

CARDIGAN TIDAL FLOOD RISK MANAGEMENT SCHEME

Appendix 6.4 - Bat Survey Report. Buildings and
Structures at Strand, Aberteifi



Cyfoeth Naturiol Cymru
Natural Resources Wales





Bat Survey Report Buildings and Structures at The Strand, Aberteifi

For Cyfoeth Naturiol Cymru/Natural Resources Wales

June 2025

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1 Introduction

1.1 Survey Brief

TerrAqua Ecological Services Ltd was commissioned by Mr Heilyn Williams, Senior Specialist Advisor – Environmental Assessment Team, NRW to undertake a Bat Survey of a complex of buildings and structures at the Strand, Cardigan, Ceredigion, between Grid References SN177 458 and SN180 459, in order to ascertain the current use if any, of the buildings and structures by bats. The survey was undertaken following instructions to proceed from Mr Heilyn Williams.

The survey was undertaken as part of the proposed Tidal Flood Risk Management Scheme assessment and follows a Preliminary Roost Assessment (Bats) undertaken by Just Mammals Ltd in 2023 and an Updated Preliminary Ecological Appraisal undertaken in 2025 by Binnies. Table 5.1 “Structures/trees requiring further bat survey” of the Binnies report.

A daylight walkover was undertaken on the 14th May followed by the emergence surveys in May and early June 2025.

1.2 Client Details

The survey was undertaken on behalf of Natural Resources Wales as instructed by Mr Heilyn Williams.

2 Background

2.1 Summary

None of the buildings, structures or trees identified for survey as listed in Table 5.1 of the Binnies report, have, during the survey period shown any bat emergence or presence.

Bat activity generally along the river Teifi has been high, bat activity (emergence) was suspected from properties to the north of the surveyed buildings with early common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) activity noted crossing N – S from north of The Strand, from the St Mary St and Church St areas indicative of bat roosting in one or more properties in that general area. This was noted in varying levels during all survey visits. It should be noted that without further building surveys in those areas, we cannot be more specific as to roost locations.

2.2 Ecology

Together with dormice and hedgehogs, bats are the only British mammal to go into hibernation during colder months only emerging occasionally during this time in spells of warmer weather (VWT 1993)

There are 18 resident species of Bat (*Chiroptera*) found in Great Britain consisting of two families *Rhinolophidae* and *Vespertilionidae*. *Rhinolophidae* or horseshoe bats comprise of only two U.K. species the Greater Horseshoe Bat (*Rhinolophus ferrumequinum*) and the Lesser Horseshoe Bat (*Rhinolophus hipposideros*). The family *Vespertilionidae* make up the majority of bat species found in Great Britain and include species such as Natterer's Bat (*Myotis nattereri*), Bechstein's Bat (*Myotis bechsteini*) and Pipistrelle Bat (*Pipistrellus pipistrellus*). All British bat species feed whilst on the wing, predating on a multitude of invertebrate species which they detect using their unique echolocation which is also used by bats to find their way (Lawrence and Brown 1967).

Bats can utilise a wide range of roost sites, including trees, caves, mines, buildings and other man-made structures. Buildings offer bats safe dry roosting opportunities for winter

hibernation roosts and more so for maternity roosts during the summer months (VWT 1993). The fact that bats readily take to man-made structures has meant that many bat species can be easily affected by such activities as renovation work to older and modern buildings. Modern building techniques and the use of timber preservatives has led to a significant decrease in suitable roosting sites over recent years (Buczaci 2002). Of the 16 species of bat found in Great Britain 11 species are considered rare, vulnerable or endangered.

2.3 Legal Status

All Bat species are afforded full protection under the Wildlife and Countryside Act 1981 and the Conservation of habitats and Species Regulations 2010 (as amended). All bat species are listed as European protected species of animals.

Schedules 5 and 6 of the Wildlife and Countryside Act 1981 subsequently amended by the Countryside and Rights of Way Act 2000 makes it an offence for any person to:

- Intentionally kill, injure or take a bat
- Possess or control a live or dead bat
- Intentionally or recklessly damage, destroy or obstruct access to any place used for shelter or protection by a bat.
- Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection

3 Survey Methodologies

3.1 Emergence Survey Methodology

The Survey were undertaken by experienced bat consultants, Carmen Jones MSc MCIEEM and Dyfrig Jones BSc licensed by Natural Resources Wales to undertake bat work. Licence number S092910/1. Carmen Jones is a licenced bat worker with over nineteen (19) years uninterrupted experience in undertaking bat work /survey across Wales. Dyfrig Jones is an experienced bat worker with over 19 years' experience and licenced as an associate on the above licence for over fourteen (14) years.

Additionally, to ensure appropriate coverage, Marged Elen Jones and Owen Jones assisted during the emergence survey work. Both are highly experienced surveyors having assisted on numerous surveys over the past 12 years.

Each Structure was individually assessed via emergence survey work, the dates and prevailing weather conditions are presented in Table 1 below. The surveys were undertaken during appropriate weather conditions.

All surveys commenced 30 minutes before sunset and continued for a period of 120 minutes after sunset. The surveyors were positioned at points around the buildings and structures where the previous daylight surveys undertaken by Just Mammals in 2023 had indicated any potential to conceal bats, and/or locations where potential access into and from the structures was considered possible, in order to observe the emergence of any bats from the buildings. All areas of the buildings and structures were visible to at least one of the surveyors. The location of each surveyor is annotated on the drawing: Bat Emergence Survey 2025 (TQ/NRW: Cardigan Bats. Emergence. 2025. V1) presented as Appendix I the corresponding locations for the appropriate surveys and dates are detailed in Table 1 below.

The number and species of any bats leaving or entering the buildings were recorded.

3.1.1 Bat Detectors

Bat detectors were used to assist in the identification of any species exiting from the building or foraging in the immediate vicinity. Bat detectors included heterodyne model Petterson D-200 and frequency division detectors Petterson D-230, Wildlife Acoustics EM3 and Eco Meter Touch 2 Pro. The Frequency division detectors were linked to a digital recording device permitting the data to be saved to an SD Card to allow for further analysis if necessary and later analysed using Wildlife Acoustics Pro Software. In addition, the calls observed by the EM3 and Echo Meter Touch 2 Pro detectors were visibly assessed on the device screen in real time.

In addition, and in line with updated Bat Conservation Trust Guidelines, infra-red vision goggles- Nightfox Red HD Night Vision Goggles were used to assist in the observation of any emerging bats. This allowed for the recording of images of emerging bats to SD cards for future analysis.

Table 1 Survey dates, times and prevailing weather conditions

Structure Surveyed	Dates	Surveyor Locations	Weather Conditions
Existing River Wall (<i>endoscope & emergence</i>)	14/05/2025	6, 9, 16 & car park	Dry and clear 17°C start 15°C 1/8 octs.
	24/05/2025	4, 9, 16 & car park	Warm 18°C start-14C end 2/8 octs
Cardigan Bridge	22/05/2025	17, 18, 19 & 20	Partially clear 18°C start 13°C end. 4/8 octs
	4/06/2025	18, 19, 21 & 22	Overcast, 16° at start 12° end.5/8 octs No rain
B6	23/05/2025	15 & 16	Hot 18°C start 14C end 3/8 octs
B7	11/06/2025	11, 12, 13 & 14	Overcast 17°C start 15°C end. 7/8 octs. No rain
B8	19/05/2025	7, 8, 9 & 10	Dry and clear 17°C start 15°C end 1/8 octs
	3/06/2025	7, 8, 9 & 10	Overcast 15° at start 12° at end 6/8 octs. No rain
B11	27/05/2025	4, 5 & 6	Overcast 14° at start 13° at end 6/8 octs. No rain
	10/06/2025	4, 5 & 6	Overcast/clearing 18° at start 12° at end 5/8 octs
B12	16/05/2025	1, 2, 3 & 4	Hot 18° at start 12° at end 1/8 octs
	17/06/2025	1, 2, 3 & 4	Overcast/clearing 19° at start 14° at end 4/8 octs
Tree T3 (<i>endoscope</i>)	14/05/2025 & 10/06/2025		

Tree T4 (endoscope)	14/05/2025 & 10/06/2025		
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3.2 Endoscope Assessment

An endoscope, model Pro Vision 618 and digital Borescope Model Sealy VS8221 Proscribe, were used to examine any accessible gaps in the existing river wall and additional assessment of the two trees T 3 and T4 noted for assessment.

4 **Survey Limitations**

All areas of all buildings and structures were clearly visible to the surveyors.
As such, no limitations exist on the survey results.

5 Results

No Bats Emerged or were noted as present or having been present from any of the buildings, structures or trees surveyed during this specific survey.

5.1 Emergence Survey Results

The following Tables present a synopsis of survey results noted for each survey location/structure.

Table 2 Summary Results of Emergence/Activity Survey Existing River Wall

Date/Time	Start + End Times	Weather & Comment	Bat Emergence/Activity Recorded
14/05/2025	20:20-22:50	Dry and clear 17°C start 15°C 1/8 ocls. High tide 22.06 Reached part way up River Wall. 21.15 Surveyors at locations 6, 9 & 16 moved locations to avoid flooding tide.	20:45 Noctule detected not seen 20:47 Noctule detected not seen distant 20:50 Common pipistrelle crossing N-S over river and E 20:50 Noctule detected not seen distant 20:52 Common pipistrelle crossing N-S over river and E 20:56 Noctule high over river and crossing to NE 20:58 Daubentons active up and down river continues throughout survey 21:00 Common pipistrelle over carpark from northwest 21:10 Soprano pipistrelle x 2 from northwest over building B8 21:20 Soprano pipistrelle from N over car park 21:22 soprano pipistrelle x 2 over building B6 from east 21:22 Common & soprano pipistrelle foraging between B7 & B8 and along riverside 21:39 Soprano pipistrelle x 2 & common pipistrelle from NE over carpark. 21:39 common pipistrelle foraging over buildings and car park from NE 21:40 Common pipistrelle x2 from N of car park 22:02 Brown Long Eared faint over E side of carpark Foraging activity continued along and over river by common pipistrelle, soprano pipistrelle and daubentons. Faint recording of BLE and Greater horseshoe bats noted around 22:40 around survey pt 9. NO EMERGENCE

24/05/2025	20:30-23:15	Warm 18°C start-14C end 2/8 octs High tide at 18.54: Foreshore clear for surveyors.	Pattern of activity much as noted in 1st survey. Low tide allowed clear access throughout survey to the foreshore and allowed detailed assessment of emergence from existing River Wall. NO EMERGENCE
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Table 3 Summary Results of Emergence/Activity Survey of Cardigan Bridge

Date/Time	Start + End Times	Weather	Bat Emergence/Activity Recorded
22/05/2025	20:15-22:45	Partially clear 18°C start 13°C end. 4/8 octs	20:55 Noctule detected not seen distant 20:59 Common pipistrelle foraging to North 21:01 Daubentons active on river appear to come from W 21:06 Common pipistrelle over building from South 21:19 Daubentons, Soprano pipistrelle and common pipistrelle foraging under bridge 21:20 Noctule heard not seen, appears to be West of bridge soprano pipistrelle x 2 over building to S Foraging continues 21:48 L horseshoe heard faint 21:53 L horseshoe & greater horseshoe heard v faint 22:04 L horseshoe recorded at pt 17 seems to be going N-W 22:14 L & G horseshoe recorded Lesser N-W, Greater E-W along river. Foraging of pipistrelle and daubentons continue under bridge and over river to completion of survey. NO EMERGENCE

4/06/2025	20:30- 23:15	Overcast, 16° at start 12° end.5/8 ocs No rain	Activity much as 1 st survey, noctule activity seems greater but concentrated to W of bridge. Lesser & Greater Horseshoe appear in greater numbers than previous (4 & 5 respectively) over a period of 10 minutes, pattern of activity similar to previous with both spp heading W past bridge. Foraging of common & soprano pipistrelle and daubentons consistent with previous survey of bridge. NO EMERGENCE
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Table 4 Summary Results for Emergence/Activity Survey of Building B6

Date/Time	Start + End Times	Weather	Bat Emergence/Activity Recorded
23/05/2025	20:20-22:45	Hot 18°C start 14C end 3/8 ocs	20:55 Noctule high overhead heading W-E 20:59 Common pipistrelle from N 21:04 Soprano pipistrelle from NW 21:13 soprano pipistrelle over carpark from E 21:14 Daubenton's on river 21:27 common pipistrelle over building from N 21.32 – 21.45 common and soprano pipistrelle foraging around B7 and open grassland and along river corridor 21:55 BLE around edge of car park v faint recording Common & Soprano pipistrelle continue foraging around B6, B7 and open grassland area. 22:25 common & Soprano pipistrelle move in NE direction and don't return. 22:35 foraging activity subsides along river. 22:45 faint noctule signal recorded. NO EMERGENCE

Table 5 Summary Results of Emergence/Activity from Building B7

Date/Time	Start + End Times	Weather	Bat Emergence/Activity Recorded
11/06/2025	20:45-23:00	Overcast 17°C start 15°C end. 7/8 octs. No rain	20:55 Common pipistrelle from N 20:57 Noctule high overhead 20:59 soprano pipistrelle from N directly to river 21:05 – 21:25 Common & soprano pipistrelle foraging around tree T3 and grassland area to river 21:14 – 21:45 daubenton and pipistrelle (both spp) actively foraging along river bank and over high water. 21:50 Noctule high over building going west 21:59 Brown Long Eared faint along hedgeline and lane 22:15 brown long eared over lane to N 22:15 – survey end, common and soprano pipistrelle bats sporadic feeding over grassland and river but activity dropping off. NO EMERGENCE

Table 6 Summary Results of Emergence/Activity from Building 8

Date/Time	Start + End Times	Weather & Comment	Bat Emergence/Activity Recorded
19/05/2025	20:20-22:50	Dry and clear 17°C start 15°C 1/8 octs.	20:37 common pipistrelle from N over building 20:53 Noctule detected not seen 20:57 Noctule detected not seen distant signal 20:59 Common pipistrelle crossing N-S over building 21:07 Soprano pipistrelle foraging over grassland to E 21:10 Common & soprano pipistrelle crossing NW-S over building and foraging over grassland and river corridor 21:13 – 21:34 common & Soprano pipistrelle and daubentons active over river, pipistrelle bats foraging over grassland. 21:56 Noctule high over river and crossing E - W 22:15 V faint G horseshoe bat to W 22:15 to survey end Common & soprano pipistrelle foraging over grassland and river corridor 22:35 v faint BLE at N end of Building 22:37 Soprano pipistrelle from W-E along lane (N end of building)

			Foraging activity continued along and over river by common pipistrelle, soprano pipistrelle and daubentons. 22:47 Faint recording of BLE and Lesser horseshoe bats noted at N end of building. NO EMERGENCE
3/06/2025	20:30-23:35	Overcast 15° at start 12° at end 6/8 ocs. No rain	20:45 Common pipistrelle from N over building to river corridor 20:47 Common pipistrelle from NE over building 20:57 Noctule following river E-W clearly visible 20:59 – 21:17 Common & Soprano pipistrelle actively commuting from N of building to grassland and river corridor. Foraging over grassland and river corridor together with daubentons over river. 21:37 BLE v faint along lane NW of building 21:48 BLE on lane Throughout survey Common & soprano pipistrelle actively foraging over grassland and river corridor. Daubentons active over river throughout. NO EMERGENCE

Table 7 Results of Emergence/Activity from Building B11

Date/Time	Start + End Times	Weather & Comment	Bat Emergence/Activity Recorded
27/05/2025	20:30-23:10	Overcast 14° at start 13° at end 6/8 ocs. No rain but cooler High tide 21.11 Reached part way up River Wall. Limited visibility for surveyor at location 6 having moved to side of industrial unit. Surveyor at location 4 moved to edge of B12.	20:57 Noctule seen commuting E-W over river 20:59 Noctule detected distant 21:06 Common pipistrelle crossing NE-S over building 21:10 Common pipistrelle between B11 and B8 along road 21:21 soprano pipistrelle along river side of building E-W 21:33 Common & soprano pipistrelle active foraging with daubentons over river. Continues on and off throughout survey. 21:46 common pipistrelle foraging in area around the industrial unit and N side of building. No Activity to N of building thereafter Foraging along river continues, but less than on other nights. NO EMERGENCE

10/06/2025	20:45-23:15	Overcast/clearing 18° at start 12° at end 5/8 octs High tide at 20.43: Limited visibility for surveyor at location 6 having moved to side of industrial unit. Surveyor at location 4 moved to edge of B12	No activity on N side of building. V faint common and soprano pipistrelle signals no evidence of commuting or foraging on N side. 21:17-21:37 foraging soprano pipistrelle between B11 and B8 Joined by 2x common pipistrelle around 21:27 Both spp left in E direction around 21:37 Daubentons foraging over river, activity seems lower than previous surveys. NO EMERGENCE
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Table 8 Summary Results of Emergence/Activity from Building B12

Date/Time	Start + End Times	Weather & Comment	Bat Emergence/Activity Recorded
16/05/2025	20:20-23:10	Hot 18° at start 12° at end 1/8 octs High tide 23.10 Reached part way up River Wall. 21.30 Surveyors at locations 4 moved locations to avoid flooding tide.	20:57 Noctule commuting E-W along river 20:59 Soprano pipistrelle crossing N-S over building to river and then E 21:07 2x soprano pipistrelle cross N-S over building to river then E 21:15 Common pipistrelle crossing N-S over building to river and E 21:23 – 21:47 regular movement of common and soprano pipistrelle bats N-S and S_N over building 22:16 faint Greater horseshoe bat signal detected from surveyor at pt 2 22:37 G horseshoe x 2 crossing N-S over building and then W 22:24 – survey end Foraging activity along and over river by common pipistrelle, soprano pipistrelle and daubentons seemed less than as noted on the 14/05 survey along the river wall. NO EMERGENCE
17/06/2025	20:45-23:30	Overcast/clearing 19° at start 14° at end 4/8 octs (humid)	Pattern of activity of common and pipistrelle much as noted in 1st survey. Low but rising tide allowed clear access throughout survey to the foreshore and allowed detailed assessment of emergence from southern side of building. Foraging activity along river higher than previous survey but with same spp mix. Faint Greater and Lesser horseshoe signs noted between 23:01-23:12. No strong signals noted. NO EMERGENCE

5.2 Endoscope Assessment

Endoscope assessment of the Existing River Wall and Trees T3 & T4 showed no evidence of bat presence. Either in the form of individual animals or in the form of historic or fresh droppings.

6 Conclusions

None of the buildings, structures or trees assessed during this survey showed evidence of bat presence or bat emergence.

It should be noted that features of interest to bats may be used on an occasional basis and a survey undertaken during May and early June may not be reflective of the use made of those features at other times of the year or in the future by opportunistic bats.

Although none of the buildings showed any evidence of current use, it is clear by the early presence of common and soprano pipistrelle bats in particular that there are roosts in the general vicinity of The Strand, St Mary Street and Church Street.

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Appendix I

Aerial View Showing Building and Surveyor Locations

Aerial View 1 Buildings and Surveyor Locations (Image Google Earth 2025)

