



G.4 Bat

Damhead Creek Phase II Proposed Development

Bat Survey Results

Survey Dates: 11th, 29th August, 13th September 2006.

Surveyors: Ceri Griffiths, Chloe Pritchard and Sarah Ross.

Survey Methods

Surveys for bats were concentrated on the derelict pump house on the eastern edge of the Wetland Creation Area (WCA), to assess if the building was used by bats for roosting. Although this building was to be retained under the proposed development, there were some concerns about loss of foraging habitat should a roost be present.

Dawn swarming survey

A single dawn swarming survey was undertaken on 11th August 2006, following the guidance set out in the Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Workers' Manual (Mitchell-Jones and McLeish, 2004). Dawn swarming surveys are targeted at buildings with known bat activity, to identify entrances to roosts as bats tend to gather together outside a roost for several minutes just prior to entering the roost for the day. The survey was completed by two surveyors positioned each side of the pump house.

The survey commenced 1.5 hours before sunrise and ended 10 minutes prior to sunrise, when light levels were high. Each surveyor used a bat detectors (Batbox Duet) coupled with MP3 recorders to record selected bat calls for later analysis to confirm species of bat. A note of the time of swarming, the number of bats and species, if identifiable, was taken.

In addition, general bat activity on the site was noted by recording the time, number and direction of bat passes in the general area, with identification to species if possible. Again this was aided by bat detectors and MP3 recorders.

Evening emergence surveys

Two evening emergence surveys were completed on 29th August and 13th September 2006. The surveys followed the guidance set out in the Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Workers' Manual (Mitchell-Jones and McLeish, 2004). Emergence surveys involve watching for and counting bats emerging from their roosting sites in the evening. Two surveyors completed the emergence surveys, positioned either side of the pump house.

The surveys commenced at least 20 minutes before sunset until approximately 1.5 hours after sunset. Each surveyor used a bat detector (Batbox Duet), with the detectors being coupled with MP3 recorders to record bat calls for later analysis to confirm species of bat. A note of the time of emergence and general direction of flight was also made.

In addition, general bat activity on the site was noted by recording the time, number and direction of bat passes in the general area, the activity exhibited (foraging, feeding, fly past) along with identification of the species if possible. Again this was aided by bat detectors and MP3 recorders.

Survey Constraints

The final emergence survey was halted 40 minutes after starting due to torrential rain.

Survey Results

The pump house is a single-storey building that is approximately 5m in height. It is a steel structure with red brick walls that are double-layered. The cavity is c. 6.5cm in width. There is a steel, flat roof which appears to offer little roosting potential, although a full assessment could not be made as the roof could not be seen externally. It could provide a good feeding perch for brown long-eared bats. However, no feeding signs were found.

Internally, it was difficult to search for bat droppings due to the amount of waste from the barn owl. On the north east wall, 3m up, there is a missing window c. 40 x 40cm; this provides access into the building and also into the wall cavity and could provide potential hibernacula for bats, although the temperature could be too variable.

Other access points include open and missing windows along the top of the building on the north east side. There are also three ventilation windows at a height of 1m that are 80 x 80cm in size. One has been boarded up, the other two have had metal shields and a wire mesh over it, although the holes are large enough to allow bat access. All three give access to the wall cavity but all three are cobwebby and dusty and it is unlikely that they are being used by bats.

Results are summarised in table 1. There was no evidence of bats using the pump house. A small number of common pipistrelle bats were recorded commuting or foraging past the pump house during the emergence surveys. These were generally observed travelling in a northerly direction from the Kingsnorth Power Station towards the north of the mitigation land (typically following the edge of the estuary).

Conclusion

The pump house does not show any evidence of being used as a bat roost. The adjacent habitats appear to provide only limited foraging for a small number of common pipistrelle bats. The highest value habitats are likely to be the WCA and the ditches. The line of commuting along the estuary and possibly also along the perimeter ditch used by bats should be protected in any development proposals.

References

- Mitchell-Jones, A.J., 2004. *Bat Mitigation Guidelines. January 2004.* English Nature, Peterborough.
- Mitchell-Jones, A.J. and McLeish, A.P., 2004. *Bat Workers' Manual. Third Edition.* JNCC, Peterborough.

Damhead Creek Phase II Proposed Development
Table 1 Bat Survey Results

Swarming Survey						
Date	Weather	Time	Temp (°C)	Humidity (%)	Note	Findings
11 th August 2006	Breezy from the NE. Clear sky (<5% cover) Dry. Small amount of insect activity	04.10	11.7	80	Start time	
		05.30				End time
		05.40			Sunrise	
Emergence surveys						
Date	Weather	Time	Temp (°C)	Humidity (%)	Note	Findings
29th August 2006	Dry at start, then heavy rain at 19.40 and the temp. dropped	1950			Sunset	
		1930	15.4	87	Start time	
		2040			1	Ppi Co in a northerly direction from Kingsnorth Power Station
		2049			2	Ppi x1 pass
		2051			3	Ppi x1 pass
		2054			4	Ppi Fo
		2100			5	Ppi Fo x3 passes
		2105			6	Ppi Co
		2113			7	Unidentified bat pass
		2120	10.8	98	End time	
13 th September 2006	Heavy rain before start, then dry, still and 100% cloud cover. Torrential rain during survey	1925			Sunset	
		1850	20.6	86	Start time	
		1955			1	Ppi Co following estuary in a N direction
		2005			2	Ppi x1 pass
		2010			3	Ppi x1 pass
		2030	18.1	90	End time	Stop survey due to thunderstorm

Key:
Ppi – Common pipistrelle
Co – Commuting
Fo – Foraging

