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Preliminary Bat Survey Report for House and Garage at 2 Ridge Court, Longridge, PR3 3RZ SD 6118 3774

> Commissioned-by: Katie McDonald

Survey Date: 25/10/17 Report Date: 26/10/17

Summary.

(This summary should be read in conjunction with the conclusions and recommendations.)

This property was surveyed prior to the garage being demolished and the existing dormer bungalow being extended in its place.

It is in an area where the pipistrelle bat is common. There is good feeding habitat immediately available and linking well with feeding habitat further afield. Accordingly species such as the whiskered/Brandt's and brown long-eared could also frequent the vicinity of the property.

The loft of the large garage was cluttered, so hard to survey, but there was no evidence to suggest bats had been present. There were a few bat droppings at the north-western gable end of the house-loft however. They were most likely to have been deposited by the pipistrelle bat - common or soprano.

Both buildings have cladding to the front gable end and there is cladding to the rear gable end of the garage too. There is bat access available to roost behind all cladding. Other potential bat entry places are present in the house in the form of missing verge mortar-work, raised roof tiles and gaps in ridge mortar-work.

Unless the house cladding is removed, the discovered roost will not be destroyed or impacted-upon directly by the work, so a European Protected Species Licence will not be needed. However as other potential roosting places exist that will be lost in the course of the development, and I consider the likelihood of these being used to be at least moderate, further survey work is needed in favourable weather conditions in 2018.

When the survey work has been completed, a Bat Method Statement should be written to cover the timing and methodology of the work.

Should a roost be discovered behind the cladding on the garage its demolition would need to be covered by a European Protected Species Licence, as would any proposed removal of cladding to the house, or other works that might alter or eliminate the roosting area.

Introduction.

I was asked to assess the importance of this garage to bats as part of the planning process, prior to its demolition to allow the house to which it is attached to be extended. Incidentally I comment on any issues discovered with respect to other protected/invasive species and species of conservation concern.

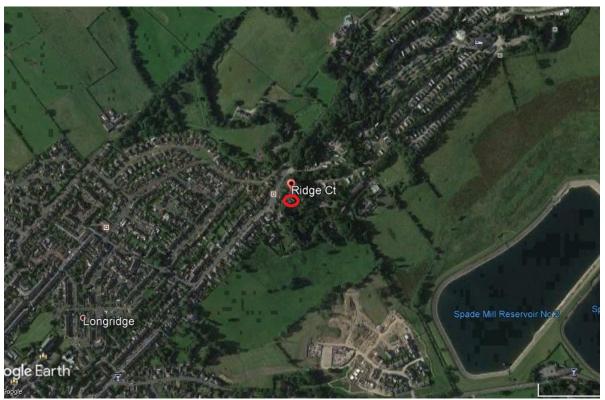
This is a large, double garage attached to a detached bungalow:





Front (north west) and rear elevations

It is in an essentially rural location adjacent to woodland and less than 400m from the nearest water body:



Location of property indicated by red circle

The pipistrelle bat (2 species: *Pipistrellus pipistrellus* - the common pipistrelle, and *Pipistrellus pygmaeus* - the soprano pipistrelle) is common and widespread in the area.

Roosts of this species can occur in any building that provides suitable roosting crevices, with the risk of bat presence increased by close proximity to good bat feeding habitat and commuting routes; for example tree-lines, hedges, woodland, scrub and water courses and bodies. The bats use different roosts at different times of year, sometimes singly and sometimes in large groups of females with dependent young. They can move frequently and unpredictably between the roost sites known to them. The majority of house-holders with a roost of this species are unaware of it.

In summer females gather together each with their single off-spring in, sometimes large, maternity colony groups. Disturbance can cause the abandonment of babies (pups). In autumn when the young are independent, females visit males to mate. In winter the bats hibernate and rousing from hibernation - a slow process - can result in a depletion of fat reserves that may compromise the bats' ability to survive the winter. Females become pregnant in spring when their food (insects) becomes available again.

Other species likely to occur within 2 kilometres are the brown long-eared (*Plecotus auritus*) - the species most likely to leave evidence of roosting within barns and lofts, whiskered (*Myotis mystacinus*)/Brandt's (*Myotis brandtii*), which are hard to separate without dna analysis, Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*) and noctule (*Nyctalus noctula*).

Bats and the Law.

All British bats and their roosts are legally protected under the Wildlife and Countryside Act of 1981 (as amended) and the EC Habitats Directive of 1994 as implemented by the 2010 Conservation of Habitats and Species Regulations.

(Under the European legislation, it is necessary for a development to maintain the favourable conservation status of bats in their natural range. This has generally been interpreted as meaning no net loss of roosts, and it is expected that roosting provision for bats will be made better than or equal to whatever is being lost to development. Wider environmental issues such as changes to feeding and commuting habitat, and lighting, also require consideration. However, the term "roost" in this context, tends to be interpreted to exclude places used opportunistically on a single occasion by just one bat.

Where a development will destroy a bat roost, a European Protected Species Licence (Mitigation Licence) is required before the roost can be interfered with in any way. It usually takes approximately 7 weeks for these to be issued once the application has been submitted. The application includes a Method Statement, and this along with the licence itself forms a legally binding document.

European Protected Species licences are issued providing planning permission has been granted, where appropriate.

Three conditions have to be met in order to obtain a licence:

- That the development is necessary for the purpose of "preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequence of primary importance for the environment";
- That there is "no satisfactory alternative";
- That the action authorised "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

Planners must now satisfy themselves before granting planning consent that it would be possible for a Mitigation Licence to be obtained if necessary. However, it is in the client's best interest to find out sooner rather than later whether any bat roosting issues need to be addressed.

Necessary mitigation and compensation measures would include appropriate timing and methodology for the work, including details of how the bats will be provided-for in the long term.

Natural England, the Government body responsible for administering the law relating to bats, have issued guidelines to planners on how to proceed with respect to bats

Outside the planning system, the onus is on developers/members of the public, to have sufficient investigations undertaken to satisfy themselves (and the authorities in the event of a subsequent investigation), that their actions are unlikely to be in contravention of bat legislation. Where this is in doubt it is necessary to seek appropriate advice and licencing before commencing any work on site.

 $\underline{\textit{N.b.}}$ It should always be remembered that bats often roost in places not anticipated by a lay person, such as modern buildings, trees with cavities, and bridges. Some leave no signs in lofts, as they roost underneath external features such as roof slates, ridges, weather-boarding and cladding.

In the case of a building, tree or other feature not already known to be a bat roost, if bats are found during the course of work, contractors are legally obliged to stop work and seek advice. This should be from an appropriately experienced and licenced bat ecologist.

Additional Relevant Legislation and Policy.

Between 1995 and 2010 certain more vulnerable habitats and species were the subject of National or Local Biodiversity Action Plans. This strategy for the protection of biodiversity has been superseded by UK post-2010 Biodiversity Framework, which is largely now implemented at county level. Internationally The Convention on Biodiversity produced a Strategic Plan for Biodiversity 2011-2020. Further to this the EU Biodiversity Strategy was launched in 2011.

Section 41 of NERC lists species "of principal importance for the purpose of conserving biodiversity". The list was up-dated in 2014 and includes the brown long-eared bat (*Plecotus auritus*), noctule (*Nyctalus noctula*) soprano pipistrelle (*Pipistrellus pygmaeus*) and 4 other bat species.

The National Planning Policy Framework of 2012 states that "the planning system should contribute to and enhance the natural and local environment" by a number of means, including "minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks...."

Survey.

I made a daytime visit on **25/10/17** to undertake a preliminary survey of the building, assess its likely importance to bats and advise whether or not a precautionary approach or further survey work is needed.

Having being involved with bat survey work for 29 years and consultancy work for 20 years, it is always my objective to carry-out my work in a manner consistent with accepted Good Practice Guidelines (1) and consistent with the code of practice of the CIEEM. I hold Natural England Class Licences CL16 and CL18 (Registration CLS03475). These cover me for consultancy/scientific and Volunteer Bat Warden work, surveying hibernation sites and training others. I have a supplementary licence to photograph bats in roosts and a CL29 Barn Owl Class Licence. My credentials are expanded-upon in Appendix 1.

As far as possible, I surveyed the building inside and out with the aid of surveyor's ladders, 2 million candle-power torch, camera with 6x optical zoom and binoculars (8x42). Head-torch, 10x 50 binoculars, fibrescope (6 and 13mm heads, extendable to 2m), camera with 18x zoom and mirrors were also available if needed.

I was looking for access to potential roosting places and evidence of their use such as droppings, urine spots, staining and scratch marks around entrances, feeding remains and bats - alive or dead. It should be noted that droppings are the sign most frequently found, but they are often deposited in areas that cannot be visualised and they can turn to powder quite quickly. They are usually soon washed and blown away from exposed external surfaces.

I also take into consideration the surrounding habitat and the range of bat species it appears likely to support, along with the quality of the habitat linkages with the wider area.

Findings.

The bungalow has a narrow loft containing a velux window, which provides a view of the good bat feeding-habitat immediately adjacent:





Loft and view from velux window

The floor is boarded/carpeted and the roof has been insulated, largely by use of polystyrene blocks between the rafters.

There is a shelf at each gable end and both had a light scatter of rodent droppings on them, thought to be from the wood mouse (*Apodemus Sylvaticus*).

At the north-western gable wall about 6 droppings, typical of bat droppings, were also present. Two were in a cobweb stuck to the wall. They had been removed to allow a sample to be sent for dna analysis if necessary before the photograph below was taken:



Externally the north-west-facing gable apex of the house is timber-clad. Although there are no gaps between the timbers along their length, there is a gap at the gable apex and there are gaps at the ends of the timbers:



The roof tiles are quite thin, but a few are raised and there is at least one gap where mortar-work is missing from the ridge:



There did not appear to be roosting potential associated with a dormer window on the side of the property facing the garage (south-west), though it could not be visualised at all from the limited perspective available in the rear garden.

Some rear verge mortar-work to the house is missing:



The garage has a large loft and much of it could not be inspected due to the number of stored items present.



The floor is boarded and the roof lined with bitumastic felt, fixed above the trusses:



Internally, there was no obvious bat access available to the loft at the ridge. Much of the roof has been insulated in a makeshift manner using a variety of materials however, obscuring the felt.

It was hard to access the internal gable ends but there did not appear to be any evidence of roosting by bats.

Externally both gable ends are timber-clad and there are gaps between the timbers that would allow bat access to the surface behind.



Some of the ridge mortar-work to the garage is missing:



Conclusions/Discussion.

Appendix 2 gives an outline of the criteria used in assessing the level of risk of use by bats.

The property is situated adjacent to good bat feeding-habitat that links well with feeding habitat further afield.

Both buildings have dark-coloured, timber cladding with access available for bats to roost behind it . There is evidence in the loft at the timber-clad, north-west gable end of the house to suggest bats have roosted at the gable apex. The droppings appeared typical of the pipistrelle bat, though the droppings of whiskered/Brandt's bats are quite similar. Roosting at the gable apex in this type and age of property is characteristic of the pipistrelle however.

I understand the new extension will be constructed at right-angles to the current house, and be recessed-in from the front elevation. This means the roost will not be affected directly by the building of the extension, but could be disturbed via noise and vibration at the time of the work.

In addition verge mortar-work will be reinstated at the rear gable and I understand it was hoped to remove the front cladding where bats are gaining entry to the house, and possibly roosting behind the cladding itself. Even if the cladding is retained, I understand it will need re-staining and the adjacent fascia board needs replacing.

Cladding to the garage may be backed by board rather than brick, but bat access is easily possible and there is cladding to both gable ends.

Overall this house and garage provide a range of potential roosting places with varied conditions potentially suiting bats' needs in different weather conditions.

The fact there is already evidence of roosting gives weight to an assessment of this house and garage as being at high risk of being used by roosting bats, possibly on a regular basis. The absence of signs of roosting elsewhere at this visit does not confirm the absence of roosting at other times.

There is potential for use by a maternity colony of pipistrelle bats as well as by individuals at any time of year.

Good Practice Guidelines suggest three bat activity surveys be carried-out on high risk buildings when the findings of the initial survey were negative. See Appendix 3. As evidence of roosting has already been discovered, two should be sufficient to assess whether bats make use of the other available features.

I recommend an initial dusk emergence survey in favourable weather conditions between the months of May and August inclusive, preferably before the end of June, to try to establish how many bats of which species use the discovered roost and to assess whether other locations may be used too.

Following that, because bats can move between the roosts known to them frequently, at least one more survey will be needed. The second survey should be at dawn

to accord with good practice and my personal practice is to leave at least a month between surveys. In this case ideally it would be done in July, at least a month after the first survey.

If the cladding is to be removed a European Protected Species Licence is likely to be needed. Otherwise a Bat Method Statement should be written to cover the timing and methodology of the work. Bats with dependent young could abandon them if disturbed by staining of the cladding or replacement of the fascia at the wrong time.

The Bat Method Statement should be written when all necessary additional survey work has been completed. As the absence of roosting at the times of the surveys still won't confirm there is no roosting at other times, any roosting potential lost in the course of the work should be compensated-for via pro-active measures. For example integrated bat boxes could be built-into the new extension. See Appendix 4.

Recommendations.

These recommendations should be read in conjunction with the conclusions above.

Have a bat emergence survey undertaken in favourable weather conditions in May or June 2018.

Have a dawn return-to-roost survey undertaken at least a month after the dusk emergence survey, preferably in July. Further recommendations will be made dependent on the findings.

When all survey work has been completed have a Bat Method Statement written to safeguard the needs of bats with respect to timing and methodology, including any alternative provision to be made for lost roosting potential.

If the cladding to the front gable end of the house is to be removed a European Protected Species Licence is likely to be needed to cover the work. This would apply also if any other roost discovered is to be destroyed.

If a European Protected Species Licence is needed for removing the cladding on the house, and the species of bat involved hasn't already been confirmed via sound recordings at future survey work, the droppings obtained at this survey can be sent for dna analysis.

References.

1. Ed. by Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines - Third Edition. Bat Conservation Trust.

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Appendix 1 - Angela Graham's Experience.

- I hold Natural England Class Licences CL16 and CL18. These cover me for consultancy/scientific work, work as a Volunteer Bat Warden and allow me to train volunteers. I have a supplementary licence to use flash photography in bat roosts (2014/SC1/0160), possess up to 10 live/dead bat specimens (20123429). I have a CL29 licence to disturb barn owls.
- I'm a member of The Chartered Institute of Ecology and Environmental Management and I report concerns about standards to them on an increasing basis
- I undertake my work in accordance with the principles outlined in the Bat Conservation Trust's "Good Practice Guidelines".
- I have been involved in bat conservation for 30 years, initially as a volunteer with the Nature Conservancy Council (NCC) first licenced in 1989 and as a founder member of the South Lancashire Bat Group (1987). Later, and for many years, I was Co-ordinator/Chair and Trainer for the South Lancashire Bat Group. I trained the people who currently run the group, one of whom is a Trustee for the Bat Conservation Trust, along with an earlier trainee of mine. In 2002 I was a founder member of the Greater Manchester Bat Group.
- Over the last 20 years I have done increasing numbers of bat surveys on a consultancy basis, firstly part-time, then full time from December 2003.
- My experience at applying-for European Protected Species Licences with respect to bats spans approximately 20 years.
- From 2003 to 2008 I represented the bat groups of the north-west region at national meetings of the Bat Conservation Trust.
- I regularly communicate with the Ecologists who advise local authority planners, especially the Greater Manchester Ecology Unit and West Yorkshire Ecology raising concerns about practice and protocols.

Other experience includes:

- Attending bat-worker conferences every year since 1988 (mainly England, some in Wales) plus additional symposia on specific topics such as mitigation and woodland bats.
- Helping with winter surveys of underground hibernation sites in Clwyd.
- Participating in "Bat Detector Workshops" during the 1990s in different areas of the country, concerned with locating bat roosts and feeding sites/commuting routes.
- Sitting on local council "Wildlife Advisory Groups" (WAGs) in the Greater Manchester area from the early 1990s until around 2005.
- Helping local authorities and the Greater Manchester Ecology Unit formulate their Biodiversity Action Plans for bats.
- Administering the bat casework for English Nature (now Natural England) in the South Lancashire and Greater Manchester areas over 1998-2000.
- Assisting with research involving mist netting, harp trapping and radio-tracking.
- Continuing to attend courses run by recognised experts to ensure I stay up-to date both with respect to bat survey-work and conservation, and issues such as health and safety.
- Re-passing the Construction Site (CITB) Operatives test in June 2017 and updating my confined spaces training in 2006.
- Contributing to the Bat Conservation Trust's survey standards guidelines.

Other ecological experience includes:

- A year-long sandwich placement assisting with badger research
- Short periods of voluntary work with the Lancashire Wildlife Trust and RSPB
- Attending short courses and other training with respect to grasses, flowering plants, British mammals in general and water voles in particular, reptiles and amphibians, non-native invasive plant species, Extended Phase 1 Habitat Surveying, National Vegetation Classification, Environmental Impact Assessment and use of GIS.
- Taking part in British Trust for Ornithology breeding bird and associated butterfly surveys annually.
- Bird watching for fun since 1982 with a general interest in wildlife, ecology and conservation for a similar period.

Appendix 2 - Criteria used in assessing risk of roosting (in the absence of obvious evidence of roosting).

Risk of roosting	Definition	Suggested Action
Nil	Whole of structure/tree can be seen well enough to be sure there are no roosting opportunities.	No need to consider bats further unless development is delayed and potential roosting places might develop in time.
Minimal/ negligible	All or most of structure/tree can be seen well enough to suggest there are few, if any, places suitable for roosting and the location does not provide easy access to potential feeding grounds.	Although roosting is thought to be unlikely and therefore the development is unlikely to impact on the favourable conservation status of bats, a precautionary approach should be taken at the time of the work. Further survey work needed only if development delayed.
Low	Whole of structure/tree can be seen well enough to know there are no more than a few openings that could be used by an individual bat or two and/or these provide access to the sorts of features that are likely to be suboptimal due to materials and/or conditions within (eg unstable temperature); and/or the location provides limited access to potential feeding grounds.	Although regular roosting is thought to be relatively unlikely and the development is unlikely to impact on the favourable conservation status of bats, a single survey at dusk or dawn in favourable weather conditions would be appropriate to reduce the extent to which the judgement is based on speculation. If the findings were ambiguous e.g. possible bat emergence and/or considerable bat activity around the building, the survey would need repeating.
Moderate/ medium	A small number of openings are present and at least some seem likely to provide good conditions	Further work is needed to better assess the abundance of bat activity in the vicinity and whether or not bats seem to

	for roosting bats, and/or a loft/hay-loft/cellar is present that appears to have good qualities for roosting but no evidence of bats has been found at the time; and/or the location (as above) may limit the attractiveness to bats, but it is uncertain to what extent.	make use of the roosting potential available. It is likely that more than one survey at dusk or dawn will be necessary, and possibly a repeat day-time inspection, including lofts/hay-lofts. In the case of cellars and equivalent winter inspection is necessary.
High	There is at least one feature that is typical of those favoured by bats for regular roosting and it/they provide access to abundant insect food on-site and/or via links with the wider natural environment. The feature/s could be suitable for use by a maternity colony, either as a main or satellite roost, or by a territorial male in autumn in the case of pipistrelles, or by individuals or small numbers of bats at any time of year, including winter when hibernating.	The extent to which bats of different species make use of the potential available needs to be investigated by carrying-out at least 3 surveys at dusk and/or dawn spaced over the months of May to September inclusive, possibly extending into April or October if weather conditions are favourable. (Air temperature above 8°C and not more than light rain and/or gentle breeze. I generally plan to do surveys only when the forecast is for 10°C or above.) Maternity colonies have largely disbanded by September, but territorial male pipistrelles may be missed without a survey in September and a lot of smaller roosts are discovered at this time of year. As bats could hibernate unseen in winter and/or roost at other times not covered by the survey work, appropriate precautions will be needed at the time of the work along with maintenance of appropriate potential roosting places.
High - hibernation only	Cave-like places with stable conditions and high humidity, such as cellars can be used for hibernation in winter.	High-risk potential hibernation sites need at least 3 inspections spaced over the winter months as bats will move between sites depending on the weather conditions.

Appendix 3 - Recommendations for further survey work when the findings of the preliminary survey were negative.

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey [®] (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn reentry survey. The third visit could be excluded by dusk or dawn.b

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b

September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more Northerley latitudes, which may reduce the length of the survey season.

Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate: count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)

Appendix 4 – examples of available integrated bat boxes N.b. Other boxes are available but the advice of the bat consultant should be sought before selecting one of these.

EcoSurv Habibat

http://www.ecosurv.co.uk/product/habibat-bat-boxes

"Designed to be built into an exterior wall and is available in a variety of faces to match the building. Standard facings of red or blue brick - ideal for new builds - are normally available from stock, or boxes can be made to your specific requirements with a face of brick, stone, timber, or plain (for rendering). Supplied unpointed."



Brick example of Ecosury Habibat. Can also be faced with stone.

Ibstock Ecozone

http://www.ibstock.com/sustainability-ecozone.asp



Enclosed Bat Box B

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work



Enclosed Bat Box C with engraved motif

- Designed specifically for the pipistrelle bat
- Available in smooth blue, smooth gold & smooth red
- Attractive "bat" motif
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work

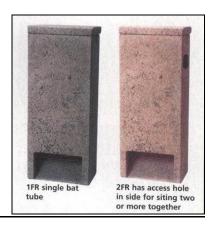
	Ġú ^{gh}	Durability
Eco Habitats for Bats - Technical Data: A	215mm x 65mm	F2 S2 - Fully Frost Resistant
Eco Habitats for Bats - Technical Data: B	215mm x 215mm or 215mm x 290mm	F2 S2 - Fully Frost Resistant
Eco Habitats for Bats - Technical Data: C	215mm x 215mm or 215mm x 290mm	F2 S2 - Fully Frost Resistant



Above: typical unit in situ. Photo © Angela Graham

Schwegler 1FR/2FR





Forticrete

http://www.forticrete.co.uk/products/184/bat-boxes.html.



Above and below - standard colours available. Others available to order





Example of Forticrete boxes in situ

Photos above © Angela Graham

"Forticrete's boxes have been designed to be fitted to your property easily. Suitable for new build construction or renovation work where there is a requirement to provide a habitat for Pipistrelle bats."

Bat and Bird Box Suppliers

Schwegler woodcrete: NHBS: 01803 865913

http://www.nhbs.com/bat boxes eqcat 421.html

Envisage Wildcare. 01793 724848:

http://www.wildcareshop.com/Products Results.php?pageNum WADAProducts=0&totalR ows WADAProducts=25&Search=1&ProductCategoryID[]=5

Nature Counters. 07917 340114

http://www.naturecounters.com/catalog/index.php?cPath=36

Jacobi Jayne: http://www.livingwithbirds.com/nest-boxes-by-species/bats/