

Gibside Hall Hibernaculum.

Helen McDonald helen.mcdonald1@nationaltrust.org.uk

Gibside Hall cellars

Gibside Hall, once the home of the Blakiston and Bowes family at Gibside estate in Gateshead's Derwent Valley, is now a ruin and a Scheduled Ancient Monument. The shell of the building is all that remains, with no roof and much of the internal structure no longer in place. Most of the network of cellar rooms are better preserved and protected from the elements. The main cellar corridor is open at both ends, as well as having several openings where doors and windows once were and so is exposed to wind and light. There are rooms leading off this corridor that are more sheltered, especially those with partitions within the rooms cutting out light and draughts. Another large room with a high ceiling is accessed from a separate entrance and it is also sheltered from wind by a retaining wall.



Figure 1: Gibside Hall main cellar corridor.

Early cellar hibernation surveys 2002-2007

In 2002 and 2003, hibernation surveys were carried out in the cellars and hibernating *Pipistrellus* species bat and brown long-eared bat *Plecotus auritus* were recorded. These species were again found in 2006 and 2007, with Natterer's bat *Myotis nattereri* also being found in January and February 2007.

The hibernating bats used a number of features in the cellars, including crevices and cracks in the brickwork of the vaulted ceilings and masonry of doorways. Some were found hanging openly in more sheltered rooms of the cellar, away from draughty tunnels. There are potentially more suitable spaces for hibernating bats in the cellars, where there are areas of lifting plaster and brickwork but a lot of these places are too high and cannot be reached safely for surveying.

Changing access

Due to its ruinous condition, access to the Hall is restricted. Before 2007 a timber fence surrounded the building, but in 2007 a Heras fence was installed to prevent any human access. This greatly reduced disturbance inside the building from humans, although badgers *Meles meles* were recorded entering and exiting the building at several points. Since 2007 summer emergence surveys of the Hall have had to take place with volunteer surveyors standing outside the fencing, limiting the views of emerging bats.

No further access for hibernation surveys was allowed until an architectural condition survey of the Hall was carried out in 2014. As a result of the findings of this survey, and continually monitoring the movement of the building, a risk assessment for access to the building for hibernation surveys was agreed and hibernation surveys re-started in January 2016.

Recent hibernation surveys 2016-2018

The winter in 2016 was mild. No bats were found in Gibside Hall cellars in hibernation surveys in January and February 2016. Similar results of low numbers or no bats were recorded in other known hibernacula in 2016. Herald moth *Scoliopteryx libatrix* and cave spider *Meta* species were recorded in most rooms of the cellars.



Figure 2: Cave spider in Gibside Hall cellars.

No bats were recorded in 2017, but herald moths were counted.

Continuing the survey effort on 24/01/2018, herald moths were recorded, but this time two hibernating bats were also found. The first was a Daubenton's bat *M. daubentonii* in a deep crack in the ceiling, in the exact same spot where a Natterer's bat was found in 2007, eleven years ago to the day. The other bat was a soprano pipistrelle *Pipistrellus pygmaeus* in the brick work over a doorway, also in the same spot that a *Pipistrellus* species bat was found in February 2007.

ibutton data loggers were left near both bats to record the temperature at four hourly intervals close to their locations and a SM2 bat detector was positioned between the Daubenton's bat and the nearest exit from the cellar.



Figure 3: Daubenton's bat hibernating in Gibside Hall January 2018.

The follow-up survey on 26/02/2018 found both bats had left their roosts. The temperature data close to the Daubenton's bat fluctuated between 3-4°C from 01/02/2018 dipping to 2.5°C in the early hours of 12/02/2018. One *Myotis* species bat call was recorded on the SM2 at 21:25:53 on 11/02/2018, possibly the Daubenton's bat on the move?

The Hall cellars have been added to the Bat Conservation Trust's National Bat Monitoring Programme hibernation survey. We will continue to monitor the cellars as a hibernaculum and this information will help inform future structural work or changes in access arrangements to the building.