
	Local Nature Reserves
Local	A species population that contributes to local biodiversity but are not exceptional in the context of the parish.
Low	Habitats that are unexceptional and common to the local 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',*	

D. RESULTS

D.1 DESKTOP STUDY

D.1.1 PRE-EXISTING INFORMATION

ORDNANCE SURVEY MAPPING AND AERIAL PHOTOGRAPHY

The figures in Section B show that the general land use in the surrounding area is urban with industrial and commercial buildings within South Shields and a small historic area of the port to the immediate south.

The most recent aerial photograph of the site (2020) indicates that habitats on site are dominated by bare ground and grassland and two small structures. Historic imagery suggests that the site has been unchanged since at least 2001. Historically, the site was a glassworks, of which only a single chimney remains.

MAGIC WEBSITE[7]

The table below details the internationally and nationally statutorily designated sites within 2km of the survey area.

TABLE 6: DESIGNATED SITES

Designation	Site Name	Reason for Designation	Distance from Survey Area
Ramsar	Northumberland Coast	Populations of European importance of the following species listed on Annex I of the Directive: Breeding Artic Tern and Little Tern and non-breeding Turnstone and Purple Sandpiper.	~1.5km
Special Protection Area	Northumberland Coast	Populations of European importance of the following species listed on Annex I of the Directive: Breeding Artic Tern,and Little Tern and non-breeding Turnstone and Purple Sandpiper.	~1.5km
Site of Special Scientific Interest	Northumberland Shore	The Northumberland Shore includes most of the coastline between the Scottish border and the Tyne Estuary. This complements the Lindisfarne SSSI, which it abuts, in providing important wintering grounds for shore birds, and it is of international, or national significance for six species, purple sandpiper, turnstone, sanderling, golden plover, ringed plover and redshank.	~1.6km
	Durham Coast	The Durham Coast between South Shields and Hart Warren is of considerable biological, geological and physiographic interest. It contains most of the paramaritime Magnesian Limestone vegetation in Britain, as well as a species-rich dune system, and supports nationally important numbers of wintering shore birds and breeding little terns which contribute to the internationally important populations of the north-east coast[8]	~1.5km

[7] Multi Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk
[8] https://necmsi.esdm.co.uk/PDFsForWeb/Citation/1000255.pdf

In addition, the Durham Coast Special Area of Conservation (SAC), designated for vegetated sea cliffs on magnesian limestone, is located 2.34km south east of site.

The development site falls within a SSSI impact risk zone for this type of development and the LPA will be required to consult with Natural England on the application.

D.1.2 CONSULTATION

LOCAL RECORD CENTRE

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

TABLE 7: CONSULTATION RECORDS

Taxon/Species	No. of Records within Search Area	Minimum distance from site (m)/Records of Particular Note
Amphibian		
Common Frog	1	
Bird		
Curlew	15	~2000
House Sparrow	8	575
Lapwing	10	1720
Starling	19	On site
Tree Sparrow	2	
Insect - Butterfly		
Dingy Skipper	8	300
Small Heath	2	~2000
Wall	38	600
Marine mammal		
Bottle-Nosed Dolphin	1	~2000
Common Seal	2	1550
Grey Seal	45	500
Terrestrial mammal		
Common Pipistrelle	8	1500
Eastern Grey Squirrel	13	720
Eurasian Red Squirrel	3	1980
European Otter	2	1040
Nathusius' Pipistrelle	1	~2000
West European Hedgehog	16	1120

In addition, the records centre provided information relating to the following non-statutory designated sites which lie within the search area:

- River Tyne Tidal Extent Local Wildlife Site (LWS)- on the north bank of the Tyne
- Jarrow Slake Mud Flats LWS
- Northumberland Dock LWS
- Chirton Dene Park Site of Local Conservation Interest (SLCI)
- South Shields Dunes LWS

- South Marine Park Lake LWS

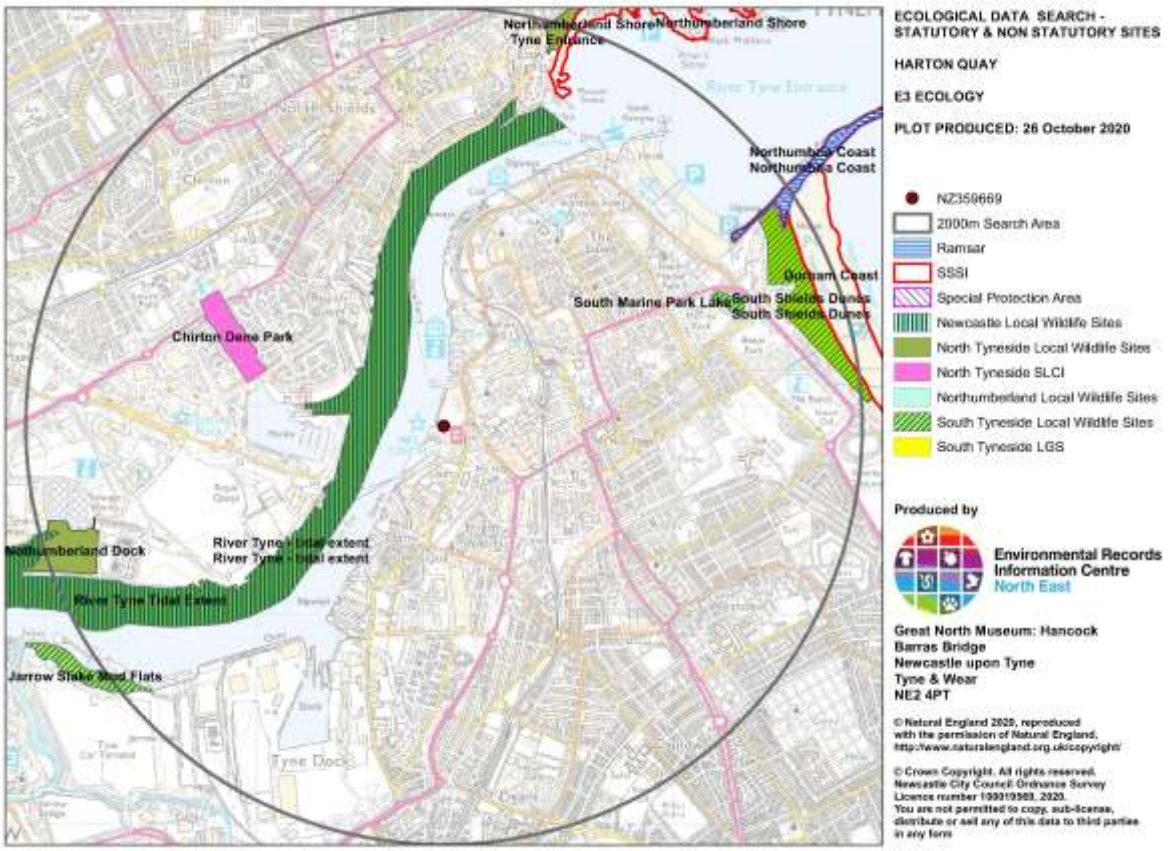

FIGURE 4: STATUTORY & NON –STATUTORY SITES (PROVIDE BY ERIC)

D.2 FIELD SURVEY

D.2.1 HABITATS

The site comprises a partially enclosed area of bare ground, species-poor ephemeral / short perennial habitat and poor semi-improved grassland with some scattered tall ruderal. Two structures are present at the west of the site, one historic chimney and a second modern electricity substation, with a wall at the eastern boundary.

The habitats present within the survey area are illustrated within the figure below and described in more detail below.

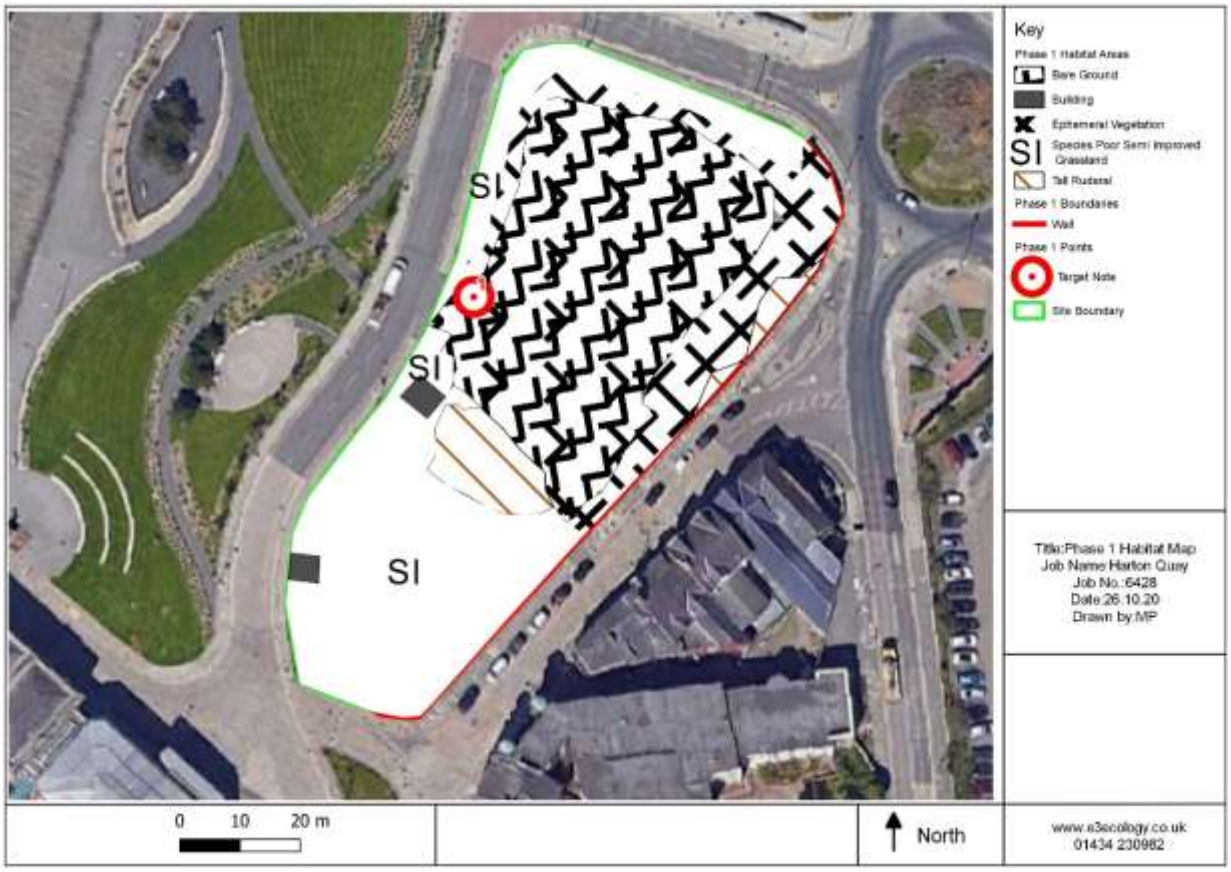

FIGURE 5: HABITAT MAP
(Reproduced under licence from Google Earth Pro.)

BARE GROUND

Much of the north of the site comprises cleared bare ground with very occasional scattered ephemeral plants.

EPHEMERAL / SHORT PERENNIAL HABITAT

At the north of the site and at the east, bare ground grades into a thin strip of ephemeral / short perennial habitat. Bare ground is still a major constituent of this habitat and makes up approximately 50% of the area. Species present include yellow wort (*Blackstonia Perfoliata*), red clover (*Trifolium pratense*), prickly sow thistle (*Sonchus asper*), red fescue (*Festuca rubra*), ragwort (*Jacobaea vulgaris*), fleabane sp. (*Erigeron* sp.), bristly ox tongue (*Helminthotheca echioides*), *Buddleia* sp., mugwort (*Artemisia vulgaris*), creeping cinquefoil (*Potentilla reptans*), scentless mayweed (*Tripleurospermum inodorum*), rape (*Brassica napus*) and groudsel (*Senecio vulgaris*).

POOR SEMI-IMPROVED GRASSLAND

A large area of this habitat is present at the south, whilst at the north, ephemeral / short perennial habitats, grade into a thin strip of semi-improved grassland, with bare ground absent from this section of habitat. Species present include ribwort plantain (*Plantago lanceolata*), bush vetch (*Vicia sepium*), common vetch (*Vicia Sativa*), perennial rye (*Lolium perenne*), red fescue (*Festuca rubra*), Yorkshire fog (*Holcus lanatus*), red clover, coltsfoot (*Tussilago farfara*), creeping thistle (*Cirsium arvense*), field speedwell (*Veronica persica*), lesser trefoil (*Trifolium dubium*), smooth sow thistle (*Sonchus oleraceus*), dove's foot cranesbill (*Geranium molle*), broad-leaved dock (*Rumex obtusifolius*) and yarrow (*Achillea millefolium*).

TALL RUDERAL

At the centre of the site and in patches along the eastern boundary, small pockets of tall ruderal vegetation are present. Species present include sycamore saplings (*Acer pseudoplatanus*), goat willow saplings (*Salix caprea*), bramble (*Rubus fruticosus*), nettle (*Urtica dioica*), rosebay willowherb (*Chamerion angustifolium*), mugwort, rape sp., and creeping thistle (*Cirsium arvense*).

BUILDINGS & WALL
Two structures are present; an historic chimney associated with the demolished glassworks and a modern substation, these are discussed in more detail below.

D.2.2 TARGET NOTES

TARGET NOTE 1
Large pile of rocks suitable for use as refugia/hibernacula for wildlife.

D.3 SPECIES (EXCLUDING BATS)

OTTER & WATER VOLE
The River Tyne is located ~70m west of the site. The Tyne in this area is ~400m wide. The river conditions and banks are unsuitable for water vole in this location. Whilst otter are likely present within the local area (as indicated by the consultation results), the steep ~5-7m bankside walls in this area of South Shields will likely preclude them from the habitats around Harton and the species is considered unlikely to be present.

IMAGE 1: The River Tyne, ~70m from the site boundary.

GREAT CRESTED NEWT
Terrestrial habitats within the site are of low to moderate suitability. Whilst some suitable hibernacula are present, there are no areas of standing water apparent within the survey area or from a review of Ordnance Survey mapping and aerial photography within 500m that could support great crested newt. As such, it is concluded that this species is most likely absent.

BIRDS
Only wren was recorded during the field survey. No evidence of nesting birds was recorded and the site will likely provide a limited foraging resource to a small assemblage of urban bird species. Given its urban location, the habitats present and the small size of the site, rarer birds associated with nationally and internationally protected coastal sites are considered unlikely to use the site.

BADGER
Give the urban location and lack of evidence on site, badgers are not considered likely to be present on site.

REPTILES
The site lacks a suitable mosaic of habitats and is isolated from areas of higher suitability habitat. As such, these taxa are considered likely to be absent.

INVERTEBRATES
Significant amounts of larval food-plants for priority butterfly and moth species were absent from the site and notable populations of these species are considered likely to be absent.

NATIONAL PRIORITY AND LOCAL BAP SPECIES
Hedgehog may be present on site on occasion. However, no evidence of this species was recorded during the field survey. All other priority and BAP species are considered likely absent from the site due to a lack of suitable habitats.

D.4 BAT RISK ASSESSMENT

D.4.1 HABITATS

FORAGING HABITATS
Bat foraging habitats on site are of low suitability, with some moderate suitability areas present within the wider surrounding area associated with small urban parks.

COMMUTING ROUTES

Commuting routes within and around the site are generally absent, although some amenity tree planting is present within the adjacent Harton Park.

SHELTERED FLIGHT AREAS

No sheltered flight areas are present.

ALTERNATIVE ROOST LOCATIONS

Numerous alternative roost locations are present within adjacent areas of South Shields.

D.4.2 BUILDINGS

Building descriptions are provided below and building locations are shown in the survey plan below. Where recorded, field signs that confirm bat use are in bold.

STRUCTURE 1 - GLASS WORKS CHIMNEY (TO BE RETAINED)

- The only remnant left of the former glassworks, dated 1865.
- The lower half is render-covered brick, with the upper half being exposed brick. The two halves are separated by a well-sealed decorative stone surround.
- Pointing of the exposed brick area is good with no obvious crevices noted and the render is also in good condition.
- No view of the chimney top was possible, so it is unknown if the flue remains open.
- Overall, the structure is considered to be of negligible to low roosting suitability.

STRUCTURE 2-ELECTRICITY SUBSTATION

- A modern substation building. Brick built with concrete roof and ridge tiles, all well-sealed.
- Plastic barge boards at all aspects. A single small gap was noted within the barge board on the northern aspect, this could be fully inspected and no evidence of roosting bats was noted. This feature may be suitable for an individual bat.
- Overall the structure was considered to be of low roosting suitability.

HISTORIC WALL (TO BE RETAINED)

- A 2-3m high brick wall forms much of the boundary of the east and north of the site. Sections of this are historic and are included within the Mill Dam Conservation Area.
- Some very shallow crevices were present associated with pointing. These crevices were not considered suitable for roosting bats due to their shallow nature.
- Overall, the wall is considered to be of negligible suitability for roosting bats.

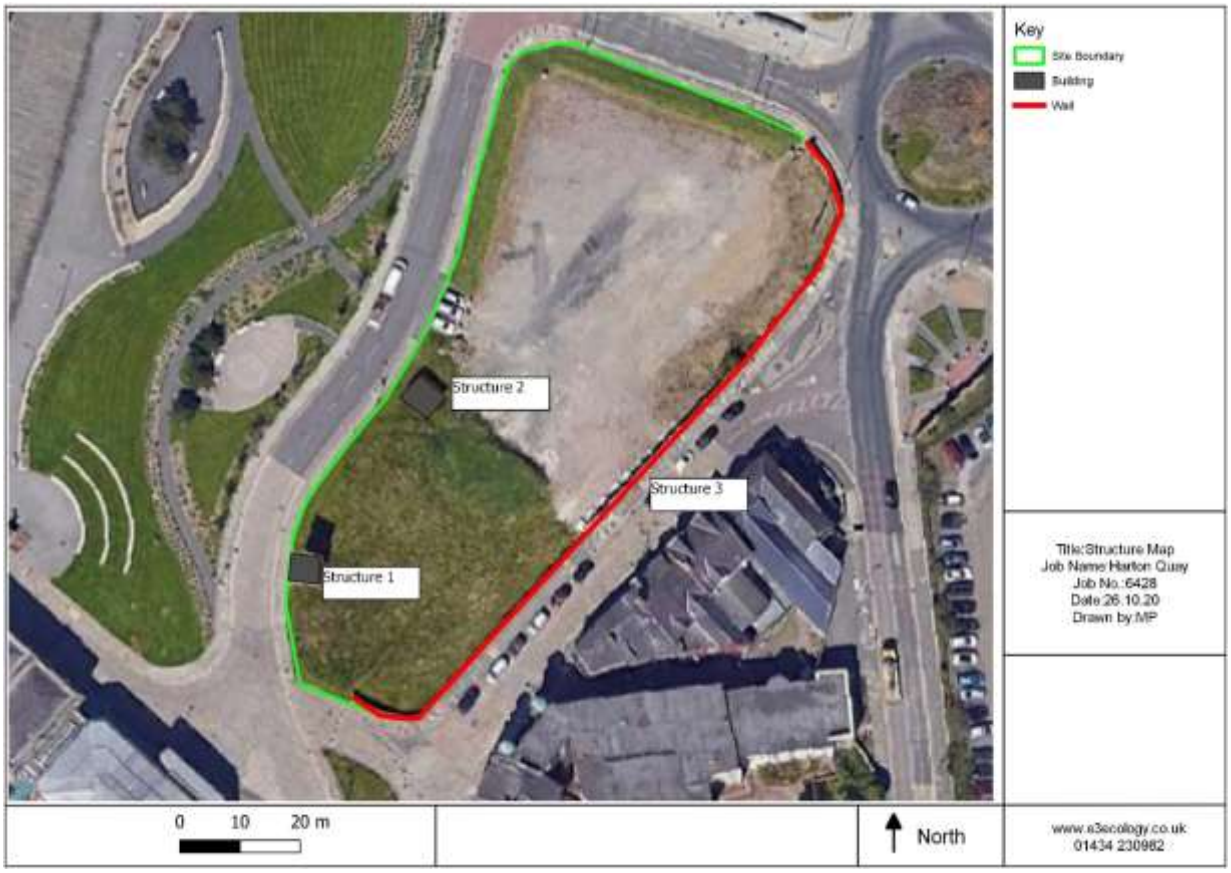

FIGURE 6: STRUCTURE MAP (REPRODUCED UNDER LICENCE FROM GOOGLE EARTH PRO.)

D.5 OVERVIEW OF SITE SUITABILITY

TABLE 8: OVERVIEW OF SITE SUITABILITY FOR BATS

TABLE 8: OVERVIEW OF SITE SUITABILITY FOR BATS

HABITATS AND SETTING[9]				
	NEGLIGIBLE	**LOW**	**MODERATE**	**HIGH**
HABITATS AND COVER WITHIN 200M	City Centre	Open, exposed arable, amenity grass or pasture	Hedges and trees linking site to wider countryside	Excellent cover with mature trees and/or good hedges
HABITATS WITHIN 1KM	City Centre	Little tree cover, few hedges, arable dominated	Semi-natural habitats e.g. trees, hedgerows	Good network of woods, wetland and hedges
ALTERNATIVE ROOSTS WITHIN 1KM	City centre	Numerous alternative roost sites 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 no green space	Urban with little green space	Built development with green-space, wetland, trees	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
DISTANCE TO SPECIES-RICH GRASSLAND	>1km	500m-1000m	200m-500m	<200m
COMMUTING ROUTES	Isolated by development, major roads, large scale agriculture	Very limited potential flyways linking site to wider area	Some potential commuting routes to and from site	Site is well connected to surrounding area with multiple flyways
BUILDINGS[2]				
	NEGLIGIBLE	**LOW**	**MEDIUM**	**HIGH**
AGE (APPROX.)	Modern	Post 1940's	1900-1940	Pre 20th C
BUILDING/ COMPLEX TYPE	Industrial complex of modern design	Single, small buildings	Several buildings, large old single structure	Traditional farm buildings, country house, hospital
BUILDING - STOREYS	N/A	Single storey	Multiple storeys	Multiple storeys with large roof voids
STONE/BRICK WORK	No detectable crevices	Well pointed	Some cracks and crevices	Poor condition, many crevices, thick walls
FRAMEWORK – TIMBERS/STEEL	Substation-Modern metal frame with sheet cladding	Timber purlins, sheet asbestos	Timbers kingpost or similar	Large timbers traditional joints
ROOF VOID	Fully sealed or flat roof	Small, cluttered void	Medium, relatively open	Large, open, interconnected
ROOF COVERING	Modern sheet materials and tightly sealed	Good condition or very open not weatherproof modern sheet materials	Some potential access routes, slates, tiles	Uneven with gaps, not too open, stone slates
ADDITIONAL FEATURES	Very well maintained and tightly sealed	No features with potential access	Some features with potential access	Hanging tiles, cladding, barge boards, soffits with access gaps
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

[9] 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.

Overall, the structures are considered to be of negligible to low suitability within a low suitability setting.

E. SITE ASSESSMENT

E.1 HABITATS

The site comprises a partially enclosed area of bare ground, ephemeral / short perennial habitat and poor semi-improved grassland with some scattered tall ruderal vegetation. Two structures are present at the west of the site, one historic chimney and a second modern electricity substation. A brick wall is also present at the eastern boundary. No national priority habitats are present, although built structures are a Durham Lowland Priority Habitat. The majority of habitats will be lost to facilitate the development, with the exception of the two built structures and the wall.

The small areas of ephemeral habitat are considered to be of local habitat value, whilst the other habitats present are considered to be of low habitat value.

E.2 NOTABLE SPECIES (EXCLUDING BATS)

A small range of typically urban bird species will likely utilise the site, with habitats providing a small foraging resource. Ground nesting is considered unlikely and the interior of the chimney may provide some nesting opportunity if this is still open. Rarer birds associated with nationally and internationally protected coastal sites are not considered likely to use the site. Given the small size of the site and the habitats present the site is likely to be of low value to bird species.

The priority species hedgehog may be present on the site on occasion. Should this be the case, the site is likely to be of no more than local value to this species.

E.3 ASSESSMENT OF SURVEY FINDINGS BATS

The three structures on site present limited roosting features associated with a single gap in the barge board of the sub-station and possible gaps in the internal walls of the chimney. Overall, the structures are considered to be of negligible to low roosting suitability.

The habitats present are likely to provide a small area of low suitability foraging habitat to bats in the local area and, overall, the site is likely to be of low value to bat species.

F. IMPACT ASSESSMENT

F.1 POTENTIAL IMPACTS AND/OR EFFECTS[10]

F.1.1 HABITATS

- Permanent loss of habitats of at most local habitat value, but largely of low habitat value.
- Potential pollution impacts on the River Tyne.

F.1.2 SPECIES

- Disturbance to any bats commuting and/or foraging and nesting birds in the local area due to potential increased light spill post development.
- Low risk of harm to hedgehog and other mammals through becoming trapped in any excavations that remain open overnight.

The structures on site are all due to be retained and therefore impacts on potential bat roosts are not anticipated.

F.2 POTENTIAL IMPACTS AND/OR EFFECTS ON STATUTORY AND NON STATUTORY SITES DESIGNATED FOR NATURE CONSERVATION & POTENTIAL CUMULATIVE IMPACTS AND/OR EFFECTS

The site lies 1.5-1.6km west of the Northumbria Coast SPA and Ramsar Site, Northumberland Shore SSSI and the Durham Coast SSSI.

The site falls within the impact risk zones of these nationally and internationally protected coastal sites and the terms are relevant for this development. As such, the LPA will be required to consult with Natural England on the application.

Given the type of development and the location, no direct or indirect impacts on these site are anticipated and as such, no report to inform an Appropriate Assessment is considered necessary.

The River Tyne Local Wildlife Site (LWS) is located on the north bank of the Tyne adjacent to the site. No impacts on this non-statutory site are anticipated.

[10] An impact is defined as an action resulting in changes to an ecological feature. For example, construction works removing a hedgerow. An effect is defined as the outcome to an ecological feature from an impact. For example, the effect on a dormouse population of the loss of a hedgerow.

G. RECOMMENDATIONS

G.1 FURTHER SURVEY

If development does not happen within 12 months of this report, an updating survey will be required, ideally to be undertaken between May and August.

G.2 AVOIDANCE, MITIGATION AND COMPENSATION STRATEGY

G.2.1 SITE DESIGN

- External lighting that may reduce bat use of potential roost sites will be avoided. High intensity security lights will be avoided, and any lighting in areas identified as being important for bats will be low level (2m) and low lumen. Light spillage to areas used by foraging or commuting bats should be less than 2 lux. 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.

G.2.2 WORKING METHODS AND BEST PRACTICE

- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- Works will be undertaken to Environment Agency good practice guidelines to prevent pollution of the Tyne.

G.3 MONITORING

Given the nature of the proposed mitigation and/or compensation strategies, no monitoring is proposed.

G.4 ADDITIONAL ENHANCEMENT RECOMMENDATIONS

The following measures are recommended in order to further enhance the site for biodiversity, contributing to local and/or national conservation targets:

- The landscape planting will be designed to enhance structural diversity, and will include plants bearing flowers, nectar and fruits which are attractive to invertebrates, thereby helping to maintain the food resource for bats and wildlife generally.
- It is recommended that areas of native habitat including mixed scrub and wildflower grassland are incorporated into the landscaping for the scheme.

APPENDIX 1. STATUTORILY AND NON- STATUTORILY DESIGNATED SITES

STATUTORILY DESIGNATED SITES

Ramsar Sites
Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention recognizes 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 Areas (SPAs)
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
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 Regulations 2017 (as amended) unless they are offshore.

Sites of Special Scientific Interest
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. They are often components of larger SACs or SPAs.

National Nature Reserves (NNRs)
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 (LNRs)
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 Sites (LWSs)
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 can vary between authorities.

APPENDIX 2. BAT ECOLOGY

BAT LIFECYCLE

Bat survey timings are based on the lifecycle of bats which varies through the calendar year. The table below illustrates recommended survey timings and how they relate to the bat lifecycle:

BAT LIFECYCLE AS IT RELATES TO SURVEY TIMING[11]

SURVEY TYPE	J	F	M	A	M	J	J	A	S	O	N	D
Roost Inspection	■	■	■	■	■	■	■	■	■	■	■	■
Mating/ Swarming Survey							▒	■	■	▒	▒	
Hibernation Survey	■	■	▒								■	■
Tree survey from the ground	■	■	■	▒	▒	▒	▒	▒	▒	▒	▒	■
Tree roost activity survey				▒	■	■	■	■	■	▒		
Building roost activity survey					■	■	■	■	▒	▒		

Dark grey are optimal timings, light grey suboptimal.

BAT ROOST USE THROUGH THE YEAR

	J	F	M	A	M	J	J	A	S	O	N	D
Day Roost				■	■	■	■	■	■			
Night Roost	■	■	■	■	■	■	■	■	■	■	■	■
Feeding Roost				■	■	■	■	■	■			
Transitional/ Occasional Roost			■	■						■	■	
Swarming Site							■	■	■	■		
Mating Site							■	■	■	■		
Maternity Roost					■	■	■	■				
Hibernation Roost	■	■	■								■	■
Satellite Roost					■	■	■	■				

[11] Based on information provided within Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

BAT ROOST TYPES

Bat Roost Types	
Roost Type	**Definition**
Day Roost	A place where individual bats or small groups of males, rest or shelter in the day but are rarely found by night in the summer.
Night Roost	A place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or could be used regularly by the whole colony.
Feeding Roost	A place where individual bats or a few individuals rest or feed during the night but are rarely present by day.
Transitional/Occasional Roost	Used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Swarming Site	Where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites.
Mating Site	Sites where mating takes place from late summer and can continue through winter.
Maternity Roost	Where female bats give birth and raise their young to independence. Females typically give birth to a single pup per year, therefore these roosts are critical to the long-term survival of a colony. Disturbance of maternity roosts can lead to abandonment and death of young.
Hibernation Roost	Where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Bats are particularly vulnerable to disturbance during the hibernation period as, once roused, they may be unable to replace energy lost due to a lack of sufficient available insect prey at this time.
Satellite Roost	An alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

SPECIES SPECIFIC ECOLOGY

Pipistrelle maternity colonies generally consist of 25 to 100 individuals, but colonies numbering up to 1000 are not uncommon[12]. Adult females often form large maternity roosts, occupied between May and August, and frequently number around 300 individuals. Males are often solitary or in small groups during the summer, later congregating with the females at winter hibernation roosts[13].

Maternity colonies of brown long-eared bats are generally small, consisting of 10 to 20 adults[14,15] (although numbers are likely to be underestimated, due to presence in inaccessible areas of the roost). In exceptional circumstances, colonies can reach 200+ bats.

Natterer's bats roost within crevices and cavities, typically within hollow trees, old buildings, caves and tunnels[16]. Maternity colonies comprising up to 200 adult females can be found in buildings during the summer months while bachelor roosts comprising up to 28 males have been recorded during the summer months in Scotland[17]. Maternity roosts are not exclusively female, with both adult and immature males comprising up to 25% of the colony. Male only colonies have been found with up to 30 bats[18]. Foraging individuals will perch during the night at roosts near to foraging areas, not used as day roosts. Mostly these roosts are trees or shrubs but barns will also be used[19].

[12] Roberts, G.M. & Hutson, A.M. 2000. *Pipistrelle*. British Bats No. 6. The Bat Conservation Trust, London
[13] Corbet, G.B & Southern, H.N., 1964. The handbook of British Mammals).
[14] Speakman, J. R. *et al.*, 1991. Minimum summer populations and densities of bats in NE Scotland, near the northern borders of their distributions. *J. Appl. Ecol.,*225: 327-345
[15] Entwistle, A.C., 1994. Roost ecology of the brown long-eared bat *Plecotus auritus* in north-east Scotland. Unpublished PhD thesis, University of Aberdeen, UK
[16] Stebbings, R.E. 1991. Natterer's bat *Myotis nattereri*. In The handbook of British Mammals. 3rd Edition Corbet, G.B. & Harris, S. (Eds) Oxford: Blackwell Scientific.
[17] Swift, S. M. 1997 Roosting and foraging behaviour of Natterer's bats (*Myotis Nattereri*) close to the northern border of their distribution. J. Zool. (Lond) **242:** 375-384.
[18] Altringham, J.D. 2003. British Bats. The New Naturalist. Pub. Harper Collins.
[19] Smith, P.G. & Racey, P.A. 2005. The itinerant Natterer: physical and thermal characteristics of summer roosts of *Myotis nattereri* (Mammalia: Chiroptera) J. Zool. Lond. 266: 171-180.

Whiskered bats roost in trees and buildings. Nursery roosts can number over 100 bats, and are almost exclusively female bats. This species hibernates singly in caves, hanging on the open wall or in crevices[18].

Brandt's bat is thought to have similar roosting behaviour and foraging ecology to the whiskered bat, however, further research is needed to clarify this[18].

A third small *Myotis* species, the Alcathoe's bat has recently been confirmed within the UK.

APPENDIX 3. BATS AND DEVELOPMENT

A list of development types likely to affect bats where they impact on particular features is provided within the table below.

PLANNING AND DEVELOPMENT TRIGGER LIST FOR BAT SURVEYS[20]	
NATURE OF WORK	**TYPE OF BUILDING OR FEATURE**
Conversion, modification, demolition or removal of buildings (including hotels, schools, hospitals, churches, commercial premises and derelict buildings)	Agricultural buildings e.g. farmhouses, barns and outbuildings) of traditional brick or stone construction and/or with exposed wooden beams
	Buildings with weather boarding and/or hanging tiles that are within 200m of woodland and/or water
	Pre-1960 detached buildings and structures within 200m of woodland and/or water
	Pre-1914 buildings within 400m of woodland and/or water
	Pre-1914 buildings with gable ends or slate roofs, regardless of location
	Buildings located within, or immediately adjacent to woodland and/or immediately adjacent to water
	Dutch barns or livestock buildings with a single skin roof and board and gap or Yorkshire boarding if following a preliminary roost assessment, the building appears particularly suited to bats
Any development works	Any underground duct or structure including tunnels, mines, kilns, ice houses, adits, military fortifications, air raid shelters, cellars
	Unused industrial chimneys that are lined and of brick/stone construction
Floodlighting	Churches and listed buildings, green space (e.g. sports pitches) within 50m of woodland, water, field hedgerows or lines of trees with connectivity to woodland or water
	Any building listed in reference 1
Felling, removal or lopping	Woodland
	Field hedgerows and/or lines of trees with connectivity to woodland or water bodies
	Old and veteran trees that are more than100 years old
	Mature trees with obvious holes, cracks or cavities or which are covered with mature ivy (including dead trees)
Any development works	Within 200m or rivers, streams, canals, lakes, reedbeds or other aquatic habitats
Any development works	Within or immediately adjacent to quarries or gravel pits
	Immediately adjacent to or affecting natural cliff faces and rock outcrops with crevices or caves and sinkholes
Any single or multiple wind turbine construction	N/A – although for single turbines this can depend on size and location
Any development works	Sites where bats are known to be present

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

A summary of the likely scale of impact at a site level in relation to various bat features and development effects is provided below.

SUMMARY OF MAIN IMPACTS AT SITE LEVEL				
Habitat Feature	**Development Effect**	**Scale of impact**		
		Low	**Medium**	**High**
Maternity Roost	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside breeding season	✓		
	Post-development interference			✓
Major Hibernation	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference			✓
Minor Hibernation	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Modified management		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference		✓	
	Temporary destruction then reinstatement	✓		
Mating	Destruction		✓	
	Isolation caused by fragmentation		✓	
	Partial destruction; modification	✓		
	Modified management	✓		
	Temporary disturbance outside hibernation season	✓		
	Post-development interference	✓		
	Temporary destruction then reinstatement	✓		
Night Roost	Destruction	✓		
	Isolation caused by fragmentation	✓		
	Partial destruction; modification	✓		
	Modified management	✓		
	Temporary disturbance outside hibernation season	✓		
	Post-development interference	✓		
	Temporary destruction then reinstatement	✓		
N.B. This is a general guide only and does not take into account species differences. Medium impacts in particular depend on the care with which any mitigation is designed and implemented and could range between high and low.				

APPENDIX 4. PLANNING POLICY & LEGISLATION

G.5 NATIONAL PLANNING POLICY

The table below details the key paragraphs from the National Planning Policy Framework (NPPF)[21] relating to the natural environment:

TABLE 9: 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.	*170*
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[22]; 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.	*171*
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[23]. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development[24] 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.	*172*
Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 172), 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.	*173*
To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological	*174*

[21] National Planning Policy Framework (February 2019), Department for Communities and Local Government,
[22] 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.
[23] 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.
[24] For the purposes of paragraphs 172 and 173, 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 9: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	**Paragraph**
networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity[25]; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation[26]; 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.	
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 reasons[27] and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.	*175*
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[28]; 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.	*176*
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.	*177*

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[29] 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)

[25] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
[26] 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.
[27] For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.
[28] 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.
[29] Planning Practice Guidance: Natural Environment (www.planningguidance.communities.gov) Updated July 2019

- Information on biodiversity and geodiversity impacts and opportunities needs to inform all stages of development (including site selection and design, pre-application 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)

G.6 RELEVANT LEGISLATION

The table below details the relevant legislation for those protected species that may be present on this site.

TABLE 10: 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
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
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.		

G.7 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 11: 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 offence.	Himalayan balsam Cotoneaster Montbretia Japanese knotweed Giant hogweed Rhododendron

G.8 WILDLIFE SITE POLICY AND LEGISLATION

Details of the legislation surrounding protected sites are provided in the appendices.

G.9 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 table below details the local biodiversity action plan relevant to the area within which this site lies, and the species/species groups and habitats listed as priorities within the plan.
The table below details the species/species groups and habitats listed as priorities within the local biodiversity action plan relevant to the area within which this site lies.

TABLE 12: BIODIVERSITY ACTION PLAN					
Durham Biodiversity Action Plan					
Species			**Habitats**		
Barn Owl	Coastal Birds	Farmland Birds	Native Hedgerows	Veteran Trees, Parkland and Wood Pasture	Woodland and Scrub
Nightjar	Spotted Flycatcher	Upland Birds	Ponds, Lakes & Reservoirs	Lowland Fen	Rivers & Streams
Urban and Garden Wildlife	Freshwater Fish	Grass Snake	Blanket Bog and Upland Wet Heath	Calaminarian Grassland	Upland Calcareous Grassland
Great Crested Newt	Reptiles	Chalk Carpet Moth	Upland Dry heath and Acid Grassland	Upland Haymeadows	Upland Screes and Rock Habitats
Cistus Forrester	Dark Green Fritillary	Dingy Skipper	Brownfield Sites	Built Structures	Coastal Habitats
Glow Worm	Grayling	Green Hairstreak	Lowland Heath	Lowland Meadows & Pasture	Magnesian Limestone Grassland
Least Minor Moth	Mud Snail	Northern Brown Argus	Transport Corridors	Waxcap Grassland	
Northern Dart	Round Mouthed Whorl Snail	Small Pearl-bordered Fritillary			
White Clawed Crayfish	White-letter Hairstreak	Badger			
Bats	Brown Hare	Dormouse			
Harvest Mouse	Hedgehog	Otter			
Pine Marten	Polecat	Red Squirrel			
Water Vole	Water Shrew	Black Poplar			
Juniper	Pale Bristle-Moss	Yellow Marsh Saxifrage			