
Appendix 11.G Bat Survey Report

LIMEKILN WIND FARM:

BAT SURVEY

Report to: Infinergy Ltd

June 2012



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Limekiln Wind Farm: Bat Surveys. April 2012

1 Summary

1.1 Background

A survey of bats was commissioned to inform the Environmental Impact Assessment for the proposed Limekiln Wind Farm in Caithness. The proposed wind farm is anticipated to have 30 to 50 turbines and would be constructed to the south of the village of Reay. The site extends to approximately 11 km² and is currently used mainly for commercial forestry.

Two experienced licensed bat surveyors carried out the survey during the period May to October 2011, and May 2012. The survey involved dusk and dawn activity surveys, remote detector recordings and inspection of potential roost structures in the proposed wind farm site.

1.2 Main Findings

- Common pipistrelles *Pipistrellus pipistrellus* were the only species of bat found on the site.
- Recorded activity levels were low and the bats were mainly active in the northern part of the site.
- Activity at the remote detector in the North-east of the site began at dusk, indicating bats had not commuted far before commencing foraging.
- Use of the site was seasonally limited with a decline in activity in mid-August.
- No major commuting routes were identified.
- One small summer roost of males or non-breeding females was present in the North-west of the site.
- Overall results are consistent with the north of Limekiln site being used primarily for foraging by common pipistrelle bats entering from a roost to the north of Limekiln.

2 Introduction

2.1 Proposed scheme and site character.

A survey of bats was commissioned to inform the Environmental Impact Assessment for the proposed Limekiln Wind Farm in Caithness. The proposed wind farm is anticipated to have 30 to 50 turbines and would be constructed to the south of the village of Reay. The site extends to approximately 11 km² and is mainly a commercial forest of Sitka spruce and Alaskan lodgepole pine. The trees are approximately 20 years old and at the 'thicket' stage. Two main watercourses, the Achvarasdal Burn and Reay Burn drain the site, both running south to north. The site includes no currently inhabited buildings but there are some ruins present.

The woodland edges of the rides and tracks, woodland edges by open areas and the buffer zones around watercourses all provide foraging potential for bats. The young age and species of trees are unsuitable for bat roosts and the few intact buildings are small sheds. Roost potential at the site is overall low.

2.2 Bat regional and local status

In Britain there are 16 resident species of bats in two families, Rhinolophidae and Vespertilionidae. In Scotland all species represented are in the Vespertilionidae family and in the north of Scotland there are currently five resident species (Richardson 2000; National Biodiversity Network Gateway <http://data.nbn.org.uk/>):

Family: Vespertilionidae

Genus: *Myotis*

Species: *M. nattereri* Natterer's bat

M. daubentonii Daubenton's bat

Genus: *Pipistrellus*

Species: *P. pipistrellus* 45 kHz Pipistrelle (common pipistrelle)

P. pygmaeus 55 kHz Pipistrelle (soprano pipistrelle)

Genus: *Plecotus*

Species: *P. auritus* Brown long-eared bat.

The National Biodiversity Network Gateway indicates that Natterer's bats are absent from the Caithness area, records are scattered for Daubenton's bat, and records for Brown long-eared bats are very sparse, including one from Reay. Pipistrelles occur in the north of Caithness mainly along the coastal areas and have been recorded south of Dounreay. Soprano pipistrelles are less likely to occur than the common pipistrelle as far north in Scotland as the Limekiln site.

The common pipistrelle is therefore the most likely species to be found at the Limekiln site. It should be noted however that the number of bat records is a reflection of survey effort and as bats are very mobile species previously unrecorded may be found. Amateur records are fewer than with some other mammal species partly because of bats nocturnal foraging behaviour and also due to the requirement for specialised equipment to identify species.

Pipistrelle populations in Britain are thought to have undergone serious historic declines of approximately 55% between the 1960's and mid-1980s (Stebbing & Griffiths 1986). At this time common and soprano pipistrelles had not been identified as separate species. Latterly the National Bat Monitoring Programme revealed a 63.5% increase in the British population of common pipistrelles from 1998 to 2004. Currently the pre-breeding population is estimated to be approximately 2 million bats.

2.3 *Bat legal status*

The common pipistrelle is listed on Appendix III of the Bern Convention, Appendix II of the Bonn Convention and Annexe IV of the EC Directive 92/43/EEC (the Habitats Directive). The Habitats Directive is implemented by The Conservation (Natural Habitats, &c.) Regulations 1994, as amended by SI 1997 No. 3055, SI 2000 No. 192, Scottish Statutory Instrument (SSI) 2004 No. 475 and SSI 2007 No. 80. It is also a priority species on the UK Biodiversity Action Plan. The Habitats Regulations state that the common pipistrelle, as a European protected species, has been given special protection and it will be an offence to deliberately capture, kill or disturb the common pipistrelle, or to damage or destroy a roost site. The other species of bats listed above have similar protection.

2.4 *Bat ecology*

2.4.1 *Foraging and habitat associations*

In Britain Vespertilionid bats prefer foraging habitats associated with woodland and water while arable land, moorland and most improved grassland are strongly avoided (Walsh & Harris 1996a). Bat abundance is positively related to woodland, vegetation corridors, lacustrine and riverine habitats and negatively related to the availability of arable land (Walsh & Harris 1996b). Often commuting routes between daytime roosts and favoured foraging sites follow linear features in the landscape, such as treelines, lanes, waterways, even small ditches and dykes, possibly to assist navigation. Whatever the route, most bats usually fly quickly and quite directly to their foraging area (Altringham 2003).

In Scotland pipistrelles hunt over water, in parks, in woodland and over farmed land but avoid large open areas such as open hills and moorland (Racey & Swift 1985, Rydell *et al.* 1994). Occurrence of the soprano pipistrelle is higher along river and lake shores than other land types (Vaughan *et al.* 1997), but the common pipistrelle is more of a generalist feeder and is found in a broader range of habitat types including rivers and lakes, unimproved grassland, improved cattle pasture, coniferous and mixed plantations (Nicholls & Racey 2006). Linear features in the landscape are preferred and the common pipistrelle may use them exclusively (Verboom & Huitema 1997). It has been argued that this behaviour can be associated with predator avoidance (Verboom & Spoelstra 1999).

Daubenton's bats conduct most of their foraging over water feeding on insects such as chironomid midges and caddis flies (Vaughan 1997). Foraging habitat preference is correlated to insect abundance (Warren *et al.* 2000) and to calm open water, as the perception of prey by echolocation is easier if the prey is on a smooth surface (Siemers *et al.* 2001).

In Scotland the brown long-eared bat forages exclusively in woodland and around individual trees (Swift & Racey 1983, Rydell *et al.* 1994, Entwistle *et al.* 1996). Brown long-eared bats have a preference for light, open woodland, particularly deciduous, and rarely use parts of non-mature coniferous plantations except the edge (Harris & Yalden 2008). The Limekiln plantation is largely unsuitable or sub-optimal for brown long-eared bats.

2.4.2 Roost sites

The Vespertilionid bats potentially present at Limekiln utilise a range of summer roost sites including residential and agricultural buildings, bridges and holes and cracks in trees (Boye & Dietz 2005). In comparison with maternity roosts however very few hibernation sites are known for most species of bats in Britain and this is especially true in Scotland (Park 2000). Winter roosts are often underground in caves, mines and cellars and may be typically up to 20-80km from summer roosts dependent on species (Boye & Dietz 2005). However it is suggested that tree cavities or under bark are probably used for hibernation more than is recorded because they are not often searched (Mitchell-Jones 2004).

Pipistrelle maternity roosts are mainly in buildings with colonies of 20 – 223, median 76 (Barlow & Jones 1999). Compared with random buildings roost sites were more likely to have trees over 10 m tall and linear vegetation elements associated with them (Jenkins *et al.* 1998). Tree maternity roosts are uncommon though solitary males use tree holes. In winter bats are often found in small crevices in buildings (often churches), bridges and trees but rarely hibernate in caves.

Daubenton's bats roost predominately in trees or in the stonework of bridges (Altringham 2003). Crevices in buildings are used and in the Highlands Daubenton's are found in roof voids of stone walled buildings, usually at the gable end. All roosts are usually close to water or only a short flight away. Trees are selected near the woodland edge (Boonman 2000). Hibernation sites are usually caves, mines and suitable tunnels though buildings are used occasionally.

Brown long-eared bats have summer roosts in both buildings and tree holes. Buildings containing roosts are situated closer to water and woodland than random buildings (Entwistle *et al.* 1997). They are known to hibernate in caves, mines, quarries and underground fortifications. This species is most likely to be found in buildings, mainly cellars and may spend part of the winter in tree holes and will change hibernation sites frequently in winter (Swift 1998).

3 Methods

3.1 Objectives

The aim of this study was to identify bat populations within the study area, in order that the potential impact of the proposed wind farm can be assessed. The main objectives of the bat survey were to:

- i) Identify species of bats present and assess bat use of the proposed wind farm site;
- ii) Identify key areas of foraging and commuting routes;
- iii) Assess features of potential for bat roosts and to record the presence of any roosts.

3.2 Survey effort assessment

European guidance on bats recommends surveys should be undertaken throughout the bat activity season, and that surveys should identify bat species and any feature used by bats within the landscape (Rodrigues *et al.* 2008).

The level of survey required was assessed on the quality of the habitat, the geographical location of the site, the features suitable for on-site bat roosts and the suitability of the habitat in the area around the site, and features linking the surrounding area to the site.

Phase 1 habitat survey (Aquaterra Ecology 2010) described the site mainly as twenty year old commercial conifer plantation at the thicket stage. The site is therefore only accessible to survey along tracks, forest rides and buffer zones around burns. Two burns drain the site with unplanted buffer zones around them. The overall foraging potential of the site was judged to be medium with the areas

around the burns offering good potential. However the small size of the Limekiln watercourses and the often rippled surface were thought unlikely to provide adequate foraging habitat for Daubenton's bats.

The latitude of the site is outside the range of many British bat species and the site was judged to be most likely to be used by pipistrelles, in particular the common pipistrelle. This is Britain's commonest bat and the rarer bat species of most conservation concern in Britain were not likely to be present at this site.

The age and species of trees were assessed as unlikely to have any potential for roosting bats. There were no occupied dwelling houses on the site or other structures suitable for a pipistrelle maternity roost and only very limited roost potential overall.

The habitat to the west and south of the site is mainly open areas of blanket bog largely unsuitable for bats. To the east the site is bordered by similar age conifer plantation with lochs present and is of medium to high potential for foraging bats, but probably low potential for roosting bats. The north of the site contains some buildings with potential for maternity roosts along with areas of medium and high quality foraging of cattle pasture and woodland. The site is connected to the north by the Reay and Achvarasdal Burns, considered to be potential commuting routes.

Based on this assessment activity survey coverage was conducted using a series of transects with one dusk or dawn survey conducted at each, in five visits spaced temporally approximately evenly in the period May to September, at this latitude activity was predicted to be sporadic in April. Two remote bat detectors were deployed to augment activity from manual recordings. Structures on site and a number of other off-site buildings with potential, within bat commuting distance of the site or close to the proposed access route, were inspected to identify potential for, or presence of bat roosts.

3.3 Activity surveys

To maximise site coverage eleven transects were established (Figure 1), varying in length from 3.9 km to 5.4 km (mean 4.6 km). The transects covered the range of suitable bat habitats on site including the rides and tracks through the woods, the watercourses and woodland edges adjacent to open areas (Table 1). Transects were also selected with consideration for health and safety and some terrain was considered unsuitable for night survey. In addition to transect surveys a dawn survey was undertaken in Reay.

Dusk and dawn activity surveys of the transects were conducted by two experienced licensed bat surveyors, Shirley Lynch MSc and Steve Austin BSc. Transects were walked at a slow pace and a continuous timed survey undertaken with Bat Box Duet frequency division bat detectors. These have a range of 30-50 m for pipistrelles. Frequencies of 25 kHz to 60 kHz were scanned and any bat encountered was identified to species by noting the peak frequency, tone, repetition rate and duration of the echolocation calls. Also the flight direction, flight style and habitat of the bat was observed and used to assist identification. If the call was too brief, the bat was identified to genus. Brief calls were recorded using the Bat Box Duet and later analysed using Bat Scan. Dawn surveys were also used to detect any swarming behaviour associated with the presence of roosts. The location of any roost was recorded as accurately as possible given constraints of habitat and access.

3.4 Remote detectors

Two sites were selected for deployment of remote detectors (Figure 1). Both sites were thought to be possible bat commuting routes. Detector A (NC 97330 61287) was set near the Reay Burn approximately 2 km inside the northern boundary of the site. Detector A was deployed to record potential movements of bats onto the site from the north via the Reay Burn and to assess activity in a potentially good foraging area comprising woodland edges and a watercourse. Detector B (NC 98623 63590) was deployed to assess bats potentially commuting into the site from the north and assess activity in a good potential foraging area. This site was also selected as the dense gorse and bracken of this area was unsuitable for a transect survey. Both detectors were also used to give long term records of bat activity over a continuous period.

Two remote full spectrum bat detectors were utilised, the Song Meter SM2 (Firmware Version 2.3.9) from Wildlife Acoustics, Inc. Two microphones were used on each detector, one attached to the meter and set about 2 m high, and the second attached by a 10 m cable to the detector and set at about 10 m

high on a pole. SMX-US omnidirectional ultrasonic microphones with a beam angle of > 100 degrees (at -6dB attenuation) were used. The bat call recording analysis was done using Song Scope V4. Calls were identified to species, and the total number of passes counted. The number of these passes that were feeding buzzes was also counted.

3.5 Daytime roost surveys

Potential bat roost sites in the study area were surveyed externally and where appropriate internally by two experienced licensed surveyors. Standard equipment including binoculars, a powerful torch, ladders and an endoscope were used when necessary. Assessments were made of the structure of the building and features of potential for bats were recorded; crevices in stone work, loose slates, holes for entry to lofts etcetera (Hundt 2012). Bat presence and direct evidence of bat use including faeces, corpses, urine and grease stains were searched for, and audible vocalizations were also listened for. If considered appropriate a pre-entry dawn survey was undertaken.

Trees were also assessed looking for standard features such as cracks, splits, holes and loose bark, and the features were inspected for direct evidence of bats as in the signs above. All observations were made from the ground using close focusing binoculars.

4 Results and discussion

4.1 Activity surveys

The bat activity transects are shown in Figure 1 and transect details and survey periods are given in Table 1. The locations of bat activity are shown graphically in Figure 2 and a summary of activity records is given in Table 2. Full details of transect surveys are found in Appendix 1.

No activity was recorded in May 2011 but the survey was curtailed through bad weather and the 6 transect surveys undertaken were in sub-optimal weather conditions. The main period of activity recorded was in the period 19th June to 31st July 2011. During this period there were 48 records of common pipistrelles from the transects, but no other bat species were recorded. Forty-three (89.6%) of these records were in transects 1-5 in the northern part of the site and 5 (10.4%) records were from transects 6-11 in the south of the site. Survey effort between the two areas was similar with 13 surveys conducted in transects 1-5 and 14 surveys conducted in transects 6-11 during this period. Activity had greatly reduced by September 23rd to October 1st with only 5 activity records from 17 transect surveys.

Although activity was concentrated in the north with most (81%) records north of the national grid northing of 62, the absolute numbers of activity records here were not high. In the 13 transect surveys undertaken in June and July there were 43 records of activity, a mean of only 3.3 activity records per transect night. Bat activity, often expressed as number of passes, is not considered a reliable indication of numbers of bats present. There is little evidence that higher bat echolocation levels reflect higher bat abundance (Hayes 2000) as multiple passes can occur with individual bats especially when foraging. However it may be inferred that very low activity readings are likely to be from a small number of bats.

A repeat May survey in 2012, although conducted in near optimal weather conditions, recorded only low bat activity. Activity was again restricted to the north of the site with four records of bats in transects 1-5 and none in transects 6-11.

4.2 Remote detector recordings

The locations of the remote detectors are shown in Figure 1. Totals of bat activity are recorded in Table 3 and Appendix 2 has full details of the recordings with archive weather reports for Wick at sunset and sunrise from: http://www.weatheronline.co.uk/include/ukuk_region_akt.htm) Figures 3-5 show consecutive nightly bat activity at the detectors.

Remote detector A located in high quality foraging habitat by the Reay Burn recorded very little activity. In 51 survey nights only 15 passes were recorded and all were from common pipistrelles. In contrast remote detector B, located in the north-east of the site, recorded a total of 3168 passes in 73 survey nights, also all from common pipistrelles. In the period of consecutive nights 30th July to 18th August

(Figures 3 and 5) when the 15 passes were recorded at detector A (mean 0.8 passes/night), 914 were recorded at detector B (mean 48.1 passes/night).

As noted in 4.1 above high numbers of bat passes are not necessarily directly related to high bat numbers. Common pipistrelles often forage on regular flight paths or beats, sometimes using several a night. They may visit the same beat night after night (Racey & Swift 1985). Feeding buzzes may be as high as 10 per minute when prey is abundant and high numbers of feeding buzzes may be produced by one or a few bats. The much higher numbers of passes at detector B than detector A does show higher bat activity levels in this area and this supports the difference in activity levels in areas of the site shown in the transect results. The high percentage of feeding buzzes, for example 48% of the 914 passes in the July to August period, indicates the area around detector B is a foraging area. It is not possible to infer how many of the other passes may be from bats passing through but if this was a major commuting route more bat activity could be expected to the south in transect surveys.

Nightly (dusk to dawn) bat activity patterns for detector B for two periods of consecutive nights of similar night length are shown in Figures 6 and 7. The graphs show a typical peak of high activity shortly after dusk, when night temperatures are frequently at their highest and insects are abundant. Common pipistrelles were actively foraging shortly after sunset indicating that a roost may be close by. Bimodal patterns of activity occur when bats make a return to the roost after early foraging, particularly in the case of lactating females returning to suckle young. The core feeding areas of common pipistrelles in the North-east of Scotland are a mean of 1.44 km from the roost (Nicholls & Racey 2006). Pregnant females in Scotland travelled on average 1.8 km from the maternity roost and 1.3 km when lactating (Racey & Swift 1985). Flight speed when foraging averages 6.3 m/s for common pipistrelles (Kalko 1995) suggesting a common pipistrelle could fly a kilometre in 5 minutes. The records at Detector A were low in number but activity there did not begin until at least an hour after sunset, indicating bats had to travel some distance before foraging at that location, or foraged elsewhere first.

Bat activity at Detector B ceased abruptly in mid-August and this could be the result of bats leaving the area after changing roosts. Pipistrelle bats often disperse from a maternity roost when the young are weaned and this is a possibility in mid-August. The decline in bat activity did not appear to be weather related.

Additional recordings were taken in April-May 2012 to assess any early season activity. For this period detector A was located at another site by the Reay Burn in the north west of the survey area (NC 97066 63036), primarily to detect bats entering the site along the Reay Burn. In the period of consecutive nights 19th April to 1st May both detectors recorded only one bat pass indicating low early season bat activity.

4.3 Daytime roost surveys

The results of assessments of possible roost structures are shown in Table 4 and the location of the single roost identified is shown in Figure 2.

Daytime roosts surveys found no conclusive evidence for roosting bats but activity surveys found one roost in the Limekiln study area. This was a small shed in the north of the site (NC 97352 62819). Two common pipistrelles were observed at dawn entering under the onduline roofing sheets. It is likely that this is a small summer roost for a few males or non-breeding females. Tree surveys confirmed the early assessment that the conifers have no features of potential for bat roosts.

In addition to the main survey area, potential roost structures within 250m of the site boundary and structures by the proposed access route were also assessed. Assessments of several ruined and dilapidated buildings at Milton on the access route, followed by a pre-entry dawn survey found no evidence of bat roosts. The northern part of the Limekiln site is within range of roosts at the village of Reay but a dawn survey here did not locate a roost site although bats were circling and making social calls, typical behaviour at a roost site. Bats were reported to be present at Achvarasdal House, approximately 1 km north of the site, and this was confirmed by a member of staff. No permission was possible for an internal survey though. The owners of Loanscoribest house (NC 98561 64030) reported bat activity, 'lots of bats' in the early summer, but very few after mid-August. The cottage is only about 400 m from the location of bat detector B where activity sharply declined in mid-August. No internal inspection of the cottage was permitted. A dawn survey was conducted on 25th May 2012 at

Loanscorribest but although several common pipistrelles were observed, only one bat was seen using the site as a roost (under a roofing slate).

4.4 Survey limitations

The proposed turbine layout was not known at the time of survey and therefore a general approach to survey the site with approximately even survey effort was adopted. Much of the site is impenetrable thicket stage conifers and transects were therefore restricted to the available rides, tracks and edges of open areas. Although activity surveys were partly restricted for health and safety reasons, coverage of the site was considered adequate. Trees were only assessed for roosts at the edges of the dense woodland but conifers of this age are unlikely to have features of potential. Access for internal inspections of buildings with possible potential for roosts was not possible at some off-site locations. If construction of the access route involves demolition of buildings at Milton then further surveys will be required to check the structures.

Weather is an important factor and low temperatures (< 8-10°C), strong winds and heavy precipitation all limit bat activity. The activity survey was designed as five approximately monthly visits with all transects surveyed once per visit. Weather in 2011 was often unsuitable or sub-optimal and some disruption to the survey schedule occurred. 50 of the planned 60 dusk/dawn transect surveys were however completed.

5 Assessment

5.1 Bat use of the Limekiln site

The Limekiln site is being used by a single species of bat, the common pipistrelle. Onsite trees and structures are largely unsuitable for bat roosts and only one small summer roost was found. This was used by a few males or non-breeding females. The site is primarily used for foraging and the plantation edges and rides by watercourses provide good foraging habitat. Activity levels were much higher in the north of the site although similar habitat is found in the south. Bats were found to be foraging later after dusk in the south of the site but records were small in number. There was evidence of seasonal as well as geographical limitations on site usage, and activity levels declined in mid-August.

Estimating abundance and density of bats using the study area requires techniques such as mark and recapture which are outside the scope of a developmental survey (Hundt 2012). However low levels of activity recorded in transect surveys suggest the site is not used by high numbers of bats. Overall the use of the site is consistent with most common pipistrelles entering from a roost to the north of the site boundary, with the roosting bats dispersing in mid-August.

5.2 Potential Impacts

There is currently very little known of the potential impact of wind farms on bats in Britain although studies in North America and continental Europe have shown direct impacts on bats and bat populations with impact varying with site, species and season. Direct impact on bats may result from mortalities due to direct collision with blades, with mortality as much as five times more likely when blades are operating (Arnett *et al.* 2010). Bat mortality may also result from barotraumas in the form of damage to bat lungs from sudden air pressure changes close to blades (Baerwald *et al.* 2008).

Other impacts on bats may be caused by loss of foraging habitat, loss of roost sites, fragmentation of habitat and loss of connectivity resulting in disruption of commuting routes. The common pipistrelle has been classed as of medium risk from wind turbines and populations of this species of low risk threat from wind turbines (Natural England 2009).

Generic guidance impact assessment of wind turbines has been provided by EUROBATS (Rodrigues *et al.* 2008). With little evidence available in the UK, interim guidance was drawn up by Natural England, ratified by Scottish Natural Heritage, to provide national guidelines (Natural England 2009). General mitigation guidance is also given by English Nature (Mitchell-Jones 2004).

In general the most common and effective method of avoiding disturbance to bats is to carry out the work at an appropriate time of the year. For example if a maternity roost is present then works likely to disturb this should be conducted between 1st October and 1st May (Mitchell-Jones 2004). In the case of

a summer non-maternity roost such as the roost identified at Limekiln, works likely to disturb this should be conducted between 1st September and 1st May. Timings may be modified depending on site specific species information.

Developments involving the loss of a roost site will require mitigation depending upon the conservation value of the roost. Mitigation varies from the provision of bat boxes in the case of a non-maternity roost of the more common species, to a like for like roost replacement with evidence of significant usage before the destruction of the original roost in the case of a maternity roost of the rarest species (Mitchell-Jones 2004). The roost identified at Limekiln is in the first category of mitigation.

To avoid bat fatalities at turbines it is recommended to establish a minimum stand-off distance of 50m from the turbine blade tip to a habitat feature likely to be used by bats (Natural England 2009). A typical habitat feature would include the edges of woodland or plantations, and hedgerows.

Further surveys will be required pre-construction to assess changes to bat use of the site.

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Figure 1 Bat transects, and survey area outline in red

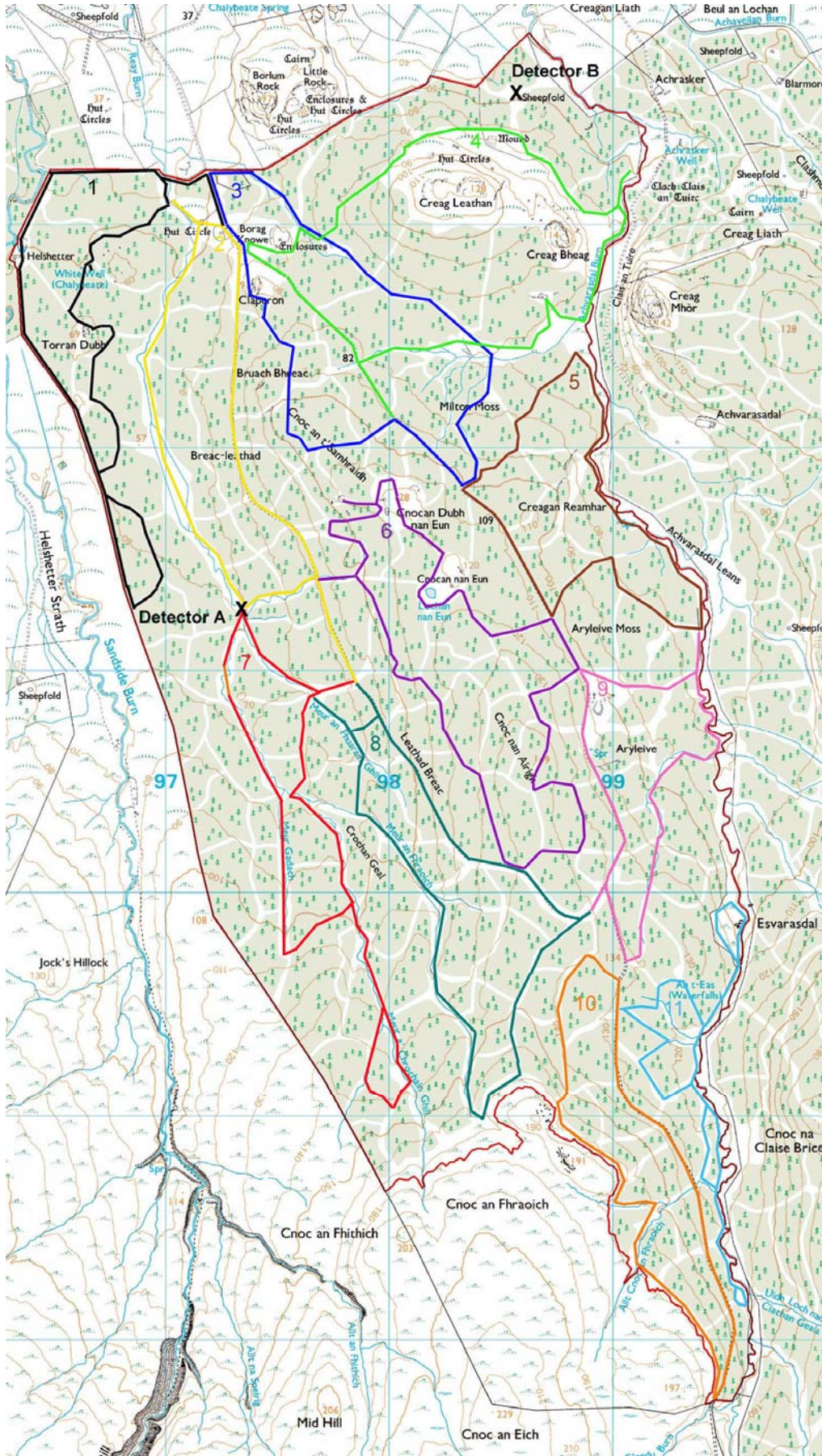


Figure 2 Bat (common pipistrelle) activity locations in 2011, arrow indicates roost site. Note some circles represent multiple records.

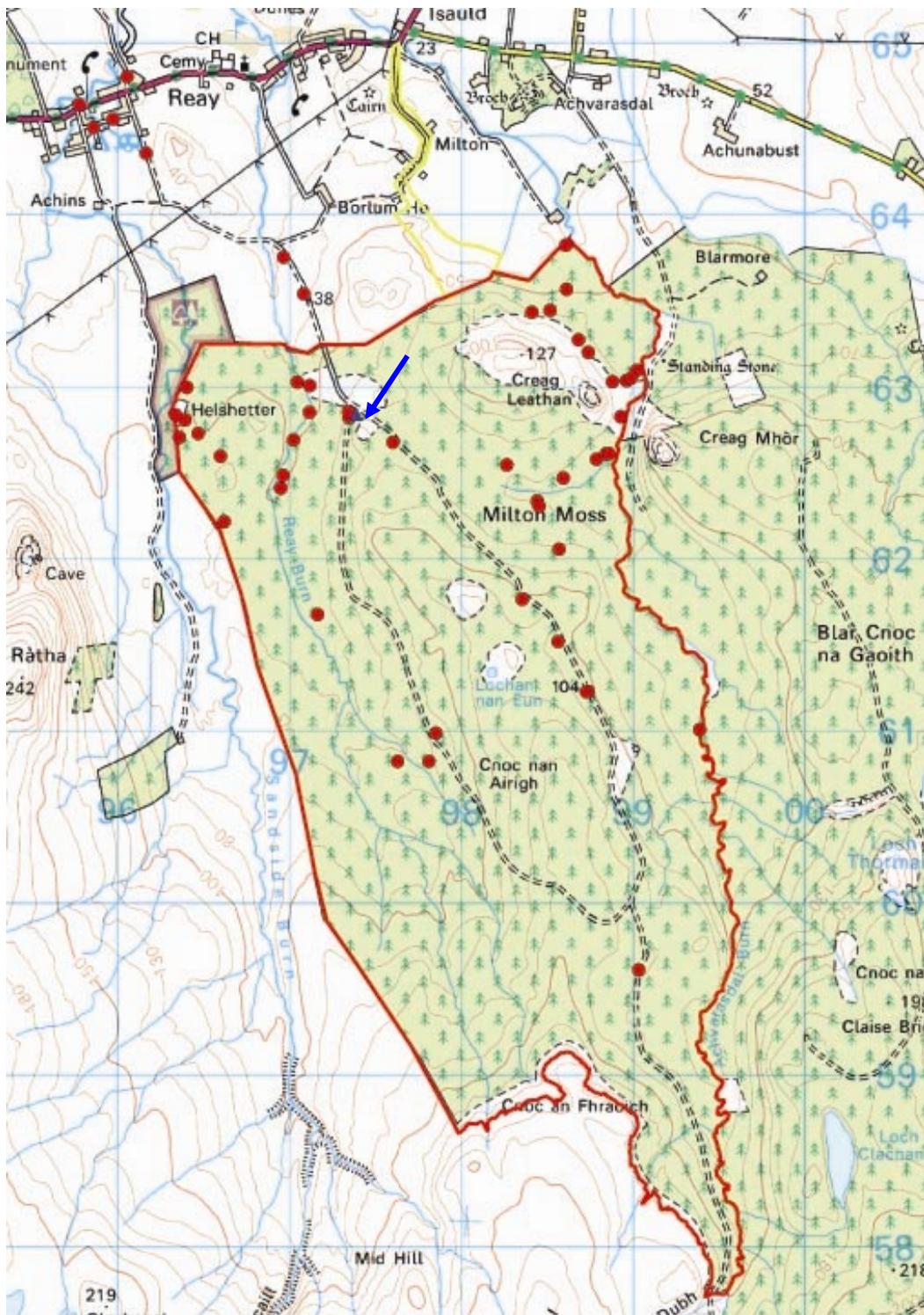


Figure 3 Bat (common pipistrelle) activity at remote detector A, 22 consecutive nightly totals July – August

Bat Activity 30/07/2011 - 21/08/2011

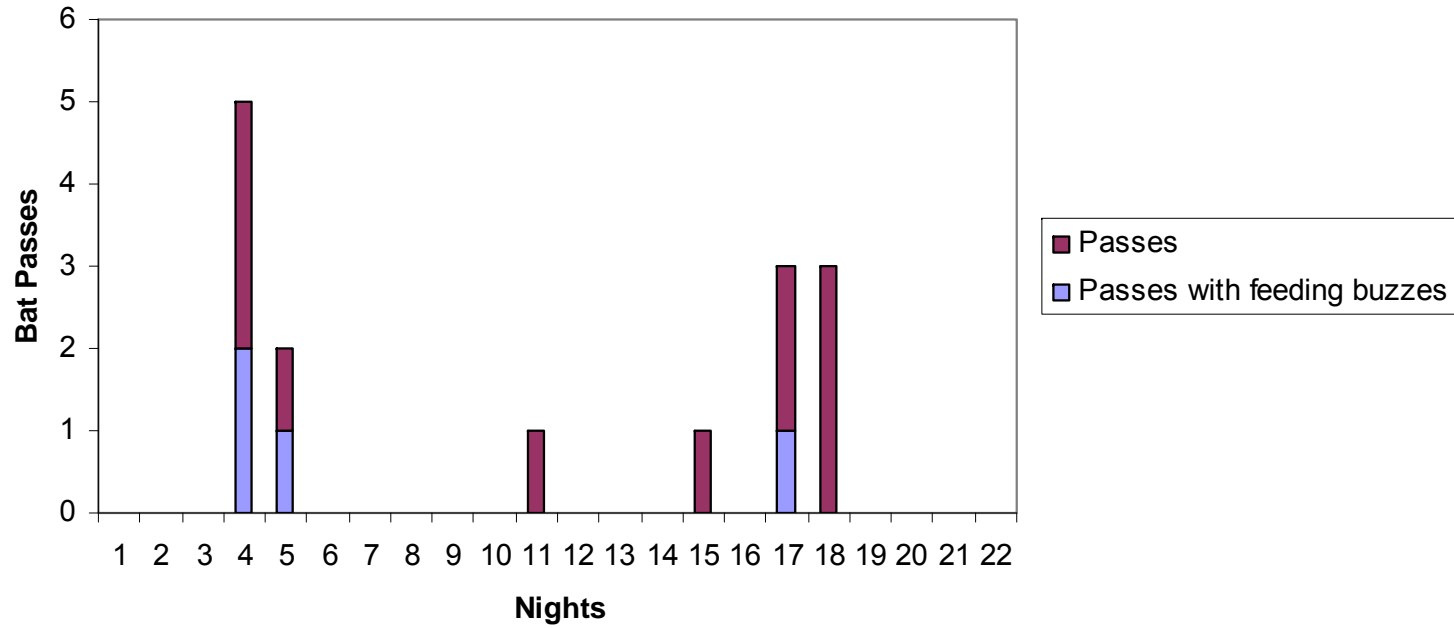


Figure 4. Bat (common pipistrelle) activity at remote detector B, 33 consecutive nightly totals, June - July

Bat Activity 20/06/2011 - 23/07/2011

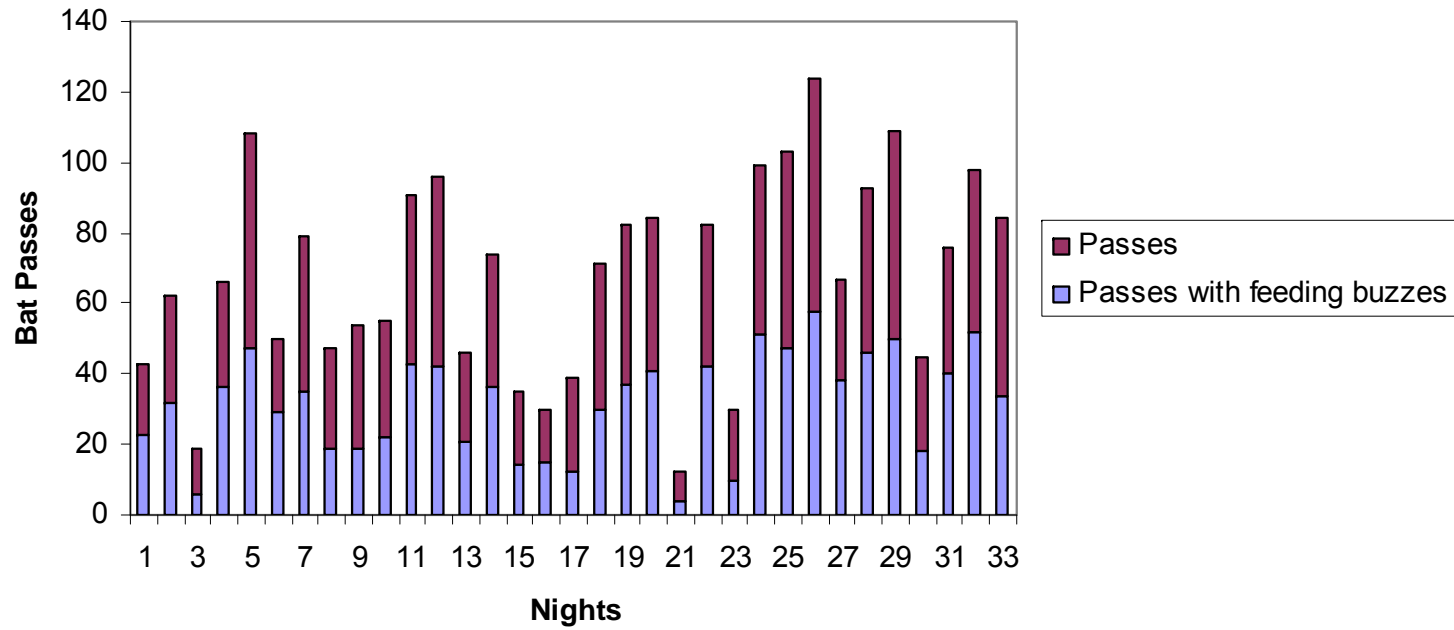


Figure 5 Bat (common pipistrelle) activity at remote detector B, 19 consecutive nightly totals, July - August

Bat Activity 30/07/2011 - 18/08/2011

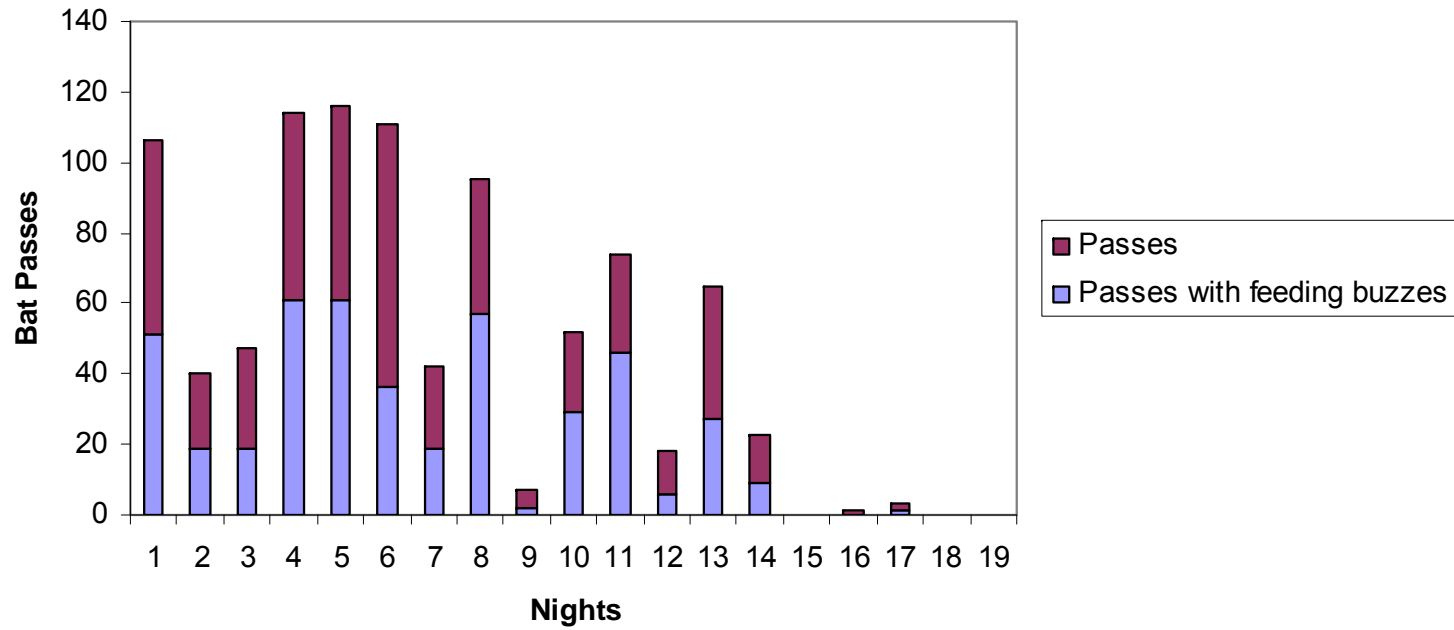


Figure 6 Nightly bat (common pipistrelle) activity patterns, 19 consecutive nights, Bat Detector B

Bat Activity Dusk to Dawn 20/06/2011 - 08/07/2011

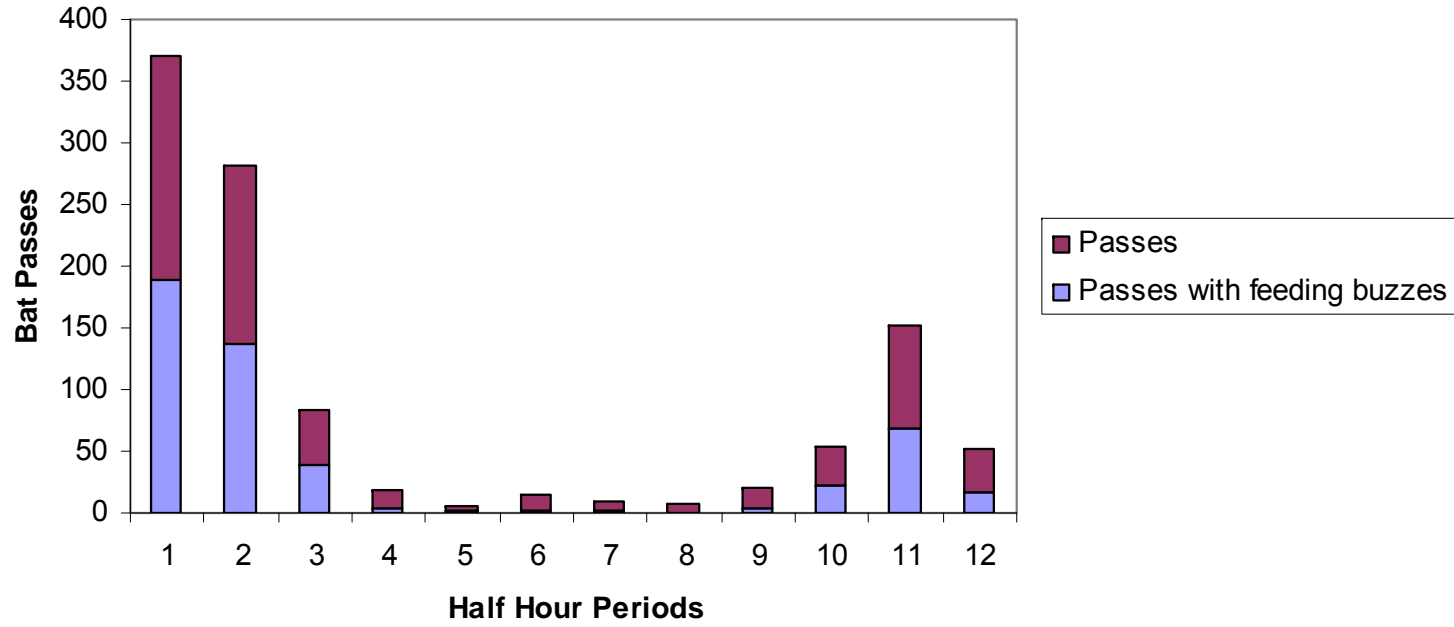


Figure 7 Nightly bat (common pipistrelle) activity patterns, 7 consecutive nights, Bat Detector B

Bat Activity Dusk to Dawn 02/08/2011 - 09/08/2011

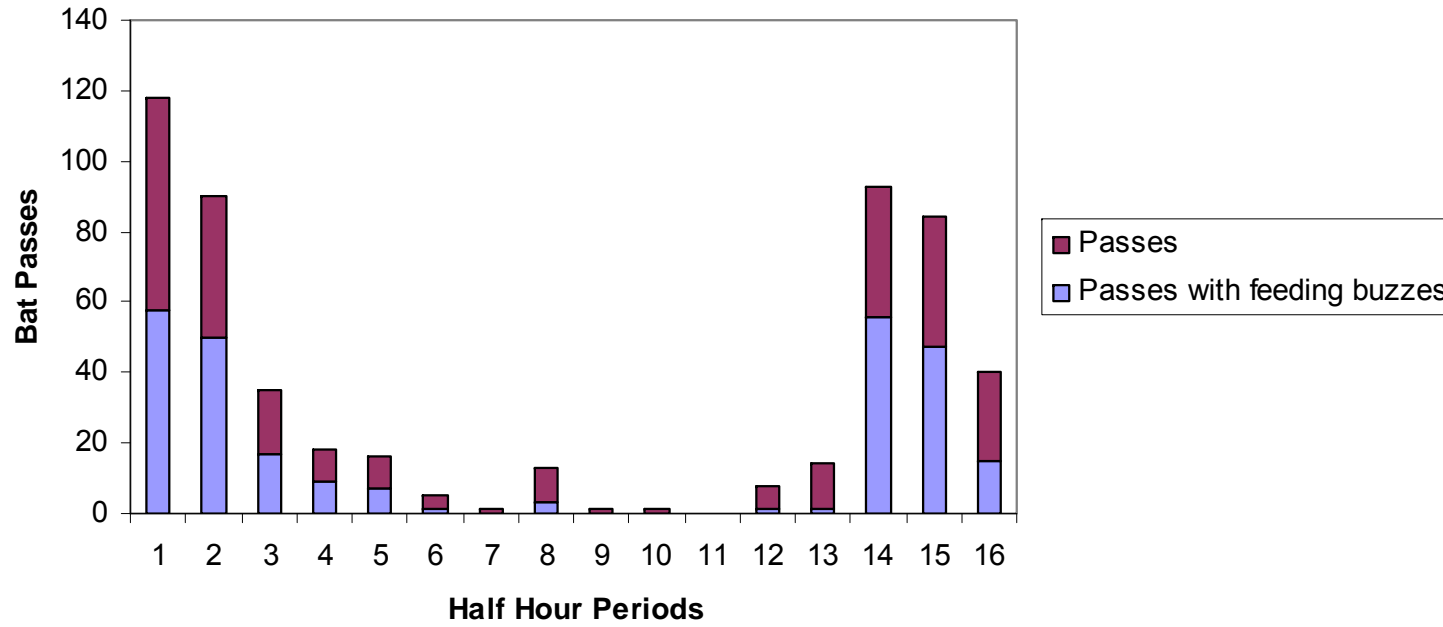


Table 1 *Transect lengths, habitats and survey periods.*

Transect	Track km	Ride km	Ride + watercourse km	Woodland edge to open area km	Total km	May 20-21 2011	June 19-21 2011	July 4-6 2011	July 29-31 2011	Sept 23-25 2011	Sept 29-1 Oct	May 23-26 2012
1	0.0	3.6	0.1	1.7	5.4	■	■	■	■	■		■
2	2.2	0.1	2.4	0.0	4.7	■		■	■	■		■
3	0.8	2.8	0.7	0.2	4.5	■	■	■	■		■	■
4	1.0	0.8	2.1	1.3	5.2		■	■	■	■	■	■
5	0.7	1.8	1.5	0.0	4.0		■	■	■	■		■
6	0.3	3.6	0.3	0.0	4.2		■	■	■	■	■	■
7	0.0	1.3	4.0	0.0	5.3		■	■	■	■	■	■
8	1.6	1.4	2.0	0.0	5.0	■	■	■	■	■	■	■
9	1.5	0.6	1.8	0.0	3.9	■	■	■	■	■		■
10	2.0	0.9	0.5	1.3	4.7	■	■	■	■	■	■	■
11	0.0	1.9	2.0	0.0	3.9		■	■	■	■	■	■

Table 2 Chronological summary of bat activity recorded in transects (Key: Pp: *Pipistrellus pipistrellus*, H: heard, S: seen, F: foraging, Sc: social calls.)

Transect	Date	Dusk/dawn	Easting	Northing	Species/activity	Time (BST) and comments
4	19/06/2011	Dusk	98786	62583	Pp	23:09. Flew along woodland edge $\frac{3}{4}$ tree height. Followed it in East direction but not found. 1 pass.
4	19/06/2011	Dusk	98840	62613	Pp; F	23:15. Feeding along woodland edge, flew in E direction. 6 passes.
4	19/06/2011	Dusk	98960	63040	Pp 3 bats; F	23:24-23:31. Two bats initially feeding and 3 rd bat at 23:25. All three feeding along woodland edge and not going above tree height so sheltered from wind. Feeding area between grid ref to 98876 63039.
4	19/06/2011	Dusk	98857	62615	Pp; F	23:51. Wind calmer, Pp flying above tree height and more in open than bats seen earlier. Echolocation calls slower.
4	19/06/2011	Dusk	98591	62473	Pp	00:00. Above tree level. 1 pass.
1	20/06/2011	Dawn	96334	62840	Pp - H	02:36. Passes Helshetter cottage– direction?
1	20/06/2011	Dawn	96334	62840	Pp - H	02:38. Passes Helshetter cottage – direction?
1	20/06/2011	Dawn	96356	62709	Pp -HS	02:42. Flying N towards cottage
1	20/06/2011	Dawn	96388	62811	Pp - HS	02:52. Flying NW towards cottage.
1	20/06/2011	Dawn	96466	62733	Pp - HS	02:55. Flying NW towards cottage.
1	20/06/2011	Dawn	96595	62600	Pp - HS	03:00. Flying SE by hillock.
5	20/06/2011	Dusk	98567	62060	Pp - HS	23:25. Flying S.
5	20/06/2011	Dusk	98351	61769	Pp - HS	23:45. Flying SE.
5	20/06/2011	Dusk	98561	61522	Pp -HS	23:57. Flying NW.
5	20/06/2011	Dusk	98737	61232	Pp - H	00:08. Flying direction?
5	20/06/2011	Dusk	98726	61230	Pp - HS	00:11. Flying SE.
9	21/06/2011	Dawn	99386	61011	Pp - HS	02:52. Flying N.
2	05/07/2011	Dawn	97160	61680	Pp - HSF	02:35. Flying round at ride junction feeding.
2	05/07/2011	Dawn	96946	62415	Pp - HS	03:05. Flying N along tree line.
2	05/07/2011	Dawn	96960	62490	Pp -HSF	03:10. Flying from N, along tree line, then circled feeding, then returned N.
2	05/07/2011	Dawn	97345	62824	Pp - HSF	03:35. Flying round sheds feeding. After several minutes it entered onduline roof sheet edge of small shed, W side.
2	05/07/2011	Dawn	97345	62824	Pp - HSF	03:38. Flying & feeding between sheds & tree line to N, then 03:40, circles sheds several times & enters roofing sheet on E side of small shed (bat could be seen in roost after dawn).
2	05/07/2011	Dawn	97345	62824	Pp - HS	04:25. Appeared at trees by sheds & circled (low) to back of small shed for 3 min. Then flew off W (probably disturbed by surveyors).
1	05/07/2011	Dusk	96617	62220	Pp - H	23:40. Flying along tree line in clearing, direction?
n/a	05/07/2011	Dusk	97850	60990	Pp	Flying along track – heard from car. Not seen.
3	06/07/2011	Dawn	98440	62340	Pp - H	02:52. Flying at ride junction, direction?
3	06/07/2011	Dawn	97345	62824	Pp - HS	03:55. Disturbed one flying low at back of sheds - flew off; direction?
3	06/07/2011	Dawn	97345	62824	Pp - HS	03:55. Flew from trees to sheds & circled above, then probably entered roost at rear (E).

Table 2 cont. Summary of bat activity recorded in transects (Key: Pp: *Pipistrellus pipistrellus*, H: heard, S: seen, F: foraging, Sc: social calls.)

Transect	Date	Dusk/dawn	Easting	Northing	Species/activity	Time (BST) and comments
4	06/07/2011	Dawn	98926	62830	Pp; F	03:01. Circling. Feeding in open over grass and heather.
4	06/07/2011	Dawn	99019	63099	Pp; F	03:11. Feeding along tree line/bracken, W to S and back.
4	06/07/2011	Dawn	98737- 98603	63203- 63327	Pp 3 bats; F	03:23-03:27. At least one Pp heard feeding along this section of transect, often two. Three bats were most seen together at one time. Feeding along treeline above grass, heather, bracken, bog myrtle. SE to NW and back again along treeline.
4	06/07/2011	Dawn	98515	63448	Pp	03:42. Not seen.
4	06/07/2011	Dawn	98408	63437	Pp	03:44. Fast direct flight W to E.
2	29/07/2011	Dusk	97340	62858	Pp -HSF	21:46. Circling around trees, feeding.
2	29/07/2011	Dusk	97020	62694	Pp - H	23:20. Flying along tree line, direction?
2	29/07/2011	Dusk	97113	62855	Pp - H	23:25. Flying along tree line, direction?
2	29/07/2011	Dusk	97115	63010	Pp - H	23:30. Flying along tree line, direction?
7	29/07/2011	Dusk	97626	60826	Pp; F	23:34. Feeding buzz heard. Not seen. 2 passes.
7	29/07/2011	Dusk	97809	60826	Pp	23:40. Faint call, bat far away. Not seen. 1 pass.
1	31/07/2011	Dawn	97042	63031	Pp - HSF	03:10. Circling & feeding in shelter of birches.
4	31/07/2011	Dusk	98606	63827	Pp, 2 bats	21:55. Fast direct flight, low following burn. N to S. 1 pass.
4	31/07/2011	Dusk	98610	63570	Pp; F	22:10. Flying below tree height in clearing. W to E to N. 2 passes.
4	31/07/2011	Dusk	98680	63277	Pp; F	22:22. Flying at tree top height E to W and back. 3 passes.
4	31/07/2011	Dusk	98878	63033	Pp, 2 bats; F	22:23. Feeding at half tree height along treeline. Continuous.
4	31/07/2011	Dusk	98988	63054	Pp, 2 bats; F	22:38. Feeding at half tree height along treeline. Continuous
4	31/07/2011	Dusk	97600	62682	Pp	22:11. Not seen. 1 pass.
3	31/07/2011	Dusk	98450	62310	Pp -HS	22:45. Flying S along tree line.
3	31/07/2011	Dusk	98262	62550	Pp - HS	22:58. Flying SE along tree line.
3	31/07/2011	Dusk	97340	62858	Pp - H	23:25. Flying along trees, direction?
Reay	01/08/2011	Dawn	97080	63544	Pp - HSF	03:08. Circling along & across track, feeding.
Reay	01/08/2011	Dawn	96962	63757	Pp - HS	03:13. Flew over track to E.
Reay	01/08/2011	Dawn	96162	64361	Pp - HS	03:26. Flew over track to E.
Reay	01/08/2011	Dawn	96052	64806	Pp - HS	03:40. Flew along road & back - N-S.
Reay	01/08/2011	Dawn	95772	64645	Pp - HSF	03:47. Flew across road & back, feeding.
Reay	01/08/2011	Dawn	95856	64511	Pp - HS	04:01. Flew along road & back - W-E - 4 passes.
Reay	01/08/2011	Dawn	95970	64560	Pp 2 bats - HSFSc	04:07. 2 Flying between house & trees across road, circling & feeding, with many social calls - dispersed after 5min when I approached the house.
Reay	01/08/2011	Dawn	96052	64806	Pp - HS	04:16. Circling in back garden of house on E side of road.
1	23/09/2011	Dusk	96400	63000	Pp - H	19:45. Flying along tree line, direction?
3	29/09/2011	Dusk	97340	62858	Pp - HS	20:42. Flying S along tree line by campsite
3	29/09/2011	Dusk	97340	62858	Pp - H	20:59. Over trees, direction?
4	01/10/2011	Dawn	97340	62858	Pp; F	05:00. Before leaving for transect:, circling
11	02/10/2011	Dusk	99031	59614	Pp; F	20:04. At tree level, open area of track, circled and flew N. 2 passes.

Table 2 cont. Summary of bat activity recorded in transects (Key: Pp: *Pipistrellus pipistrellus*, H: heard, S: seen, F: foraging, Sc: social calls.)

Transect	Date	Dusk/dawn	Easting	Northing	Species/activity	Time (BST) and comments
5	23/05/2012	Dusk	98350	61790	Pp - HS	00:04. Flying NW along track/ forest edge.
n/a	23/05/2012	Dusk	97831	62465	Pp - H	00:12. Along track/ forest edge; direction?
n/a	23/05/2012	Dusk	97340	62860	Pp - HS	00:20. Flying S past sheds.
4	24/05/2012	Dawn	98893	63032	Pp	03:42: 1 pass along treeline, flying East to West, near top of trees.
1	24/05/2012	Dusk	97340	62840	Pp - HS	23:55. Flying from N over to sheds, and return.
3	25/05/2012	Dawn	97340	62840	Pp - HS	02:26. Flying from N over to sheds, and return.
n/a	25/05/2012	Dusk	97340	62850	Pp - HS	00:10. Flying from S to N, past trees by sheds.
Loans-corribest	25/05/2012	Dawn	98586	63982	Pp	03:15. 1 pass over garden, North to South.
Loans-corribest	25/05/2012	Dawn	98590	63991	Pp; F	03:16. 1 pass with feeding buzz, flying West to South.
Loans-corribest	25/05/2012	Dawn	98569	63998	Pp; F	03:19. 1 pass with feeding buzz, flew over house North to South.
Loans-corribest	25/05/2012	Dawn	98585	63979	Pp	03:27. 2 pass flew in from East and flew off in same direction.
Loans-corribest	25/05/2012	Dawn	98586	63982	Pp	03:39. 2 faint passes, bat not seen.
Loans-corribest	25/05/2012	Dawn	98586	63982	Pp	03:56. 1 pass high, North west to East.
Loans-corribest	25/05/2012	Dawn	98544	63984	Pp	04:16 1 bat flew in from North, circled roof of barn outbuilding once and went under slate on South facing roof, near East gable end of building.

Table 3 Total bat activity recorded at remote detectors 2011

Nights	Detector A (NC 97330 61287) total passes recorded			Detector B (NC 98623 63590) total passes recorded		
	21/05/11- 27/05/11	30/07/11-21/08/11	24/09/11-17/10/11	20/06/11-23/07/11	30/07/11-18/08/11	24/09/11-15/10/11
1	0	0	0	43	106	0
2	0	0	0	62	40	0
3	0	0	0	19	47	0
4	0	5	0	66	114	0
5	0	2	0	108	116	0
6	0	0	0	50	111	0
7	-	0	0	79	42	0
8	-	0	0	47	95	0
9	-	0	0	54	7	0
10	-	0	0	55	52	0
11	-	1	0	91	74	0
12	-	0	0	96	18	1
13	-	0	0	46	65	0
14	-	0	0	74	23	0
15	-	1	0	35	0	0
16	-	0	0	30	1	0
17	-	3	0	39	3	0
18	-	3	0	71	0	0
19	-	0	0	82	0	0
20	-	0	0	84	-	0
21	-	0	0	12	-	0
22	-	0	0	82	-	-
23	-	-	0	30	-	-
24	-	-	-	99	-	-
25	-	-	-	103	-	-
26	-	-	-	124	-	-
27	-	-	-	67	-	-
28	-	-	-	93	-	-
29	-	-	-	109	-	-
30	-	-	-	45	-	-
31	-	-	-	76	-	-
32	-	-	-	98	-	-
33	-	-	-	84	-	-

Table 4 Roost inspections of structures

Structure	Grid Ref	Location	Date	Description	Presence/signs	Potential	Activity surveys
Bridge	NC 99437 57686	Bridge for track over Glendu Burn, just past South boundary fence, near 'stable'	20/05/2011 checked during transects and 28/10/11	Stone and mortar abutments. Timber deck covered with tar supported by old iron beams. Parapet supported by four stone and mortar posts with one timber on one metal rail. Old bridge, dilapidated.	No	Low. One stone post has disintegrated at top and big gap but too open to elements to be of potential. Few gaps in stonework of abutments but most would be vulnerable to submergence when water levels rise during rainy periods.	Bridge included in transect 10 route. No bats seen/heard in surveys
Garage	NC 97355 62871	In Limekiln boundary, near entrance track	20/05/2011 checked during transects and 28/10/11	Timber walled with corrugated felt sheeting on plywood sarking for roof. Water tight single roomed garage of average size. Used for storage but looks like not used for long time. Side door open and swallows nesting inside.	No	Internally as day time or night time roost. Felt flashing along ridge could be got under by bats.	Included in transect 2 – no bats seen using the structure
Limekiln	NC 98993 60870	In Limekiln boundary, near west track	20/05/2011 checked during transects and 28/10/11	Old kiln structure built of field stone with mortar, most now disintegrated.	No	Crevices between stones offer roosting and hibernation potential.	Included in transect 9 – no bats seen using the structure
Limekiln Cottage	NC 98917 60876	In Limekiln boundary, near west track	20/05/2011, checked during transects and 28/10/11	Small ruined cottage with stone and mortar walls only standing to 1.5 m to 2 m except north gable end wall with chimney.	No	Some crevices between stones but not deep and exposed, low potential. Chimney has possibility but could only be seen partially with endoscope.	Included in transect 9 – no bats seen using the structure
Shed	NC 97352 62819	In Limekiln boundary, near entrance track	20/05/2011, checked during transects and 28/10/11	Small 2.5 m x 4 m shed, timber walled with corrugated felt sheeting on top of felt roof. No access to inside but could see through window that it was empty.	No droppings seen on building but common pipistrelles were seen going under the corrugated roofing and crawling up to apex. Once at the apex a bat could not be seen using an endoscope, though its exact location was known.		Included in transect 2 – see transect results Table 2

Table 4 cont. Roost inspections of structures

Structure	Grid Ref	Location	Date	Description	Presence/signs	Potential	Activity surveys
Cottage	NC 96328 62850	By Helshetter plantation in NW corner of site.	Checked during transects 20/06/2011, 05/07/2011 and 31/07/2011	Stone cottage with stone slated roof. Parts of the roof collapsing.	No, but building not fully inspected internally because of unsafe roof.	Many gaps under the large stone slates on the roofs where bats could access and roost and/or hibernate. There were also numerous holes in the stonework, gaps in the eaves, and gaps under coping stones and ridge - again all potentially suitable for roost and/or hibernating bats.	Included in transect 1, no bats seen using the structure
Old Stable	NC 99448 57699	Just past South boundary fence, next to track	20/05/2011 checked during transects and 28/10/2011	Small building at about 100 years old (dated by graffiti from 1918). Roof and three walls - corrugated iron on timber frame. North wall gable end wall brick fireplace and chimney, partially fallen down. Internally open single room with partitions for horses. Timber frame exposed and corrugated walls not lined, except for section of south wall with timber on horse stall.	No	Low/Medium. Mortar missing between some bricks of fireplace but spaces not deep so low potential. Four gaps internally between stone wall and timber frame medium potential for bats. Gap between timber partition and south wall relatively large so only low potential for use. Also gaps between timber frame and corrugated sheeting probably too big for pipistrelles however they have been known to use the small space between overlapping corrugated sheets. Building would be suitable as a night roost.	Stable included in transect 10 route. No bats ever seen/heard
Ruins in field	NC 97711 642337	On access route at Milton	24/09/2011	Stone walls without mortar, fallen down and below head height.	No	Low. Gaps between stones all exposed to elements lowering potential for use by bats.	One dawn survey 25/09/2011

Table 4 cont. Roost inspections of structures

Structure	Grid Ref	Location	Date	Description	Presence/signs	Potential	Activity surveys
Cottage	NC 97691 64229	On access route at Milton	24/09/2011	Single storey building, dilapidated and unoccupied. Externally harled with stone/mortar wall underneath (can be seen at gable end). Roof covered with Caithness slates, ridge tiles and coping stones at gable end. Extension to cottage harled walls also but roofed with felt slates that are partially missing exposing sarking boards underneath. Front door open but running water through building and floor timbers very rotten so building not entered.	No but could not get access building	Medium/unknown. Building not used and roof void could offer good potential for bats with access via exposed sarking boards. A lot of gaps along ridge tiles externally and gable end coping stones. Spaces in gable end wall also have potential for use.	One dawn survey 25/09/2011
Stone ruins	NC 97625 64078	On access route at Milton	24/09/2011	Old stone buildings with only walls left to about head height. Thick walls constructed of field stones with little mortar left.	No	Low. Some gaps between stones suitable for bats but quite exposed lowering potential use, However, gaps inside chimneys have higher potential and could be considered for hibernation.	One dawn survey 25/09/2011
Cottage with tin roof and outhouse	NC 97648 64192	On access route at Milton	24/09/2011	Single storey building, very dilapidated but roof still present. Walls stone and mortar lined with timber internally. Roof rusted corrugated iron with strip of tin along apex. Building partially covered with ivy externally.	No but could not get access to roof void or two outbuildings	Medium/unknown. Building not used and roof void and outbuildings could offer good potential for bats. Gaps in mortar of stone walls at both gable ends offer potential use. Gap at apex of ridge under tin strip could give access to space above ridge beam – a place often used by pipistrelle bats. Ivy offers low potential for use by bats.	One dawn survey 25/09/2011

Table 4 cont. *Roost inspections of structures*

Structure	Grid Ref	Location	Date	Description	Presence/signs	Potential	Activity surveys
Loanscorribest buildings	NC 98561 64030	About 200m North of Northwest boundary fence of Limekiln	24/09/2011	Farmhouse with outbuildings. One outbuilding surveyed internally (no internal access to others) Loanscorribest House, surveyed externally only. House 2 storey with dormer windows upstairs – very well maintained with block stone wall and intact mortar. Slate roof with ridge tiles. Outbuilding - stone and mortar walls with slate roof on sarking boards. Internally walls and roof not lined so exposed and easily viewed to apex.	One pipistelle dropping attached to south gable end wall of outhouse externally. No other signs seen inside or out for the outhouse. The house was only surveyed externally and no signs were seen. Owners have seen a lot of bats in the evening this summer when out in the garden but hardly any since mid August.	Outbuilding has gaps between stones internally but not externally. Building used daily (henhouse and storage). Gaps in door lintels. Gaps under roof slate and at apex. The house has slate roof, ridge tiles and gaps around dormer windows, all have potential for use. Not known internally if potential in attic.	Dawn survey 25/05/2012 For results see Table 2

Appendix 1 Transect survey details

Transect	Date	Dusk/dawn	Survey period	Sunset/sunrise	Weather	Activity records
1	21/05/2011	Dusk	21:45 – 23:45	21:46	9->7°C, W wind, 100% cloud, & light showers, increasing to constant rain at 22:45.	No bat activity
1	20/06/2011	Dawn	01:50 – 04:10	04:06	9°C, W light wind, 100% cloud, & dry.	6 records
1	05/07/2011	Dusk	22:15 – 00:15	22:23	13°C, fresh SW wind, 100% cloud, & dry.	1 record
1	31/07/2011	Dawn	03:00 – 05:00	05:01	12°C, fresh S wind, 100% cloud, & dry.	1 record
1	23/09/2011	Dusk	19:15 – 21:25	19:13	12°C, light S wind, 100% cloud & dry.	1 record
1	23/05/2012	Dusk	22:00 – 00:00	21:54	17°C, mostly calm, clear & dry.	1 record
2	20/05/2011	Dusk	21:40 – 23:15	21:45	8->7°C, W wind, 100% cloud & dry to 22.45, then rain increasing	No bat activity
2	05/07/2011	Dawn	02:00 – 04:30	04:14	14°C, fresh SE wind (calm in rides), 90% cloud, & dry.	6 records
2	29/07/2011	Dusk	21:45 – 23:45	21:45	12°C, calm, 100% cloud & dry.	4 records
2	24/09/2011	Dawn	05:00 – 07:10	07:03	11°C, light S wind, 5% cloud & dry.	No bat activity
2	26/05/2012	Dawn	02:25 – 04:30	04:26	12°C, S wind, clear & dry.	No bat activity
3	21/05/2011	Dawn	02:45 – 04:25	04:37	7°C, W blustery wind, variable cloud, light showers, constant rain from 04.20.	No bat activity
3	19/06/2011	Dusk	22:25 – 00:25	22:26	10°C, NW light – moderate wind, 100% cloud & dry.	No bat activity
3	06/07/2011	Dawn	02:10 – 04:15	04:15	14°C, fresh SE wind, 100% cloud, & dry.	3 records
3	31/07/2011	Dusk	21:35 – 23:35	21:40	15°C, S breeze, 95% cloud & dry.	3 records
3	29/09/2011	Dusk	18:55 – 21:00	18:57	15°C, calm, 15% cloud & dry.	2 records
3	25/05/2012	Dawn	02:25 – 04:30	04:27	11°C, calm, 90% cloud & dry.	1 record
4	19/06/2011	Dusk	22:25 – 00:36	22:26	10°C, NW light – moderate wind, 100% cloud & dry.	5 records
4	06/07/2011	Dawn	02:10 – 04:15	04:15	14°C, light to fresh SE wind, 100% cloud, & dry.	5 records
4	21/07/2011	Dusk	21:35 – 23:35	21:40	15°C, S breeze, 95% cloud & dry.	6 records
4	25/09/2011	Dawn	05:10 – 07:10	07:05	11°C, S breeze, 100% cloud & dry.	No bat activity
4	01/10/2011	Dusk	18:55 – 20:00	18:54	11°C, light breeze, 100% cloud, dry.	1 record
4	24/05/2012	Dawn	02:30 – 04:30	04:30	13°C, calm, 75% cloud & dry.	1 record
5	20/06/2011	Dusk	22:25 – 00:30	22:26	13°C >11°C, calm, 100% cloud, & dry.	5 records
5	30/07/2011	Dawn	03:00 – 05:00	05:00	13°C, calm, 100% cloud & dry.	No bat activity
5	24/09/2011	Dusk	19:15 – 21:15	19:12	11°C, S breeze, 5% cloud & dry.	No bat activity
5	23/05/2012	Dusk	22:00 – 00:05	21:54	17°C, mostly calm, clear & dry.	1 record
6	21/06/2011	Dawn	01:55 – 04:05	04:06	10°C, calm, 100% cloud, & dry.	No bat activity
6	30/07/2011	Dawn	03:00 – 05:00	05:00	13°C, calm, 100% cloud & dry.	No bat activity
6	23/09/2011	Dusk	19:10 – 21:15	19:13	12°C, light S wind, 100% cloud & dry.	No bat activity
6	01/10/2011	Dawn	05:10 – 07:20	07:17	11°C, calm/light breeze, 100% low cloud, some mist & dry.	No bat activity
6	23/05/2012	Dusk	22:00 – 00:05	21:54	17°C, mostly calm, clear & dry.	No bat activity

Appendix 1 cont. Transect survey details

Transect	Date	Dusk/dawn	Survey period	Sunset/sunrise	Weather	Activity records
7	21/06/2011	Dawn	01:55 – 04:05	04:06	10°C, calm, 100% cloud, & dry.	No bat activity
7	29/07/2011	Dusk	21:45 – 23:45	21:45	12°C, calm, 100% cloud & dry.	2 records
7	24/09/2011	Dawn	05:00 - 07.10	07:03	11°C, light S wind, 5% cloud & dry.	No bat activity
7	30/09/2011	Dusk	18:55 - 20.00	18:56	14°C, calm, 100% low cloud & dry (v light rain 10 mins at 19.00 then dry).	No bat activity
7	24/05/2012	Dawn	02:30 – 04:30	04:30	13°C, calm, 75% cloud & dry.	No bat activity
8	21/05/2011	Dusk	21:45 – 23:45	21:46	9->7°C, W wind, 100% cloud, & light showers, increasing to constant rain at 22.45.	No bat activity
8	04/07/2011	Dusk	22:25 – 00:30	22:22	14°C, fresh SE wind (light in lower sections of transect, sheltered along stream), 90% cloud & dry.	No bat activity
8	31/07/2011	Dawn	03:00 – 05:00	05:01	12°C, fresh S wind, 100% cloud, & dry.	No bat activity
8	24/09/2011	Dusk	19:15 – 21:15	19:12	11°C, S breeze, 5% cloud & dry.	No bat activity
8	02/10/2011	Dawn	05:15 – 07:20	07:18	10°C, calm/light breeze, 100% cloud, dry.	No bat activity
8	25/05/2012	Dusk	22:00 – 00:00	21:58	14°C, S breeze - freshening, clear & dry.	No bat activity
9	20/05/2011	Dusk	21:40 - 23.15	21:45	8->7°C, W wind, 100% cloud & dry to 22.45, then rain increasing.	No bat activity
9	21/06/2011	Dawn	01:55 - 04.05	04:06	10°C, calm, 100% cloud, & dry.	1 record
9	04/07/2011	Dusk	22:25 00:30	22:22	14°C, fresh SE wind, 90% cloud & dry.	No bat activity
9	30/07/2011	Dusk	21:40 -23:45	21:43	13°C, S breeze increasing to moderate, 100% cloud, & dry.	No bat activity
9	30/09/2011	Dawn	05:15 – 07:15	07:15	11°C, variable breeze, 5% cloud & dry.	No bat activity
9	23/05/2012	Dusk	22:00 – 00:00	21:54	17°C, mostly calm, clear & dry.	No bat activity
10	21/05/2011	Dawn	02:45 – 04:25	04:37	7°C, W blustery wind, variable cloud, light showers, then constant rain from 04.20.	No bat activity
10	05/07/2011	Dusk	22:15 – 00:20	22:23	13°C, fresh SW wind, 100% cloud, & dry.	No bat activity
10	31/07/2011	Dawn	03:00 – 05:10	05:03	15°C, calm, 100% cloud, & dry.	No bat activity
10	29/09/2011	Dusk	18:55 – 21:00	18:57	15°C, calm, 15% cloud & dry.	No bat activity
10	03/10/2011	Dawn	05:15 – 07:20	07:19	11°C, calm/light breeze picking up at end, 90% cloud, dry.	No bat activity
10	25/05/2012	Dusk	22:00 – 00:00	21:58	14°C, S breeze - freshening, clear & dry.	No bat activity
11	20/06/2011	Dawn	02:00 – 04:10	04:06	9°C, W light wind, 100% cloud, & dry.	No bat activity
11	05/07/2011	Dawn	02:00 – 04:15	04:14	14°C, fresh SE wind (calm in rides), 90% cloud, & dry.	No bat activity
11	30/07/2011	Dusk	21:40 – 23:45	21:43	13°C, S breeze increasing to moderate, 100% cloud, & dry.	No bat activity
11	30/09/2011	Dawn	05:15 – 07:15	07:15	11°C, variable breeze, 5% cloud & dry.	No bat activity
11	02/10/2011	Dusk	18:50 – 20:00	18:53	12°C, light breeze, 50% cloud, dry.	1 record
11	26/05/2012	Dawn	02:25 – 04:30	04:26	12°C, S wind, clear & dry.	No bat activity

Appendix 2 Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h
21/05/11	11-12	3/4, SE	2	21:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22/05/11	6-8	1-4, SW W	1-6	04:33:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
22/05/11	8	4/6, SW W	1-3	21:47:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23/05/11	7	3, S	0-2	04:31:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
23/05/11	7-8	7-8, W	2-4	21:49:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24/05/11	7-8	6, W	6-7	04:29:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
24/05/11	7-8	4-5, W	0-5	21:51:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25/05/11	5-6	3-4, S W	2-6	04:28:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
25/05/11	10	2-3, E SE	0-4	21:53:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26/05/11	9	0-2, E	0-4	04:26:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
26/05/11	8	3-4, NW	1-2	21:55:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
27/05/11	7-8	3-4, W NW	0-8	04:24:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-

Appendix 2 Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h	17 ½h		
30/07/11	12-13	3-4, E NE	0	21:42:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
31/07/11	1-13	4, SE	0	05:00:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
31/07/11	15-17	3-4, S SE	0-0.2	21:40:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
01/08/11	14-15	1-2, S SE	0	05:02:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
01/08/11	14-15	2-3, NE SE	0-0.2	21:38:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
02/08/11	12-13	2-3, W NW	0-0.4	05:04:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
02/08/11	13-15	2, N SE	0-4	21:35:00	5	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	-
03/08/11	13-14	1-2, SW SE	0	05:07:00	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
03/08/11	13-14	2-3, NE	0	21:33:00	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
04/08/11	12-14	2-3, NE E	0	05:09:00	<i>1</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
04/08/11	13-16	3-4, E	1	21:31:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
05/08/11	13-14	3-4, W NW	0	05:11:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
05/08/11	12-15	3-4, W NW	0-0.2	21:28:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
06/08/11	6-7	1-3, W SW	0	05:13:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
06/08/11	12-14	2-3, NE	0-0.2	21:26:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
07/08/11	12-13	3-4, N NE	0-0.2	05:15:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
07/08/11	11-12	4-5, W NW	3	21:24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
08/08/11	11-12	5-6, NW	3-8	05:18:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
08/08/11	10	4-5, NW	1-2	21:21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
09/08/11	9-10	3-4, NW	0-2	05:20:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
09/08/11	10-12	2-3, W NW	0	21:19:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-
10/08/11	9	2, S SW	0-0.2	05:22:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
10/08/11	11	4-5, E	5-9	21:16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
11/08/11	11-12	4, NE E	0-0.2	05:24:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
11/08/11	12	3, NE E	0	21:14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
12/08/11	8-11	1-2 SE	0	05:26:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
12/08/11	13-15	3-4, SE	0	21:11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
13/08/11	13-14	1-4, SE SW	0-1	05:29:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
13/08/11	15	4, S	0-0.2	21:09:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	-
14/08/11	9-11	2-3, SE	0	05:31:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
14/08/11	11-13	2-3, W N	0-0.4	21:06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
15/08/11	9-10	1-2, S NW	0-1	05:33:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-

Appendix 2 Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½	14 ½h	15 ½h	16 ½h	17 ½h	18 ½h	
15/08/11	12	2, S E	0.2-2	21:03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	-
16/08/11	9	1-2, W N	0-0.2	05:35:00	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	-
16/08/11	12-13	2-3, S SE	0-0.2	21:01:00	3	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-
17/08/11	9-11	2-4, NW SW	0	05:38:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
17/08/11	11-13	2, W NW	0	20:58:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
18/08/11	9-10	1-2, W N	0	05:40:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
18/08/11	11-12	2, NE	2-3	20:56:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
19/08/11	6-10	2, W NW	0.2-18	05:42:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
19/08/11	13-15	3, S	0	20:53:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20/08/11	10-11	3, S	0.4-2	05:44:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
20/08/11	14	3, S	0	20:50:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21/08/11	12	2, S SW	0	05:42:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 2 cont. Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h
24/09/11	12-14	3-4, S SW	0	19:11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25/09/11	12	3, SE	0	07:03:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
25/09/11	13	4, S	0-0.8	19:08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26/09/11	9-10	4-6, W SW	0-0.6	07:06:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
26/09/11	11	2, S SE	0-0.2	19:05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27/09/11	12	2-4, S SE	0	07:08:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
27/09/11	15-17	4-5, S SW	0	19:02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28/09/11	15-16	4-6, S	0-3	07:10:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
28/09/11	19-20	4, S	0	18:59:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29/09/11	13-14	2, E SW	0	07:12:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
29/09/11	16-17	2, W NW	0	18:56:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30/09/11	9-14	1-3, W SE	0	07:14:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
30/09/11	16-17	3, S	0.2-0.4	18:53:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/10/11	12-13	1-2, NE W	0	07:17:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
01/10/11	11	1-2, N E	0-2	18:51:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/10/11	9-10	1-2, W NW	0	07:19:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
02/10/11	11-12	1, SW	0	18:48:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/10/11	13	2-4, S SE	0-0.2	07:21:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
03/10/11	10	5-7, SW W	0.2-2	18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04/10/11	10-11	4, SW W	0-2	07:23:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
04/10/11	10	4, SW W	0-3	18:42:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/10/11	11	2-4, N S	0.2-1	07:25:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
05/10/11	10-11	6, W	0-0.6	18:39:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/10/11	5-6	2-4, SW	0.4-2	07:28:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
06/10/11	7-8	3-4, W NW	1-2	18:36:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07/10/11	7-9	4, NW	3-5	07:30:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
07/10/11	7-8	2-4, W	0.4-1	18:33:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08/10/11	6-8	1-2, W	0.4-2	07:32:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
08/10/11	9-10	2-5, NE SE	0-0.4	18:31:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09/10/11	10	2-4 W	2-3	07:34:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
09/10/11	9-10	2-4, S W	0.4-1	18:28:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/10/11	8-9	3-4, SW W	0	07:37:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 2 cont. Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	17 ½h	18 ½h	19 ½h	20 ½h	21 ½h	22 ½h	23 ½h	24 ½h	25 ½h	26 ½h	27 ½h
24/09/11	12-14	3-4, S SW	0	19:11:00	0	0	0	0	0	0	0	0	0	-	-	-
25/09/11	12	3, SE	0	07:03:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-	-
25/09/11	13	4, S	0-0.8	19:08:00	0	0	0	0	0	0	0	0	0	-	-	-
26/09/11	9-10	4-6, W SW	0-0.6	07:06:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-	-
26/09/11	11	2, S SE	0-0.2	19:05:00	0	0	0	0	0	0	0	0	0	0	-	-
27/09/11	12	2-4, S SE	0	07:08:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
27/09/11	15-17	4-5, S SW	0	19:02:00	0	0	0	0	0	0	0	0	0	0	-	-
28/09/11	15-16	4-6, S	0-3	07:10:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
28/09/11	19-20	4, S	0	18:59:00	0	0	0	0	0	0	0	0	0	0	-	-
29/09/11	13-14	2, E SW	0	07:12:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
29/09/11	16-17	2, W NW	0	18:56:00	0	0	0	0	0	0	0	0	0	0	-	-
30/09/11	9-14	1-3, W SE	0	07:14:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
30/09/11	16-17	3, S	0.2-0.4	18:53:00	0	0	0	0	0	0	0	0	0	0	-	-
01/10/11	12-13	1-2, NE W	0	07:17:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
01/10/11	11	1-2, N E	0-2	18:51:00	0	0	0	0	0	0	0	0	0	0	-	-
02/10/11	9-10	1-2, W NW	0	07:19:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
02/10/11	11-12	1, SW	0	18:48:00	0	0	0	0	0	0	0	0	0	0	0	-
03/10/11	13	2-4, S SE	0-0.2	07:21:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
03/10/11	10	5-7, SW W	0.2-2	18:45:00	0	0	0	0	0	0	0	0	0	0	0	-
04/10/11	10-11	4, SW W	0-2	07:23:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
04/10/11	10	4, SW W	0-3	18:42:00	0	0	0	0	0	0	0	0	0	0	0	-
05/10/11	11	2-4, N S	0.2-1	07:25:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
05/10/11	10-11	6, W	0-0.6	18:39:00	0	0	0	0	0	0	0	0	0	0	0	-
06/10/11	5-6	2-4, SW	0.4-2	07:28:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
06/10/11	7-8	3-4, W NW	1-2	18:36:00	0	0	0	0	0	0	0	0	0	0	0	-
07/10/11	7-9	4, NW	3-5	07:30:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
07/10/11	7-8	2-4, W	0.4-1	18:33:00	0	0	0	0	0	0	0	0	0	0	0	-
08/10/11	6-8	1-2, W	0.4-2	07:32:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
08/10/11	9-10	2-5, NE SE	0-0.4	18:31:00	0	0	0	0	0	0	0	0	0	0	0	0
09/10/11	10	2-4 W	2-3	07:34:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
09/10/11	9-10	2-4, S W	0.4-1	18:28:00	0	0	0	0	0	0	0	0	0	0	0	0
10/10/11	8-9	3-4, SW W	0	07:37:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 2 cont. Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h
10/10/11	9	2-4, W	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/10/11	7-8	3-4, SW W	2	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
11/10/11	7-8	4, W	2-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/10/11	0-3	2, SE W	0	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
12/10/11	7-9	3, E SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13/10/11	0-10	1-4, E SE	0	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
13/10/11	11	1-3, S SW	0-0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14/10/11	10-12	2-4, NW S	0	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
14/10/11	14-16	4, S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15/10/11	13-15	2-5, S	0-0.6	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
15/10/11	12-13	2-3, S W	0-0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16/10/11	7-10	2-4, S SW	0.2	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
16/10/11	10-11	3-4, S SW	0-0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17/10/11	7-10	3-6, S SW	0.2-7	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 2 cont. Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	17 ½h	18 ½h	19 ½h	20 ½h	21 ½h	22 ½h	23 ½h	24 ½h	25 ½h	26 ½h	27 ½h	28 ½h	
10/10/11	9	2-4, W	0.2	18:25:00	0	0	0	0	0	0	0	0	0	0	0	0	0	-
11/10/11	7-8	3-4, SW W	2	07:39:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
11/10/11	7-8	4, W	2-4	18:22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	-
12/10/11	0-3	2, SE W	0	07:41:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
12/10/11	7-9	3, E SE	0	18:19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	-
13/10/11	0-10	1-4, E SE	0	07:44:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
13/10/11	11	1-3, S SW	0-0.2	18:17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	-
14/10/11	10-12	2-4, NW S	0	07:46:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
14/10/11	14-16	4, S	0	18:14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15/10/11	13-15	2-5, S	0-0.6	07:48:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
15/10/11	12-13	2-3, S W	0-0.2	18:11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16/10/11	7-10	2-4, S SW	0.2	07:50:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
16/10/11	10-11	3-4, S SW	0-0.2	18:08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17/10/11	7-10	3-6, S SW	0.2-7	07:53:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 2 cont. Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h
19/04/12	6.0	5, NE	0.2	20:38:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20/04/12	6.3	4, SE	4.0	05:47:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
20/04/12	7.0	4, E	2.0	20:40:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21/04/12	6.2	5, NE, gust	6.0	05:45:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
21/04/12	7.0	2, NE	0.0	20:43:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22/04/12	6.6	2, E	0.0	05:42:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
22/04/12	7.0	3, E	0.0	20:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23/04/12	4.9	2, NE	0.0	05:39:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
23/04/12	6.8	4, NE	0.2	20:47:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24/04/12	6.4	3, N	1.0	05:37:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
24/04/12	7.3	4, E	0.0	20:50:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25/04/12	7.0	4, NE	0.0	05:34:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
25/04/12	7.0	6, NE, gusts	0.0	20:52:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26/04/12	6.0	7, N	1.0	05:31:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
26/04/12	4.9	5, N, gusts	0.0	20:54:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27/04/12	3.0	5, NW	0.8	05:29:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
27/04/12	2.2	3, NW	0.8	20:57:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28/04/12	1.0	2, SW	0.4	05:26:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
28/04/12	4.8	2, SW	0.0	20:59:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29/04/12	0.0	2, W	0.0	05:23:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
29/04/12	5.9	2, SE	0.0	21:01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30/04/12	0.0	2, W	0.0	05:21:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
30/04/12	8.0	3, E	0.0	21:04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/05/12	4.0	2, E	no data	05:18:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 2 cont. Remote detector A, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	17 ½h	18 ½h	19 ½h
19/04/12	6.0	5, NE	0.2	20:38:00	0	0	0	0
20/04/12	6.3	4, SE	4.0	05:47:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
20/04/12	7.0	4, E	2.0	20:40:00	0	0	0	0
21/04/12	6.2	5, NE, gust	6.0	05:45:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
21/04/12	7.0	2, NE	0.0	20:43:00	0	0	0	0
22/04/12	6.6	2, E	0.0	05:42:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
22/04/12	7.0	3, E	0.0	20:45:00	0	0	0	0
23/04/12	4.9	2, NE	0.0	05:39:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
23/04/12	6.8	4, NE	0.2	20:47:00	0	0	0	0
24/04/12	6.4	3, N	1.0	05:37:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
24/04/12	7.3	4, E	0.0	20:50:00	0	0	0	0
25/04/12	7.0	4, NE	0.0	05:34:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
25/04/12	7.0	6, NE, gusts	0.0	20:52:00	0	0	0	0
26/04/12	6.0	7, N	1.0	05:31:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
26/04/12	4.9	5, N, gusts	0.0	20:54:00	0	0	0	-
27/04/12	3.0	5, NW	0.8	05:29:00	<i>0</i>	<i>0</i>	<i>0</i>	-
27/04/12	2.2	3, NW	0.8	20:57:00	0	0	0	-
28/04/12	1.0	2, SW	0.4	05:26:00	<i>0</i>	<i>0</i>	<i>0</i>	-
28/04/12	4.8	2, SW	0.0	20:59:00	0	0	0	-
29/04/12	0.0	2, W	0.0	05:23:00	<i>0</i>	<i>0</i>	<i>0</i>	-
29/04/12	5.9	2, SE	0.0	21:01:00	0	0	-	-
30/04/12	0.0	2, W	0.0	05:21:00	<i>0</i>	<i>0</i>	-	-
30/04/12	8.0	3, E	0.0	21:04:00	0	0	-	-
01/05/12	4.0	2, E	no data	05:18:00	<i>0</i>	<i>0</i>	-	-

Appendix 3 Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h
20/06/11	10-12	2-3, NE	0-0.2	22:25:00	43	12	11	0	0	0	0	0	2	3	9	6	0
21/06/11	10-11	2-3, NE E	0	04:05:00	23	10	3	0	0	0	0	0	0	1	6	3	0
21/06/11	10-12	3-4, NE	0	22:26:00	62	22	16	5	0	0	4	0	0	0	0	13	2
22/06/11	10-12	4, NE E	0	04:05:00	32	15	7	2	0	0	1	0	0	0	0	7	0
22/06/11	9-10	2, N E	0	22:26:00	19	8	3	0	0	0	0	0	0	0	6	2	0
23/06/11	6-9	3, N NW	0-2	04:05:00	6	3	1	0	0	0	0	0	0	0	2	0	0
23/06/11	9	2-3, SW W	0-1	22:26:00	66	28	21	10	0	2	0	0	0	0	0	5	0
24/06/11	5	2, SW W	0	04:06:00	36	16	12	6	0	1	0	0	0	0	0	1	0
24/06/11	9-12	2-4, E SE	0-0.2	22:26:00	108	32	26	7	1	0	0	2	0	0	15	17	8
25/06/11	10-11	2-4, SE	0	04:06:00	47	17	12	2	0	0	0	0	0	0	4	9	3
25/06/11	12-14	3-4, W NW	0	22:26:00	50	14	21	0	1	0	0	0	1	0	0	12	1
26/06/11	11	2, SE	0	04:06:00	29	10	14	0	0	0	0	0	0	0	0	5	0
26/06/11	16	3,SW	0-0.4	22:26:00	79	28	16	9	0	0	2	3	0	1	10	9	1
27/06/11	11	1-3, SW	0	04:07:00	35	12	10	2	0	0	0	0	0	0	6	5	0
27/06/11	11-13	0-2, NW	0	22:26:00	47	17	18	5	0	1	0	0	0	0	0	6	0
28/06/11	5-9	2-3, SW	0	04:08:00	19	9	9	1	0	0	0	0	0	0	0	0	0
28/06/11	12-14	2, SE NW	0	22:26:00	54	23	12	11	1	0	0	0	2	0	4	1	0
29/06/11	5-7	2, S W	0	04:08:00	19	7	5	6	0	0	0	0	0	0	1	0	0
29/06/11	10-11	2-3, W NE	0-3	22:25:00	55	15	19	0	0	0	2	0	0	8	0	6	5
30/06/11	9	1-2, S SW	0-3	04:09:00	22	10	7	0	0	0	0	0	0	2	0	2	1
30/06/11	9-13	2-4, E SE	0	22:25:00	91	35	18	12	1	1	0	1	1	2	0	16	4
01/07/11	7-10	2-3, NE E	0	04:10:00	43	16	12	5	0	0	0	1	0	0	0	9	0
01/07/11	10-12	2, W SE	0	22:24:00	96	29	31	14	0	0	1	2	0	4	0	12	3
02/07/11	6-10	1, W	0	04:11:00	42	14	13	9	0	0	0	0	0	0	0	5	1
02/07/11	10-12	2, NE E	0	22:24:00	46	19	16	2	1	0	0	0	0	0	0	8	0
03/07/11	5-7	2,SW W	0	04:12:00	21	9	8	1	0	0	0	0	0	0	0	3	0
03/07/11	13	2-3, SE NE	0	22:23:00	74	31	12	0	6	1	0	1	0	0	4	9	10
04/07/11	10-12	1-2,E NE	0	04:13:00	36	17	8	0	2	0	0	0	0	0	1	2	6
04/07/11	13-17	3-4, SE	0	22:23:00	35	8	2	0	3	0	4	0	1	0	0	12	5
05/07/11	13-15	2-4,SE	0	04:14:00	14	3	0	0	0	0	0	0	0	0	0	7	4
05/07/11	13-14	4, E	0	22:22:00	30	6	9	4	0	1	0	0	0	0	0	6	4
06/07/11	13-14	4, E	0-1	04:16:00	15	3	5	1	0	1	0	0	0	0	0	4	1

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset Sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h
06/07/11	13-14	4, E	0	22:21:00	39	14	17	0	3	0	0	0	0	0	5	0	0	-	-
07/07/11	10-11	3-4, SE	0-8	04:17:00	<i>12</i>	<i>5</i>	<i>4</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>0</i>	-	-
07/07/11	13-14	3-4, E SE	0	22:20:00	71	29	13	5	1	0	1	0	0	2	0	12	8	-	-
08/07/11	7-13	1-4, SE	0	04:18:00	<i>30</i>	<i>12</i>	<i>7</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>7</i>	<i>1</i>	-	-
08/07/11	14	2-4, N E	0	22:19:00	82	33	19	9	0	0	0	3	0	1	0	6	11	0	-
09/07/11	13	2, SE SW	0-0.2	04:20:00	<i>37</i>	<i>17</i>	<i>7</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>3</i>	<i>7</i>	<i>0</i>	-
09/07/11	13-14	3, W NW	0.2-0.4	22:18:00	84	41	18	2	0	2	0	1	0	0	1	5	14	0	-
10/07/11	12-13	2, W NW	0-2	04:21:00	<i>41</i>	<i>23</i>	<i>10</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>5</i>	<i>0</i>	-
10/07/11	12-14	1-2, SE NE	0-14	22:17:00	12	8	0	0	0	0	0	0	0	1	0	2	1	0	-
11/07/11	11-12	2-4, N NE	0-0.8	04:23:00	<i>4</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	-
11/07/11	11-12	2, N NE	0	22:16:00	82	27	26	8	1	0	1	3	2	0	0	5	7	2	-
12/07/11	8	0-2, NW	0	04:24:00	<i>42</i>	<i>20</i>	<i>14</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>2</i>	<i>0</i>	-
12/07/11	10	2, E NW	0	22:14:00	30	18	7	0	4	0	0	0	0	0	0	0	1	0	-
13/07/11	4-5	2, E NW	0	04:26:00	<i>10</i>	<i>6</i>	<i>3</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
13/07/11	12	2-3, N SE	0	22:13:00	99	26	31	12	0	1	0	3	0	5	1	0	16	4	-
14/07/11	8-12	2, W SE	0	04:27:00	<i>51</i>	<i>18</i>	<i>17</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>6</i>	<i>3</i>	-
14/07/11	13-14	3-4, NW	0	22:12:00	103	39	21	15	0	0	0	1	6	0	0	0	16	5	-
15/07/11	9-11	1, SW W	0	04:29:00	<i>47</i>	<i>22</i>	<i>9</i>	<i>6</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>7</i>	<i>1</i>	-
15/07/11	14-15	2-3, SE	0	22:10:00	124	42	40	8	1	1	2	0	0	1	0	6	13	10	-
16/07/11	13-14	2-3, SE	0.2-0.8	04:31:00	<i>58</i>	<i>21</i>	<i>22</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>5</i>	<i>6</i>	-
16/07/11	13-14	3, NE	0-9	22:09:00	67	30	17	12	5	0	0	1	0	0	0	0	0	2	-
17/07/11	13-14	4, N NE	4-9	04:32:00	<i>38</i>	<i>18</i>	<i>9</i>	<i>8</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
17/07/11	11-14	2-3, NE	0	22:07:00	93	26	32	11	0	2	0	0	1	0	1	6	0	14	-
18/07/11	12	3, W N	0-0.4	04:34:00	<i>46</i>	<i>12</i>	<i>18</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>3</i>	<i>0</i>	<i>6</i>	-
18/07/11	13-14	4, NW	0-1	22:05:00	109	33	26	14	0	0	1	0	4	0	0	8	12	11	0
19/07/11	13	4, NW	0	04:36:00	<i>50</i>	<i>17</i>	<i>10</i>	<i>8</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>3</i>	<i>7</i>	<i>4</i>	<i>0</i>
19/07/11	11-12	3-4, NW N	0.2-0.4	22:04:00	45	22	10	0	0	1	3	0	0	0	1	0	0	8	0
20/07/11	11	2-3, NW	0-0.2	04:38:00	<i>18</i>	<i>8</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>5</i>	<i>0</i>
20/07/11	10-12	3, NW N	0	22:02:00	76	29	25	7	0	2	0	0	0	0	0	0	3	9	1
21/07/11	9	2, NW N	0	04:40:00	<i>40</i>	<i>18</i>	<i>11</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>5</i>	<i>1</i>
21/07/11	10-12	2-3, N W	0	22:00:00	98	30	26	12	1	2	0	1	0	0	0	9	0	15	2
22/07/11	9	2-3, NW	0-0.4	04:42:00	<i>52</i>	<i>16</i>	<i>19</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>8</i>	<i>0</i>
22/07/11	9-11	2-3, NW	0	21:58:00	84	27	20	14	0	0	0	0	2	0	1	1	3	8	8
23/07/11	8-10	3-4, W NW	0	04:44:00	<i>34</i>	<i>13</i>	<i>9</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>3</i>

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h	17 ½h
30/07/11	12-13	3-4, E NE	0	21:42:00	106	32	21	15	1	2	0	4	0	0	0	0	10	0	17	4	-	-
31/07/11	11-13	4, SE	0	05:00:00	<i>51</i>	<i>15</i>	<i>18</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>8</i>	<i>0</i>	-	-
31/07/11	15-17	3-4, S SE	0-0.2	21:40:00	40	19	10	0	0	2	1	0	0	0	1	0	0	0	6	1	-	-
01/08/11	14-15	1-2, S SE	0	05:02:00	<i>19</i>	<i>12</i>	<i>6</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	-	-
01/08/11	14-15	2-3, NE SE	0-0.2	21:38:00	47	7	1	14	0	0	2	1	0	3	0	1	0	1	5	12	-	-
02/08/11	12-13	2-3, W NW	0-0.4	05:04:00	<i>19</i>	<i>6</i>	<i>0</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>2</i>	<i>4</i>	-	-
02/08/11	13-15	2, N SE	0-4	21:35:00	114	13	19	9	12	0	4	1	3	0	1	0	0	2	32	18	0	-
03/08/11	13-14	1-2, SW SE	0	05:07:00	<i>61</i>	<i>5</i>	<i>17</i>	<i>6</i>	<i>7</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>12</i>	<i>13</i>	<i>0</i>	-
03/08/11	13-14	2-3, NE	0	21:33:00	116	36	31	17	2	0	1	0	0	1	0	0	0	2	18	8	0	-
04/08/11	12-14	2-3, NE E	0	05:09:00	<i>61</i>	<i>22</i>	<i>16</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>10</i>	<i>6</i>	<i>0</i>	-
04/08/11	13-16	3-4, E	1	21:31:00	111	36	14	0	0	2	0	0	4	0	0	0	0	5	0	42	8	-
05/08/11	13-14	3-4, W NW	0	05:11:00	<i>36</i>	<i>14</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>12</i>	<i>2</i>	-
05/08/11	12-15	3-4, W NW	0-0.2	21:28:00	42	11	0	0	4	4	0	0	0	0	0	0	8	5	0	4	6	-
06/08/11	6-7	1-3, W SW	0	05:13:00	<i>19</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>5</i>	<i>3</i>	-
06/08/11	12-14	2-3, NE	0-0.2	21:26:00	95	8	8	2	0	9	0	0	1	0	0	0	0	0	37	12	18	-
07/08/11	12-13	3-4, N NE	0-0.2	05:15:00	<i>57</i>	<i>3</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>6</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>28</i>	<i>11</i>	<i>5</i>	-
07/08/11	11-12	4-5, W NW	3	21:24:00	7	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
08/08/11	11-12	5-6, NW	3-8	05:18:00	<i>2</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
08/08/11	10	4-5, NW	1-2	21:21:00	52	12	13	7	0	1	0	0	5	0	0	0	0	0	6	0	8	-
09/08/11	9-10	3-4, NW	0-2	05:20:00	<i>29</i>	<i>7</i>	<i>6</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>6</i>	<i>0</i>	<i>5</i>	-
09/08/11	10-12	2-3, W NW	0	21:19:00	74	23	21	0	0	0	0	0	0	3	0	2	0	0	12	10	2	-
10/08/11	9	2, S SW	0-0.2	05:22:00	<i>46</i>	<i>17</i>	<i>12</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>8</i>	<i>5</i>	<i>4</i>	-
10/08/11	11	4-5, E	5-9	21:16:00	18	0	0	0	0	0	0	1	0	3	0	8	0	0	0	4	2	-
11/08/11	11-12	4, NE E	0-0.2	05:24:00	<i>6</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	-
11/08/11	12	3, NE E	0	21:14:00	65	12	15	9	2	0	0	0	4	0	0	0	0	1	6	0	14	-
12/08/11	8-11	1-2 SE	0	05:26:00	<i>27</i>	<i>7</i>	<i>8</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>8</i>	-
12/08/11	13-15	3-4, SE	0	21:11:00	23	0	2	0	0	0	0	4	0	0	2	0	1	0	0	0	8	6
13/08/11	13-14	1-4, SE SW	0-1	05:29:00	<i>9</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>6</i>	<i>2</i>
13/08/11	15	4, S	0-0.2	21:09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14/08/11	9-11	2-3, SE	0	05:31:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
14/08/11	11-13	2-3, W N	0-0.4	21:06:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15/08/11	9-10	1-2, S NW	0-1	05:33:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h	17 ½h
15/08/11	12	2, S E	0.2-2	21:03:00	3	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0
16/08/11	9	1-2, W N	0-0.2	05:35:00	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
16/08/11	12-13	2-3, S SE	0-0.2	21:01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17/08/11	9-11	2-4, NW SW	0	05:38:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
17/08/11	11-13	2, W NW	0	20:58:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18/08/11	9-10	1-2, W N	0	05:40:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h
24/09/11	12-14	3-4, S SW	0	19:11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25/09/11	12	3, SE	0	07:03:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
25/09/11	13	4, S	0-0.8	19:08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26/09/11	9-10	4-6, W SW	0-0.6	07:06:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
26/09/11	11	2, S SE	0-0.2	19:05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27/09/11	12	2-4, S SE	0	07:08:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
27/09/11	15-17	4-5, S SW	0	19:02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28/09/11	15-16	4-6, S	0-3	07:10:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
28/09/11	19-20	4, S	0	18:59:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29/09/11	13-14	2, E SW	0	07:12:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
29/09/11	16-17	2, W NW	0	18:56:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30/09/11	9-14	1-3, W SE	0	07:14:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
30/09/11	16-17	3, S	0.2-0.4	18:53:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/10/11	12-13	1-2, NE W	0	07:17:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
01/10/11	11	1-2, N E	0-2	18:51:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/10/11	9-10	1-2, W NW	0	07:19:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
02/10/11	11-12	1, SW	0	18:48:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/10/11	13	2-4, S SE	0-0.2	07:21:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
03/10/11	10	5-7, SW W	0.2-2	18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04/10/11	10-11	4, SW W	0-2	07:23:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
04/10/11	10	4, SW W	0-3	18:42:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/10/11	11	2-4, N S	0.2-1	07:25:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
05/10/11	10-11	6, W	0-0.6	18:39:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/10/11	5-6	2-4, SW	0.4-2	07:28:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
06/10/11	7-8	3-4, W NW	1-2	18:36:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07/10/11	7-9	4, NW	3-5	07:30:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
07/10/11	7-8	2-4, W	0.4-1	18:33:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08/10/11	6-8	1-2, W	0.4-2	07:32:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
08/10/11	9-10	2-5, NE SE	0-0.4	18:31:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09/10/11	10	2-4 W	2-3	07:34:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
09/10/11	9-10	2-4, S W	0.4-1	18:28:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/10/11	8-9	3-4, SW W	0	07:37:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	17 ½h	18 ½h	19 ½h	20 ½h	21 ½h	22 ½h	23 ½h	24 ½h	25 ½h	26 ½h	27 ½h
24/09/11	12-14	3-4, S SW	0	19:11:00	0	0	0	0	0	0	0	0	0	-	-	-
25/09/11	12	3, SE	0	07:03:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-	-
25/09/11	13	4, S	0-0.8	19:08:00	0	0	0	0	0	0	0	0	0	-	-	-
26/09/11	9-10	4-6, W SW	0-0.6	07:06:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-	-
26/09/11	11	2, S SE	0-0.2	19:05:00	0	0	0	0	0	0	0	0	0	0	-	-
27/09/11	12	2-4, S SE	0	07:08:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
27/09/11	15-17	4-5, S SW	0	19:02:00	0	0	0	0	0	0	0	0	0	0	-	-
28/09/11	15-16	4-6, S	0-3	07:10:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
28/09/11	19-20	4, S	0	18:59:00	0	0	0	0	0	0	0	0	0	0	-	-
29/09/11	13-14	2, E SW	0	07:12:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
29/09/11	16-17	2, W NW	0	18:56:00	0	0	0	0	0	0	0	0	0	0	-	-
30/09/11	9-14	1-3, W SE	0	07:14:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
30/09/11	16-17	3, S	0.2-0.4	18:53:00	0	0	0	0	0	0	0	0	0	0	-	-
01/10/11	12-13	1-2, NE W	0	07:17:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
01/10/11	11	1-2, N E	0-2	18:51:00	0	0	0	0	0	0	0	0	0	0	-	-
02/10/11	9-10	1-2, W NW	0	07:19:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-	-
02/10/11	11-12	1, SW	0	18:48:00	0	0	0	0	0	0	0	0	0	0	0	-
03/10/11	13	2-4, S SE	0-0.2	07:21:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
03/10/11	10	5-7, SW W	0.2-2	18:45:00	0	0	0	0	0	0	0	0	0	0	0	-
04/10/11	10-11	4, SW W	0-2	07:23:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
04/10/11	10	4, SW W	0-3	18:42:00	0	0	0	0	0	0	0	0	0	0	0	-
05/10/11	11	2-4, N S	0.2-1	07:25:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
05/10/11	10-11	6, W	0-0.6	18:39:00	0	0	0	0	0	0	0	0	0	0	0	-
06/10/11	5-6	2-4, SW	0.4-2	07:28:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
06/10/11	7-8	3-4, W NW	1-2	18:36:00	0	0	0	0	0	0	0	0	0	0	0	-
07/10/11	7-9	4, NW	3-5	07:30:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
07/10/11	7-8	2-4, W	0.4-1	18:33:00	0	0	0	0	0	0	0	0	0	0	0	-
08/10/11	6-8	1-2, W	0.4-2	07:32:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
08/10/11	9-10	2-5, NE SE	0-0.4	18:31:00	0	0	0	0	0	0	0	0	0	0	0	0
09/10/11	10	2-4 W	2-3	07:34:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
09/10/11	9-10	2-4, S W	0.4-1	18:28:00	0	0	0	0	0	0	0	0	0	0	0	0
10/10/11	8-9	3-4, SW W	0	07:37:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h
10/10/11	9	2-4, W	0.2	18:25:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/10/11	7-8	3-4, SW W	2	07:39:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
11/10/11	7-8	4, W	2-4	18:22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/10/11	0-3	2, SE W	0	07:41:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
12/10/11	7-9	3, E SE	0	18:19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13/10/11	0-10	1-4, E SE	0	07:44:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
13/10/11	11	1-3, S SW	0-0.2	18:17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14/10/11	10-12	2-4, NW S	0	07:46:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
14/10/11	14-16	4, S	0	18:14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15/10/11	13-15	2-5, S	0-0.6	07:48:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	17 ½h	18 ½h	19 ½h	20 ½h	21 ½h	22 ½h	23 ½h	24 ½h	25 ½h	26 ½h	27 ½h	28 ½h
10/10/11	9	2-4, W	0.2	18:25:00	0	0	0	0	0	0	0	0	0	0	0	0	-
11/10/11	7-8	3-4, SW W	2	07:39:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
11/10/11	7-8	4, W	2-4	18:22:00	0	0	0	0	0	0	0	0	0	0	0	0	-
12/10/11	0-3	2, SE W	0	07:41:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
12/10/11	7-9	3, E SE	0	18:19:00	0	0	0	0	0	0	0	0	0	0	0	0	-
13/10/11	0-10	1-4, E SE	0	07:44:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
13/10/11	11	1-3, S SW	0-0.2	18:17:00	0	0	0	0	0	0	0	0	0	0	0	0	-
14/10/11	10-12	2-4, NW S	0	07:46:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	-
14/10/11	14-16	4, S	0	18:14:00	0	0	0	0	0	0	0	0	0	0	0	0	0
15/10/11	13-15	2-5, S	0-0.6	07:48:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	Total P/F	1 ½h	2 ½h	3 ½h	4 ½h	5 ½h	6 ½h	7 ½h	8 ½h	9 ½h	10 ½h	11 ½h	12 ½h	13 ½h	14 ½h	15 ½h	16 ½h
19/04/12	6.0	5, NE	0.2	20:38:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20/04/12	6.3	4, SE	4.0	05:47:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
20/04/12	7.0	4, E	2.0	20:40:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21/04/12	6.2	5, NE, gust	6.0	05:45:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
21/04/12	7.0	2, NE	0.0	20:43:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22/04/12	6.6	2, E	0.0	05:42:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
22/04/12	7.0	3, E	0.0	20:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23/04/12	4.9	2, NE	0.0	05:39:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
23/04/12	6.8	4, NE	0.2	20:47:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24/04/12	6.4	3, N	1.0	05:37:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
24/04/12	7.3	4, E	0.0	20:50:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25/04/12	7.0	4, NE	0.0	05:34:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
25/04/12	7.0	6, NE, gusts	0.0	20:52:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26/04/12	6.0	7, N	1.0	05:31:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
26/04/12	4.9	5, N, gusts	0.0	20:54:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27/04/12	3.0	5, NW	0.8	05:29:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
27/04/12	2.2	3, NW	0.8	20:57:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28/04/12	1.0	2, SW	0.4	05:26:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
28/04/12	4.8	2, SW	0.0	20:59:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29/04/12	0.0	2, W	0.0	05:23:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
29/04/12	5.9	2, SE	0.0	21:01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30/04/12	0.0	2, W	0.0	05:21:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
30/04/12	8.0	3, E	0.0	21:04:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
01/05/12	4.0	2, E	no data	05:18:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
01/05/12	7.3	3, E	no data	21:06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/05/12	6.0	2, S	0.0	05:16:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
02/05/12	6.3	2, SE	0.0	21:08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/05/12	5.4	1, E	0.0	05:13:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
03/05/12	7.4	3, NW	0.0	21:11:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04/05/12	5.1	5, N, gusts	0.2	05:11:00	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Appendix 3 cont. Remote detector B, nightly records. For each night bold fonts shows total number of passes and italic shows passes with feeding buzzes.

Start & end date	Temp °C	Wind Bft, Direction	Precip. mm/6hr	Sunset / sunrise	17 ½h	18 ½h	19 ½h
19/04/12	6.0	5, NE	0.2	20:38:00	0	0	0
20/04/12	6.3	4, SE	4.0	05:47:00	<i>0</i>	<i>0</i>	<i>0</i>
20/04/12	7.0	4, E	2.0	20:40:00	0	0	0
21/04/12	6.2	5, NE, gust	6.0	05:45:00	<i>0</i>	<i>0</i>	<i>0</i>
21/04/12	7.0	2, NE	0.0	20:43:00	0	0	0
22/04/12	6.6	2, E	0.0	05:42:00	<i>0</i>	<i>0</i>	<i>0</i>
22/04/12	7.0	3, E	0.0	20:45:00	0	0	0
23/04/12	4.9	2, NE	0.0	05:39:00	<i>0</i>	<i>0</i>	<i>0</i>
23/04/12	6.8	4, NE	0.2	20:47:00	0	0	0
24/04/12	6.4	3, N	1.0	05:37:00	<i>0</i>	<i>0</i>	<i>0</i>
24/04/12	7.3	4, E	0.0	20:50:00	0	0	0
25/04/12	7.0	4, NE	0.0	05:34:00	<i>0</i>	<i>0</i>	<i>0</i>
25/04/12	7.0	6, NE, gusts	0.0	20:52:00	0	0	0
26/04/12	6.0	7, N	1.0	05:31:00	<i>0</i>	<i>0</i>	<i>0</i>
26/04/12	4.9	5, N, gusts	0.0	20:54:00	0	0	-
27/04/12	3.0	5, NW	0.8	05:29:00	<i>0</i>	<i>0</i>	-
27/04/12	2.2	3, NW	0.8	20:57:00	0	0	-
28/04/12	1.0	2, SW	0.4	05:26:00	<i>0</i>	<i>0</i>	-
28/04/12	4.8	2, SW	0.0	20:59:00	0	0	-
29/04/12	0.0	2, W	0.0	05:23:00	<i>0</i>	-	-
29/04/12	5.9	2, SE	0.0	21:01:00	0	-	-
30/04/12	0.0	2, W	0.0	05:21:00	<i>0</i>	-	-
30/04/12	8.0	3, E	0.0	21:04:00	0	-	-
01/05/12	4.0	2, E	no data	05:18:00	<i>0</i>	-	-
01/05/12	7.3	3, E	no data	21:06:00	0	-	-
02/05/12	6.0	2, S	0.0	05:16:00	<i>0</i>	-	-
02/05/12	6.3	2, SE	0.0	21:08:00	0	-	-
03/05/12	5.4	1, E	0.0	05:13:00	<i>0</i>	-	-
03/05/12	7.4	3, NW	0.0	21:11:00	0	-	-
04/05/12	5.1	5, N, gusts	0.2	05:11:00	<i>0</i>	-	-

