MOTT MACDONALD

Old Colwyn Coastal Defence and Active Travel Scheme

Bat Survey Report

July 2020

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Contents

Executive summary

Conwy County Borough Council (CCBC) has appointed Mott MacDonald Limited to provide ecological advice in respect of the proposed Old Colwyn Coastal Defence and Active Travel Scheme in Colwyn Bay (the Scheme). The proposed works will include upgrades to the promenade and new coastal defences.

Mott MacDonald Limited has undertaken a Preliminary Ecological Appraisal (PEA) of the site and its surroundings, which identified potential for roosting bats within the buildings and trees present on site. As such, further bat surveys were recommended.

The objectives of the bat survey and of this report are to: (i) determine the bat species currently present within the site; (ii) identify any roosts and assess if these roosts will be affected by the proposed works; (iii) identify foraging areas and commuting lines within the site; and (iv) to develop appropriate site-specific recommendations.

A data search from the local biodiversity records centre indicates records of five bat species recorded within 1.0km of the survey area. No international designated sites for bats were identified within 10km of the Scheme.

A building assessment for buildings affected by the proposed works was carried out during January 2020, which identified that both a shelter (shelter 1) and a toilet block have low potential to support roosting bats. In line with best practice methodology, a single bat emergence survey was undertaken for these buildings on the 3 June 2020. No bats were recorded emerging from or re-entering wither of these buildings. As such, no further recommendations are made with regards to bats and buildings on site.

In addition, four trees with low bat roosting potential were identified within the wider survey area. This will be unaffected by the proposals and so is not considered further.

No bat activity was recorded in the areas surrounding either of the two buildings during the survey.

1 Introduction

1.1 Background and Site Description

Mott MacDonald Limited has been commissioned by Conwy County Borough Council to advise on the proposed Old Colwyn Coastal Defence and Active Travel Scheme, a major coastal defence and promenade improvement scheme, within Colwyn Bay, north Wales.

A Preliminary Ecological Appraisal of the area was undertaken in January 2020 which identified that two buildings within the scheme area, a shelter (shelter 1) and a toilet block, could have the potential to support roosting bats. As such, Mott MacDonald Limited were commissioned to undertake further survey and assessment in respect of bats.

The site consists of a section of the coastline between Rhos-on-Sea and Old Colwyn, from NGR (284270, 380524) in the west to NGR (284975, 379499) in the east (see Figures 1.1 and 1.2 below).

Figure 1.1: Site Location

Source: DigitalGlobe, Microsoft, Earthstar Geographics | Esri UK, Esri, HERE, Garmin, METI/NASA, USGS

The Scheme is located to the immediate east of the Colwyn Bay Waterfront Project Phase 1 area (which has already been subject to coastal and promenade improvements including beach recharge, the construction of Porth Eirias and an associated control structure). Beyond this to the west is the Colwyn Bay Waterfront Project Phase 2 area which is also proposed to be subject to coastal defence and promenade improvements, with the exact scope not yet finalised. These areas are included in Figure 1.2 for context.

Figure 1.2: Scheme locations within Colwyn Bay

Source: DigitalGlobe, Microsoft, Earthstar Geographics | Esri UK, Esri, HERE, Garmin, METI/NASA, USGS

1.2 Proposed Works

The current CCBC proposals for the site are to provide a permanent upgrade of the coastal defences to protect the western and eastern areas of the bay concurrently with improvements to the promenade to facilitate active travel and regeneration.

For the purposes of this report, the key works of relevance to bats are that demolition of the shelters is proposed along with refurbishment of the toilet block. No felling of trees or any refurbishment of bridges is proposed.

1.3 Scope of the Report

The objectives of this report are to:

- Determine presence of any bat species within the site;
- Identify any roosts within the development footprint and assess if the roost will be impacted by the proposed works;
- Record any foraging and commuting flight lines around the site; and
- Develop appropriate site-specific recommendations.

2 Legislation and Ecology

2.1 Legislation

All UK bat species and their roosts are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). It is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy any structure or place used for shelter or protection by a bat (even if bats are not present in the roost);
- Intentionally or recklessly obstruct access to a structure or place which it uses for that purpose; or
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat.

To undertake an activity which is prohibited under wildlife legislation, a protected species development licence may be applied for from the statutory regulator; in this instance, Natural Resources Wales (NRW). By holding a development licence, the works can be conducted in accordance with an agreed method statement and as such an offence will not be committed provided the licence conditions are followed.

2.2 Status of Bat Species at the Local Level

Six species are listed in the Conwy Local Biodiversity Action Plan (LBAP) (2003)[1] as detailed below:

- Greater horseshoes bat (*Rhinolophus ferrumequinum*)*;
- Lesser horseshoe bat (*Rhinolophus hipposideros*)*;
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Soprano pipistrelle (*Pipistrellus pygmaeus*);
- Noctule (*Nyctalus noctula*); and
- Brown long-eared bat (*Plecotus auritus*).

**These species are listed under Annex 2 of the Habitats Directive.*

2.3 Current Factors Causing Loss or Decline at the National Level

British bats are insectivorous, occupying many habitat types. They require warm summer breeding roosts and cool, secure hibernation sites. The main factors currently causing loss or decline, in general across the UK include

- Habitat loss:
  - Decreasing areas of deciduous woodland, hedgerows, wetlands and grasslands reduce the availability of feeding and roosting sites. Loss and drainage of wetlands and inappropriate riparian management leads to loss of feeding and roosting areas. Undeveloped land which does not meet the standards for designation as a Site of Special Scientific Interest (SSSI) or Local Site probably forms the bulk of bats' foraging areas;
- Habitat fragmentation:
  - The presence of linear features and wildlife corridors such as hedgerows and former railway lines between habitats can reduce the impact of fragmentation;

[1] This document appears to have been withdrawn but was provided by email. No other more relevant local information appears to available at this time.

- Disturbance:
  - Disturbance in the summer may lead to the abandonment of young;
  - Disturbance in the winter may arouse hibernating bats and force them to use up essential food reserves too quickly, with fatal consequences;
- Tree felling and arboriculture works to dead/hollow trees:
  - All bat species, and particularly noctules, will use hollow trees for both summer and winter roosting;
- Lack of awareness:
  - There is a tendency for the needs of bats to be under-emphasised during the planning process;
- Development:
  - The loss of rear gardens to small scale housing developments results in habitat loss and reduces the structural diversity of foraging habitats for bats. Development of brownfield land is likely to lead to further habitat loss for bats;
- Refurbishment and demolition of man-made structures and buildings:
  - Roost sites in cellars, roof spaces and under eaves in buildings are lost through building maintenance, renovation and the installation of cavity wall insulation. It is now thought that bats may use cavity walls as hibernation roost sites. Bats have very specific roost requirements therefore it cannot be assumed that they will relocate to another apparently suitable site if a roost site is destroyed;
- Remedial timber treatment:
  - These can be poisonous to bats. Because of their communal nature, entire roosts may be lost due to insensitive timber treatment exercises. Lindane, a chemical that was widely used in the past, has been implicated in the eradication of entire bat colonies. Treatments carried out during the 1980s are still toxic today; and
- Changes to external lighting:
  - May pose a threat to existing and potential bat roosts.

3 Methodology

3.1 Desk Study

A desk study was undertaken in accordance with current guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) to determine the presence of any nature conservation sites designated for bats or records of bats within 10.0km of the site.

Biological records of bats collected in the last ten years and within a 2.0km radius of the site were requested from the North Wales Environmental Information Service (Cofnod). The data provided from this source has been curtailed to the nearest record for each species recorded, raw data is available on request following record centre terms and conditions.

The desk study involved consulting the following sources:

- Multi Agency Geographical Information for the Countryside (MAGIC) website (http://www.natureonthemap.naturalengland.org.uk/MagicMap);
- Natural Resources Wales (NRW) (http://naturalresources.wales);
- Joint Nature Conservation Committee (JNCC) (http://jncc.defra.gov.uk/); and
- Conwy Local Biodiversity Action Plan (LBAP) (2003).

3.2 Bat Inspection Surveys

3.2.1 Buildings

Field surveys undertaken in December 2019 and January 2020 identified potential of buildings on site to support bats, whilst update inspections were undertaken in May 2020 by experienced surveyors. The buildings were inspected externally for features that could support roosting bats and/or signs of bat presence (such as droppings, staining, feeding remains, scratch marks or presence of bats).

Each building was classified as having low, moderate or high potential for roosting bats based on the Bat Conservation Trust Good Practice Guidelines (Collins, ed. 2016) as per Table 3.1 below.

Table 3.1: Guidelines for assessing the potential suitability of buildings for bats

Suitability	Description of roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost features (PRF) 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 on a regular basis or 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.
High	A structure 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.
Confirmed Roost	Positive signs of bats are recorded within the structure (internally or externally), such as individual bats or bat droppings.

Source: Modified from Collins (2016).

3.2.2 Trees

It is understood that trees are not to be affected by the proposed works and therefore no dedicated bat roosting assessment was undertaken for these structures. However, any trees with potential for roosting incidentally recorded during surveys were noted in accordance with best practice.

Features considered to offer potential for bats, in line with Collins (ed. 2016), are listed below:

- Woodpecker holes;
- Rot holes;
- Hazard beams;
- Other vertical or horizontal cracks;
- Partially lifted bark;
- Knot holes;
- Man-made holes;
- Cankers;
- Other hollows or cavities;
- Double-leaders;
- Gaps between overlapping steams or branches,
- Partially detached ivy with stem diameters in excess of 50mm; and / or
- Bat, bird or dormouse boxes.

Any evidence of bats was also noted and may include the following:

- Bat droppings in, around or below the PRF;
- Odour emanating from a PRF;
- Audible squeaking at dusk or in warm weather; and / or
- Staining below the PRF.

3.2.3 Bridges

It is understood that bridges are not to be affected by the proposed works and therefore no dedicated bat roosting assessment was undertaken for these structures.

3.3 Emergence/Re-entry Surveys (Buildings)

Buildings assessed to provide potential for roosting bats and considered likely to be affected by the current scope of works were subject to further emergence / re-entry surveys. All surveys were undertaken in accordance with the best practice guidance set out within the Bat Conservation Trust ‘Bat Surveys Good Practice Guidelines’ (Collins, 2016). Details of the surveys are presented in Table 3.2.

Table 3.2: Emergence / Re-entry Survey Details

Date	Sunrise / Sunset (BST)	Start / End Time	Start / End Temperature (°C)	Precipitation	Wind (Beaufort Scale)	Buildings Surveyed
03/06/2020	21:35	21:20/ 23:05	12°C	Dry	3	- Shelter 1 - Toilet block

Source: Mott MacDonald Limited

The surveys were carried out using Batlogger detectors to identify any bat activity, whilst recordings made during the surveys were analysed using ‘Analook’ software.

3.4 Foraging Habitat

An assessment was made to determine the value of the habitat types within and surrounding the site for bat foraging potential including connectivity to other suitable habitat within the surrounding area. In addition, the opportunity was taken to record incidental bat foraging and commuting activity during the emergence survey.

3.5 Limitations

Biological records obtained from third parties do not represent a full and complete species list for the area. Not all areas within the biological records search will have been surveyed so lack of records do not represent a lack of species present. They are mostly given by individuals on an *ad-hoc* basis, often meaning that there are areas of deficiency in the data.

The results taken from bat detector recordings are biased towards bats that use louder echolocation calls. Therefore, quiet species such as brown long-eared bats may be under recorded due to the limited recording range of the equipment. However, as surveys included a visual count to identify presence / absence of bats, it is considered that the survey work sufficiently informs an assessment of roost presence in the site.

It is difficult to confidently relate calls registered to numbers of bats present, even if more than one bat pass is detected simultaneously. The number of bat passes does not therefore provide any indication of bat abundance; it is intended to only indicate the level of activity at a moment in time.

4 Results

4.1 Desk Study

The results of the desk study are presented below.

4.1.1 Designated Sites

No European designated sites for bats were identified within 10.0km of the site. Two SSSIs designated for, or known to support, bats are present within 10.0km, namely:

- Llandulas Limestone and Gwrych Castle Wood – located approximately 4.5km east, which supports Clwyd's fourth largest hibernaculum of lesser horseshoe bat; and
- Coed y Gopa – located approximately 7.0km east, which supports Clwyd's second largest hibernaculum of lesser horseshoe bat.

4.1.2 Bat Species Records

The following bat species were returned within 1.0km of the survey area:

- Common pipistrelle;
- Noctule;
- Soprano pipistrelle;
- Long-eared bat (*Plecotus* sp.); and
- Lesser horseshoe.

The closest records are that of common pipistrelle and soprano pipistrelle which were recorded 0.2km from the survey area.

4.2 Field Survey

4.2.1 Building Inspections

Four buildings were assessed within the site (buildings B1 to B4 in Figure 4.1 below).

Figure 4.1: Location of Buildings

Source: 'ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community'

Table 4.1: Bat Assessment and Inspection Results for Buildings

Building	Description of Building and Potential Roost Features	Assessment of Bat Potential and Evidence of Bats
Kiosk	Concrete structure clad in coated wood and metal/ composite panels. Flat roof supported by metal beams. No potential roost features identified.	Negligible potential. No evidence.
Shelter 1	Concrete structure clad in pebbledash. Flat, hollow, wooden roof and fascia board with outer coating. A gap is present under coated wooden fascia board on south west corner. This feature gives access into a hollow cavity large enough for a small number of bats. The building is in an open environment which is relatively exposed, limiting bat potential.	Low potential. No evidence.
Shelter 2	Concrete structure clad in painted pebbledash. Flat, wooden roof and wooden fascia board with outer coating. No potential roost features identified	Negligible potential. No evidence.
Toilet Block	Single-storey building with concrete walls and a pitched, tiled roof with ridge tiles. Exterior lighting is present above doorways. A composite material soffit box and fascia board present. Gaps are visible under ridge tiles and other roof tiles offering some crevice dwelling opportunities. The surrounding environment is relatively exposed, limiting bat potential.	Low potential. No evidence.

Source: Mott MacDonald Limited.

Further survey work was recommended in respect of Shelter 1 and the Toilet Block in the form of emergence surveys (see below).

4.2.2 Trees

No trees are to be affected by the proposals such that dedicated surveys were not undertaken. However, four trees with bat potential incidentally were noted during the course of survey work and are included below for completeness. These fall within the area between Colwyn Bay Coastal Defence and Active Travel and Colwyn Bay Waterfront Phase 2b.

Trees within bat potential noted (trees T1-T4) are illustrated on Figure 4.2 and described below:

- Tree T1: Sycamore (*Acer pseudoplanatus)* tree with a callus roll;
- Tree T2: Sycamore tree with three callus rolls;
- Tree T3: Scot's Pine (*Pinus sylvestris*) with dense ivy covering; and
- Tree T4: Scot's Pine with dense ivy covering.

All of these trees were assessed as having low bat roosting potential.

Figure 4.2: Location of Trees with Bat Potential

Source: Esri, Intermap, NASA, NGA, USGS | Esri Community Maps Contributors, Esri UK, Esri, HERE, Garmin, INCREMENT P, METI/NASA, USGS | Maxar, Microsoft

4.3 Emergence/Re-entry Surveys

4.3.1 Emergence/Re-entry Surveys

During the emergence survey on 3 June 2020 no bats were recorded emerging from or re-entering either Shelter 1 or the toilet block. Emergence / re-entry surveyor locations are shown on Figures 4.1 and 4.2.

The results of the survey are summarised in Table 4.1 below.

Table 4.2: Emergence/ re-entry survey results by date

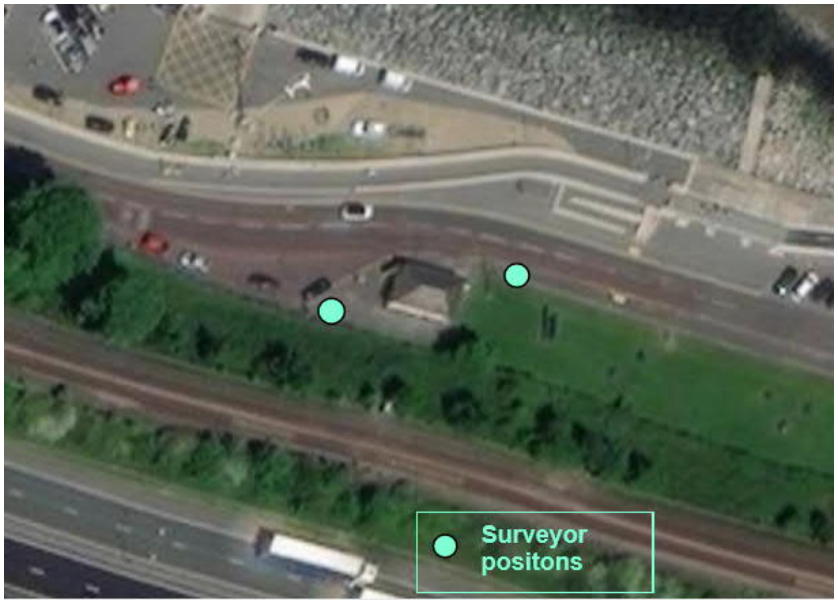
Date	Survey Type	Building	Emergence Results	General Observations
03/06/2020	Emergence	Shelter 1	None	No bat activity was identified during the survey.
03/06/2020	Emergence	Toilet Block	None	No bat activity was identified during the survey.

Source: Mott MacDonald Limited

Figure 4.3: Surveyor Positions- Shelter 1

Source: Mott MacDonald Limited

Figure 4.4: Surveyor Positions - Toilet Block



Source: Mott MacDonald Limited

4.4 Bat Activity

No foraging nor commuting bat activity was recorded during the surveys for either building.

5 Interpretations and Recommendations

5.1 Interpretation

5.1.1 Roosting Bats

No bats were recorded emerging from or re-entering either shelter 1 or the toilet block during the surveys undertaken. All other buildings within the site were assessed as having negligible potential for roosting bats.

Four trees with low bat potential were recorded incidentally (between the two sites). These are not to be affected by works.

5.1.2 Bat Activity

No bat activity was detected during the surveys for either shelter 1 or the toilet block.

5.2 Assessment and Recommendations

No bat roosts have been recorded within the site whilst works are not anticipated to affect trees with low bat potential. On this basis, no further recommendations are made.

The results of this survey work are considered to be valid for up to 12-18 months, which is in line with guidance on the lifespan of surveys (CIEEM 2019). Following this, survey work may require updating should any new works be proposed, or a significant delay occur.

6 References

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A. Building Photos

Table A.1: Building Photos

Photo A.1: Kiosk

Photo A.2: Shelter 1

Photo A.3: Shelter 1

Gap under coated wooden fascia board on south west corner.

Photo A.4: Shelter 2

Table A.1: Building Photos

Photo A.5: Toilet block

Photo A.6: Toilet block

Photo A.7: Toilet Block

Gaps visible under ridge tiles and other roof tiles.

Source: Mott MacDonald