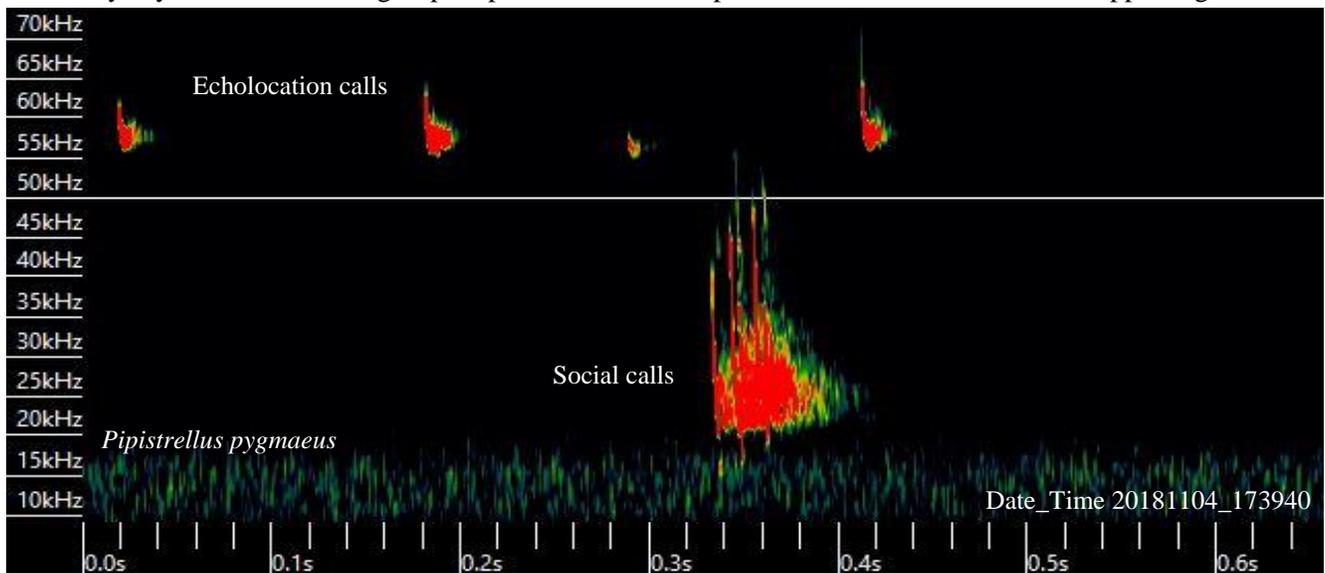
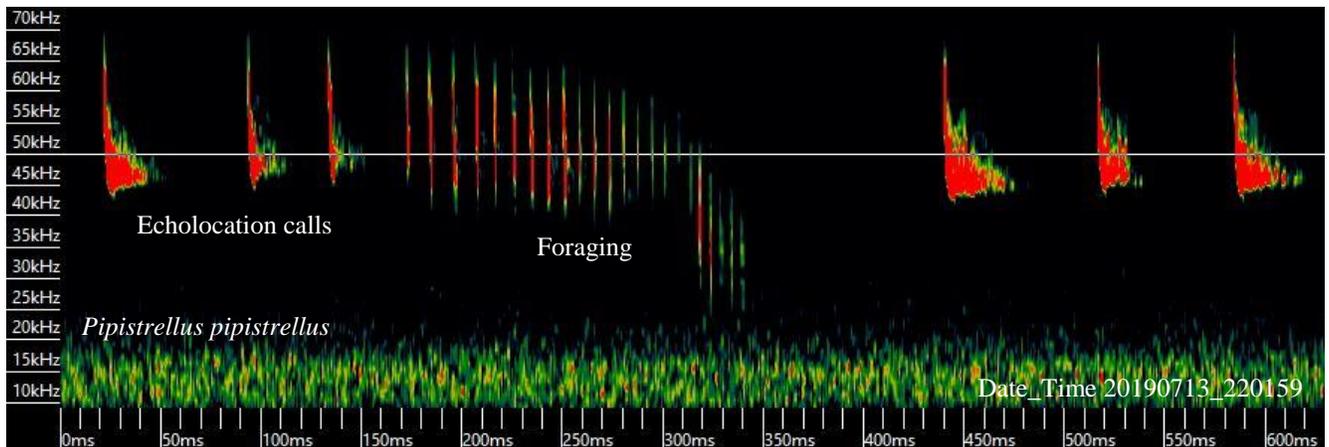


## SPECIES OF BAT RECORDED IN BROOK MEADOW

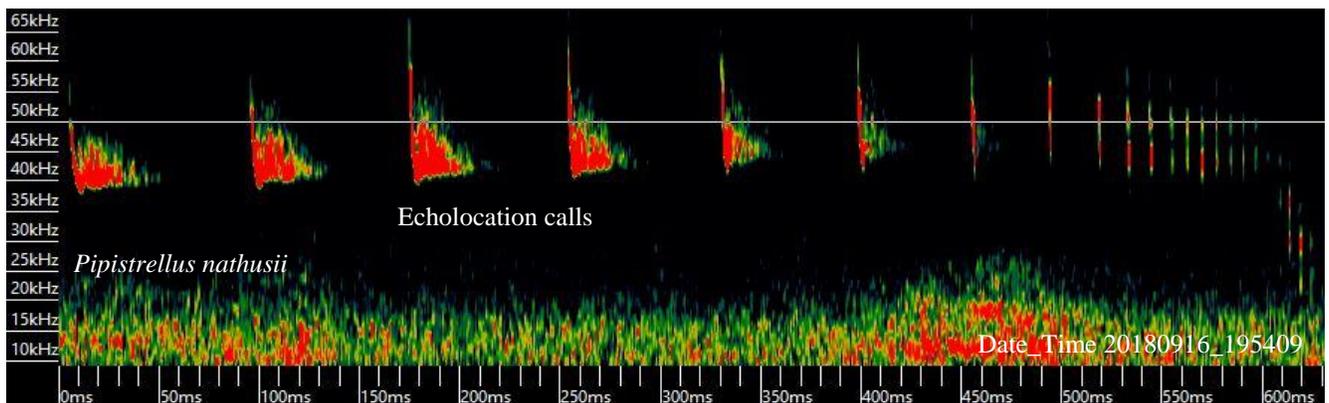
The following sonograms illustrate how sound analysis can be used to identify some of the species of bat found in the UK. To date, six species of bat have been identified in the meadow and surrounding area where continued bat surveys by the conservation group help to confirm the importance of Brook Meadow for supporting wildlife.



A Soprano Pipistrelle bat, *Pipistrellus pygmaeus* flying over the south meadow. The horizontal axis shows an average of 0.2 second between echolocation calls but they can be half this time interval. Social or advertisement calls at lower frequencies become much more common during the mating period in late summer and the autumn.

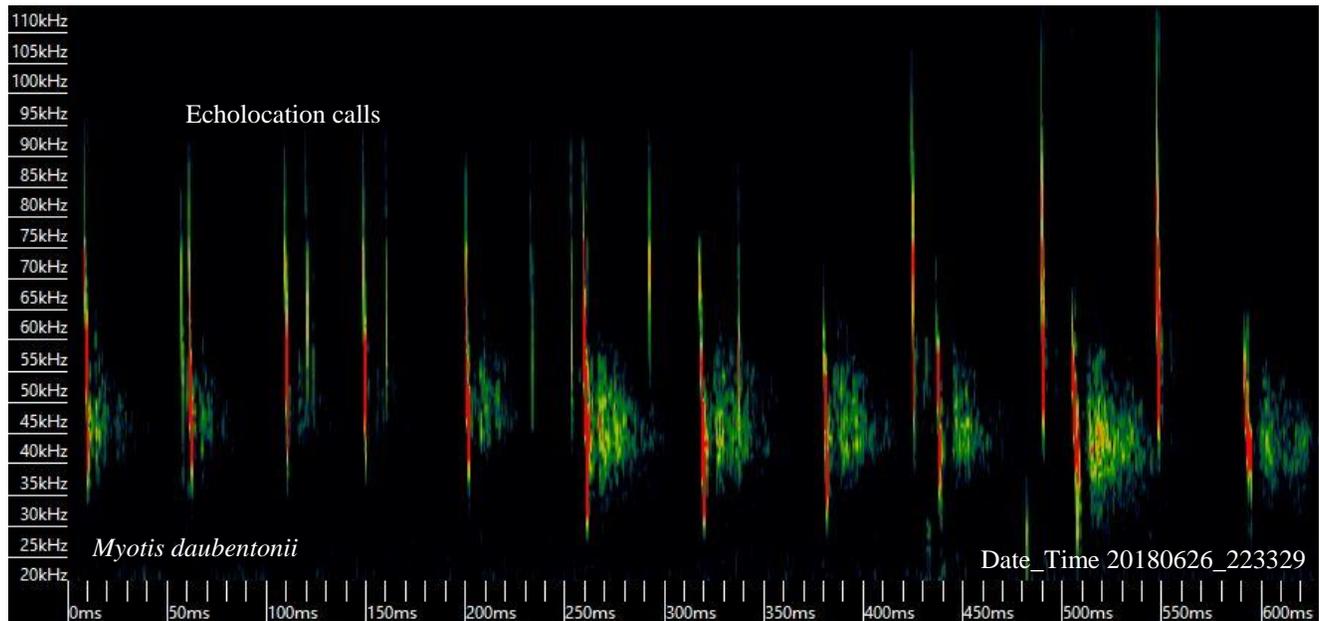


A Common Pipistrelle bat, *Pipistrellus pipistrellus* foraging by the Lumley stream. Notice how the rate of sound pulses is rapidly increased as the bat approaches the insect because the bat requires constant updating of how far away the target is, as there is a delay in the echo returning to the bat.

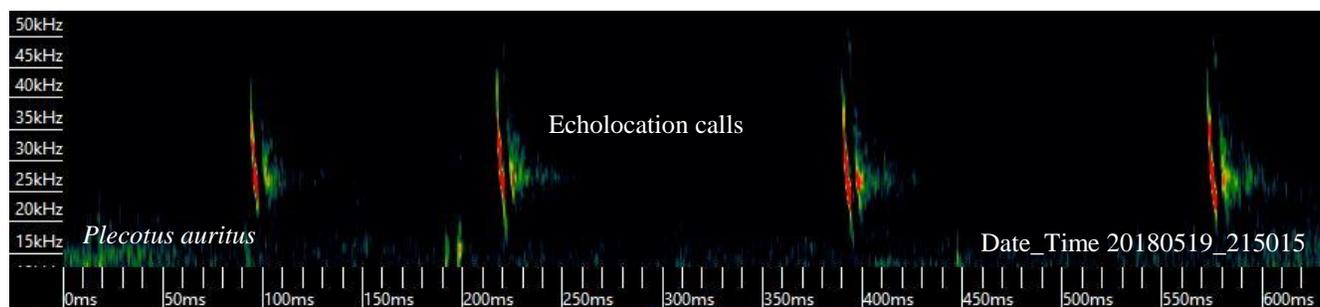


This Nathusius' Pipistrelle bat, *Pipistrellus nathusii* was observed foraging in the south meadow. Notice that the bottom end of the range of frequencies for each echolocation call in the sonogram is below 40 kHz; lower than the other species. Most records of this bat are near to water bodies and include rivers and water-logged areas.

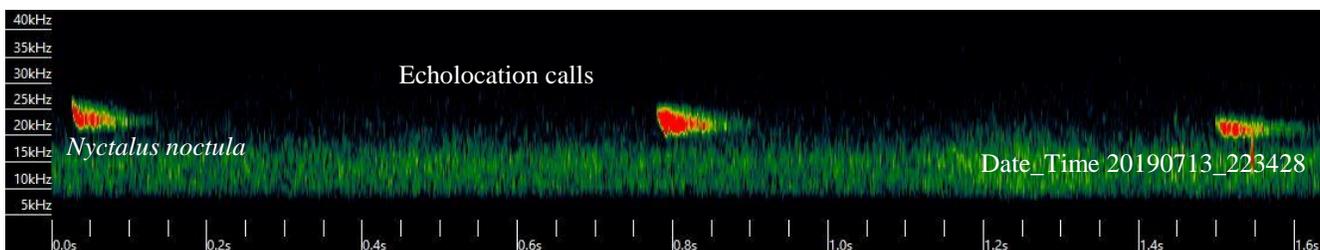
## SPECIES OF BAT RECORDED IN BROOK MEADOW



Two Daubentons bats, *Myotis daubentonii* recorded over the River Ems in the north-east corner of the meadow. Note that each bat uses a different range of frequencies. Their identity was confirmed by torch light because *Myotis* bats, of which there are 7 UK species, cannot be identified by sound analysis alone. Daubentons bats are lighter in colour underneath and take insects coming off the surface of the water.



A Brown long-eared bat, *Plecotus auritus* recorded flying over the north meadow. This bat requires open areas for foraging, which include parkland and gardens. The long-eared bats have a very quiet call and can only be detected within about 5 metres of the individual with each call lasting on average for just 2.3 milli-seconds. It can be difficult to separate this species from the Grey long-eared *P. austriacus* using sound analysis alone.



This Noctule bat, *Nyctalus noctula* was recorded from the north bridge on the River Ems. Noctules are generally high fliers in open habitats over woodland, parkland, marshland and rivers and away from larger cities. Generally speaking, all bats flying in such habitats increase the inter-pulse interval of their echolocation calls, but in cluttered situations such as in woodland, the call rate is increased.