

# ROYAL ORDNANCE, BISHOPTON

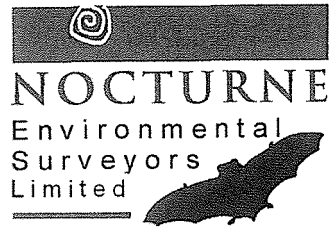


REMEDICATION AND RECLAMATION EARTHWORKS

## ENVIRONMENTAL STATEMENT

### APPENDIX I 4.9 BAT SURVEY, NOCTURNE

October 2006



## **BAT SURVEY**

### **BAE SYSTEMS ROYAL ORDANANCE SITE BISHOPTON, RENFREWSHIRE**

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November 2005

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## 1 Introduction

Nocturne Environmental Surveyors Ltd was asked by Cass Associates to carry out a survey of the Bishopton BAE Systems site for bats in June 2005. Induction was carried out on site on the 10<sup>th</sup> September 2005

### 1.1 Background

Maps of the site were provided by BAE Systems. These are quite comprehensive showing every numbered building on the site and the access routes and water bodies. We also received an ecological survey sheet 715/109 that indicated Site Structures with a potential to support a bat roost dated 4.11.03.

Copies of two previous bat survey's by C Balling in 2002 and R Stebbings in 1995, were requested, but were unavailable. These reports will be required prior to resurveying in spring 2006.

Nocturne understands that Pipistrelle species, *Pipistrellus pipistrellus* & *P pygmaeus* as well as, Daubenton's (*Myotis daubentonii*) and Brown long-eared (*Plecotus auritus*). have been recorded on the site but have no survey report evidence of this. There is verbal indication that there is a substantial roost in the building 70/100 and the surrounding woodland. It is understood that this building is to be retained and at the time of survey was outwith the authorised survey area. This could be verified in 2006 with a survey of the adjacent woodland if required.

### 1.2 Remit

Due to the late start in the season for bat surveying, a scoping survey was proposed which contained the following:

1. Using the existing Buildings survey information, as well as the previous Bat Survey provided by Cass Associates an assessment would be made of each group of buildings to determine which are suitable for bats and would require further surveying.
2. Following Bat Conservation Trust protocol for evening car surveys, the site, using the existing road network would be surveyed to establish presence /absence and species using the site. This would require the use of the following equipment:
  - Frequency Division Bat Detectors (which will allow recording of all species of bats echolocating)
  - Mini Disc Recorders
  - Palm Top Computer

This survey will provide mapped information in relation to species and distribution on the site

3. Daytime visit and desktop research of proposed buffer zone to determine suitable habitat for displaced bats.
4. Car survey as per description 2
5. Detailed description of mitigation measures for loss of feeding and roosting habitat.
6. Methodology for surveying buildings and trees. And only those trees close to buildings will be included.
7. Daytime survey to assess water courses and open water for potential roost and feeding areas. Those which are considered suitable will have an evening survey carried out.
8. The report will be available in electronic, hard copy and CD format.

In addition to the above BAE Systems requested a detailed survey and report for building number 28/237 in October to enable them to carry out demolition. The report is an attachment to this report.

### 1.3 Important considerations in the interpretation of bat survey results

There are 10 species of bats resident in Scotland. All are small weighing from 5-35 grams in body weight. About 8 species are known to roost in buildings and the others such as Noctule (*Nyctalus noctula*) and Leisler's (*Nayctalus leisleri*) prefer to use holes in trees, or crevices in the bark of old trees. Whatever type of roost is used, there may be difficulties in detecting bats during daytime, if the species hides away within dark crevices. Crevice dwelling bats, which can be difficult to find include both phonic types of Pipistrelle spp and Myotis sp. Other species such as Plecotus sp tend to be easily seen as they hang freely in open spaces.

Large maternity colonies of bats congregate in summer and tend to produce audible squeaks. Their accumulated droppings and urine give off pungent, ammoniated aroma. They are generally detectable with careful searching, even if they are well hidden. Small groups, or single bats, are often very difficult or even impossible to detect in daytime.

Surveying for bats around potential sites, at or after dusk, will often reveal the presence of flying bats emerging from roosts in which they were undetectable in daytime due to their occupation of hidden crevices. With the use of a bat detector it is often possible to identify the species, or group of species to which it belongs without the need to catch a specimen.

Bats may not be discovered at one time of the year, even though they use the habitat at other times. Hence, survey results carried out only at one time of the year may not discover the true bat potential of the habitat.

Whilst every reasonable effort is made to locate bats during a survey, it is impossible to guarantee that crevice dwelling species are absent. The destructive removal of tiles and/or slates and cavity walls etc., would be necessary to prove that bats are not present. No responsibility can be taken for the discovery of bats in such locations after a survey has been carried out.

#### 1.4 Methodology

Daytime surveys were carried out inspecting building types within the permitted access areas. There are areas of mature trees on the site that could support bats for roosts, feeding corridors and flight routes. There were too many trees to survey individually and a tree survey should be carried out once the trees have been tagged and marked for felling.

Dargavel House would appear to be a suitable for a bat roost but was not surveyed as it was outwith the authorised survey area and is being retained. A more comprehensive survey could be carried out at a more favourable time of year in 2006.

A daytime car survey was carried out of the buffer zone to identify suitable roost sites and feeding habitats. An evening survey was not carried out due to lack of ideal weather conditions.

Fixed point evening surveys were carried out of the main water bodies and the inhabited office buildings.

Car surveys were carried along the main routes.

#### 2. Results

Surveys were carried out on the:

23<sup>rd</sup> September - day and evening.  
24<sup>th</sup> September - daytime survey  
7<sup>th</sup> October - evening survey  
8<sup>th</sup> September - daytime survey of the buffer zone.

##### 2.1 Buildings surveyed on site:

28/228 28/225 28/224. 28/23IE 28/229D 28/238Q 28/209A 28/210A 28/273 28/208  
28/2 28/213A 28/913 28 /2245 6B 28/228/225 28/238A 28/238P 28/234. 28/323A 28/  
28/517 36/022 328B 28/346 28/113 28/152P 28/114 28/104C 28/104D 28/352B  
40/2 (24) 40/2 (31).  
24/225.24/20BC. 24/208B. 24/239P  
36/044.  
60/213  
50/211.  
31/021  
37/010 37/064A 37/005 37/038B 37/006 36/005 36/021 37/002 37/004 36/003 36/002  
36/002A 38/003A 37/055  
38/019 8/102 08/103 8/105 37/052 37/026

25/106B 25/105B 25/108 25/102A 22/124 25/127 37/025  
 25/102 25/138F 37/011 22/108A 25/138A 22/155  
 22/125 - Pill box in the field could be a possible hibernacula  
 22/135 22/128H 22/102H Q/138 22/115 22/112 22/110 22/109 22/108  
 22/126 22/103A 37/106  
 25/132 221/07 30/503 30/511 30/506 36/023  
 25/106A 22/129 13/009 25/130 25/129 25/164 25/131 25/119 35/ 538 25/105A  
 41/106 41/126  
 36/002A 38/003A 26/38B  
 28/110 36/010 36/013 36/024  
 28/117 28/131B 44/228 28/128 28/127 28/131D 28/124 4A 28/138D 28/29A

There was no evidence of bats found in any of these buildings or indication that bats had used the building as a roost site.

Bat passes were recorded in the area of the administration block. Pipistrelle spp were recorded near the main laboratory.

Daubenton's and pipistrelle spp were recorded feeding over the settling tanks by building 36/044 and over the Dargavel ponds 4/ 011A , B& C.

**2.2 The water courses were surveyed during the day to identify suitability for roosts and feeding corridors**

Point	Description	Features to indicate bat use
Pond C	Willow trees & shrubs	Likely bat foraging area
2	Dargavel Burn	Unlikely some pollution
3 Pond A	Mature shrubs	Likely bat foraging
4 Pond B	Willow trees & shrubs	Likely bat foraging area
5 34/274	Wash tank	Unlikely
6	Dried out pond	Unlikely
7	Dried out pond	Unlikely
8	Settling pond dried out	Foraging area
9	Settling pond dried out	Unlikely
10	Burn under road Overgrown vegetation	Unlikely
11	Burn, farm boundary	likely
12	Burn under bridge slow moving	Likely, trees along banks. Good foraging area.

**2.3 Below are the results of the evening car survey carried out along the main routes within the site. Survey from 18.52 – 20.04**

Point/description	Pass/ activity	Species
1 Glenshinoch Road	1	Pipistrelle spp
2 As above	1	As above
3 As above	2 feeding	As above
4 As above	Several passes	Pipistrelle 55kHz

5 NS42601		Pipistrelle 55kHz
6 /7 NS42603	1	Pipistrelle spp
8 Glenshinnoch road	1 several passes	Pipistrelle 55kHz
9 As above		Pipistrelle spp
10 Glenshinnoch road		Pipistrelle spp
11 28/329E		Pipistrelle 55kHz
12		Pipistrelle 55kHz
13 Beech road 34/229	Some distance away	Pipistrelle spp
14 Main drive 24/213		Pipistrelle spp

#### **2.4 Survey carried out in the 2km Buffer Zone around the site.**

Throughout the area the landscape is predominantly farmland of rough pasture, arable crops, with broken hedgerows and scattered single mature trees. Some of these features are linked to woodlands and roadside hedgerows.

The village of Bishopton has a housing mix of pre, post war and new houses. The school has an asphalt flat roof. All these buildings have potential for bat roosts

Point	Description	Features to indicate possible bat roost
1	North Mains Farm	Potential building roost (PBR)
2	South Mains Farm cottages Ardgriffe Manor	PBR
3	Woodland Broadleaf NS422 665	Foraging area
4	River Gryffe	Feeding area
5	New housing Craigends	PBR
6	Hedgerows on B790	Wildlife corridor/linear feature
7	Turningshaw Farm & cottages	PBR
8	Hedgerows along roadside	Linear route
9	Barochan Moss- coniferous trees some birch	Foraging area
10	Small mixed woodland NS 420 688	Foraging area
11	Trees bordering landfill site	Linear route
12	Mature woodland mixed & scrub	Foraging area
13	Boghall cottage NS 413 698	PBR
14	Micklefield Farm & cottages	PBR
15	Mixed woodland NS 4070	Foraging area
16	Formakin House & woodland	PBR Known bat roosts & PBR
17	Cottage leading up to DRUM	PBR
18	Hedgerows & scattered trees NS 409 716	Wildlife corridor/ linear feature
19	Mixed broadleaf woodland & hedges	Feeding linear feature
20	Various farmhouses & cottages	PBR
21	Cottage by equestrian centre	Known bat foraging area
22	Woodland by above cottage	Feeding area
23	Hedges along Bishopton road	Linear feature
24	Bishopton Residential buildings	Good PBR

25	Trees scrub along railway line	Wildlife corridor
26	Mature trees	Possible feeding area
27	Hedges & scattered trees in farmland	Foraging area
28	Houston House estate mature mixed woodland	PBR feeding corridor
29	Various cottages	PBR
30	Hedges mature sycamore	Foraging area.

### 3. Summary and Conclusion

- 3.1 No roosting bats or evidence of bats using any of the buildings that are unoccupied was found during the daytime survey.
- 3.2 The dusk surveys confirmed that bat species; Pipistrelle spp and Daubenton's are present on the site, using the open water and corridors of mature trees as feeding corridors.
- 3.3 The occupied main buildings by the main entrance appear to support a small pipistrelle spp roost.
- 3.4 The unoccupied buildings with flat roofs are generally unsuitable for bats, there are no openings cracks or crevices. The tunnels didn't appear to have suitable crevices, though require further surveying during summer months.
- 3.5 Unoccupied building with slate roofs should be surveyed again during the summer months.
- 3.6 Any occupied and heated building that are within the proposed development area require an internal survey and further external dusk surveys to pin point any roosts.

#### **4. Bats and the Law**

All bats are protected by the Wildlife and Countryside Act (Schedule 5) 1981 (WACA1981). They are also included in Schedule 2 of the Conservation Regulations 1994.

The Act and Regulations include provisions it illegal to:

Kill, injure, catch or keep bats.  
Damage, destroy or obstruct bat roosts.  
Disturb bats whilst they are roosting, for example by entering known roosts or hibernation sites.  
Sell, barter or exchange bats live or dead.

It is a legal requirement to consult Scottish Natural Heritage (SNH) before you do anything that may affect bats and their roosts. This may include:

Blocking, filling or installing grilles over old mines or tunnels  
Building, alteration or maintenance work.  
Getting rid of unwanted bat colonies  
Removing hollow or dead /dying trees.  
Re- roofing.  
Remedial timber treatment.  
Rewiring or plumbing in roofs.  
Treatment of wasps, bees or cluster flies.

Remember that because bats can potentially return to the same roost every year, bat roosts are protected even if there are not bats there all the year round.

The law allows you to tend disabled bats, kill seriously injured bats and disturb bats if they are in the living space of a house.

Activities such as catching, ringing or photographing bats, or disturb them whilst roosting, can be licensed by SNH provided they are for scientific, educational or conservation purposes.

These laws are not designed to prevent work but to minimise its impact on the long-term survival of bats.

For further details see sections 9-11, 16-27, and 69 of the WACA 1981.

#### **If Bats are found:**

If bats are uninjured, allow them to fly away.

If bats are injured or sluggish remove to a dry, empty, dark box. **Any one handling bats must use protective gloves.** Keep the box cool and still. Do not give food or drink. Call for assistance.

**In all cases where bats are found to occupy trees or buildings, inform Scottish Natural Heritage (SNH) or the Nocturne Environmental Surveyors (the contact numbers are at the end of the report)**

#### **4.1 Addresses and Contacts**

Scottish Natural Heritage  
Caspian House  
Mariner Court  
8 South Avenue  
Clydebank Business Park  
Clydebank  
G81 2NR

Tel: 0141 951 4488

Bat Conservation Trust  
15 Cloisters House  
8 Battersea Park Road  
London  
SW8 4BG

Tel: 020 7627 2629

Nocturne Environmental Surveyors Ltd  
9 Middlepenny Road  
Langbank  
Renfrewshire.

Tel: 01475 540578 or 01505 843 679.

Appendix: report attached BAE Bishopton 28/237

Reference: R Ransome Bat Pro Ltd