MIAG and McI PC written submissions from oral presentation;

Issue Specific Hearings (am);

1st March, 2023

Biodiversity

Representations made by Andrew Harding;

Once again NH failed to satisfactorily answer questions raised about 14 of the 67 protected species of birds that live within a 5 mile radius of Messing. The habit and nesting spaces of these birds, and all others, will be harmed and destroyed by substantial increases in traffic and damage to hedgerows and plant life.

The bats in the Church at Messing have extensive nesting sites in the building and NH have failed to examine and study the consequences of their plan on these species.

Attached here as Appendix 1 and 2 are reports and statements about these creatures.

The ISH was also advised that badgers, otters and several other 'land' species roam these areas and their habitat will be severely threatened by NH plans.

At no point was a satisfactory answer given to any points raised. Once again NH hid behind the 'buffer zone argument of 1.6km, and this is not accepted by MIAG nor MCI PC (*qv* actual measurements), as justifiable or acceptable in view of the extensive harm that will inevitably be done.

Appendix 1; Birds

Protected Species Prevalent Within a 5 Mile Radius of Messing, Essex

This short paper is intended to highlight bird and other animal species in the area that are protected by law and which will be harmed by the proposed development of the A12 widening/Junction 24 scheme. This harm may take the form of direct killing of these species, or destruction of their habitat which indirectly will kill them.

The author is a resident of Messing and although this is being written as a private individual, I am also a trustee of Essex Wildlife Trust. I am not representing the Trust in any form in writing this paper, but I hope that it gives credence to my knowledge of the local fauna. I walk the lanes and footpaths of the area every weekday and personally am witness to the existence of the fauna listed below. My area of particular knowledge is birds.

In the UK, all wild birds, their nests and eggs are protected by law under The Wildlife and Countryside Act, 1981. There are exceptions to their protection, but road building and road widening are not included in these exceptions (source; www.gov.uk) . Some birds (known as 'Schedule 1 birds' under the Act) receive extra protection. These include the following birds, all of which are resident and migrant species in the area:

Avocet

Fieldfare

Firecrest

Hobby

Kingfisher

Red Kite

Merlin

Barn Owl

Hen Harrier

Marsh Harrier

Redwing

Spoonbill

The 14 birds listed above is not an exhaustive list of Schedule 1 birds in the area, but merely a list of the birds that I have seen, and which are resident in the area.

In addition to the above, the following birds are now on the RSPB's Red List. These are our most endangered birds with various legal protections. Similarly, I have witnessed these in the area so I know that they are resident;

Cuckoo

Lesser Spotted Woodpecker

Marsh Tit

Lapwing

Skylark

Turtle Dove

Mistle Thrush

Yellowhammer

Grey Wagtail

Curlew

House Sparrow

Tree Sparrow

Songthrush

In addition to these birds, all British wild mammals are protected by The Wild Mammals (Protection) Act ,1996, and all wild animals, birds, butterflies and plants are protected by The Wildlife (Protection) Act ,1972, as well as the aforementioned The Wildlife and Countryside Act, 1981. Among the protected species in the local area are:

Bats

Badgers

Common Dormice

Water Voles

Otters

Great Crested Newts

Again, this is not an exhaustive list, but one that I'm witness to. Nor does it include protected plants, trees, and other habitats, such as listed buildings which are common breeding sites for e.g. swifts and house martins.

I attended one Highways England consultation in Messing Village Hall in 2022 to ask what provision had been made for the above. The only response from two Highways England staff at the event was that some trees were going to be planted to replace those that would be destroyed by potential widening of the A12. To say that this is an inadequate response is an understatement.

The questions that I believe need to be answered by Highways England include:

- What survey of bird, mammal, reptile, tree and plant species have you carried out in order to protect them?
- What are their findings and recommendations as a result of this survey? Specifically, which species will be affected by the A12/Junction 24 scheme, and to what effect?
- Where can we see this survey, so that wildlife experts can engage in their findings?
- Have they engaged with the two local wildlife bodies, *Essex Wildlife Trust* and the *RSPB* in order to ascertain a complete list of protected wildlife in the area?

Appendix 2; Bats Study

Messing – All Saints

The church of All Saints, Messing, was last surveyed by the Essex Bat Group in 2010 when records were made of pipistrelle species and brown long-eared bats using the tower and the nave.

Access in 2021 to All Saints for an acoustic survey as part of the Essex Bat Group's Remote Roost Monitoring Project was kindly provided by The Rev Anne-Marie Renshaw and church warden Jan Barker.

In connection with building work, bat survey work was also carried out in 2021 by Emma England of the Essex Bat Group. That included an emergence survey that took place during the period of this acoustic survey.

Deployment

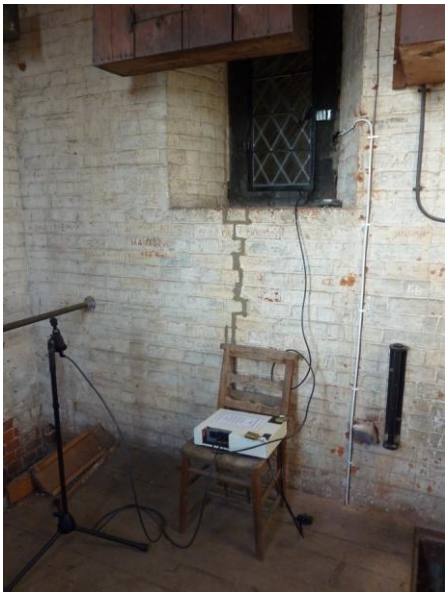
The SM3[1] recording equipment was deployed 1st July 2021 by Ralph Cordey. All Saints has widespread evidence of bats using the nave – scattered droppings and urine spotting on a floor memorial stone, and also droppings on the first (silent) floor of the tower. The warden notes longstanding issues with urine spotting on brass in the church.

The recorder was set up on the silent floor of the tower, with microphone 0 listening within the tower and microphone 1 listening to the nave and chancel via a small window between the tower and nave. The recording periods each day were from 2 hours before sunrise to 30 minutes after, and 30 minutes before sunset to 2 hours after. The equipment was recovered 8th July. The window between the nave and tower had opened during the deployment and so the microphone in the tower could also hear bats in the nave to some extent (and vice versa).

All Saints, Messing

Nave and chancel viewed from west end of nave

[1] SM3 bioacoustic ultrasonic recorder, Wildlife Acoustics, Maynard, MA, USA.



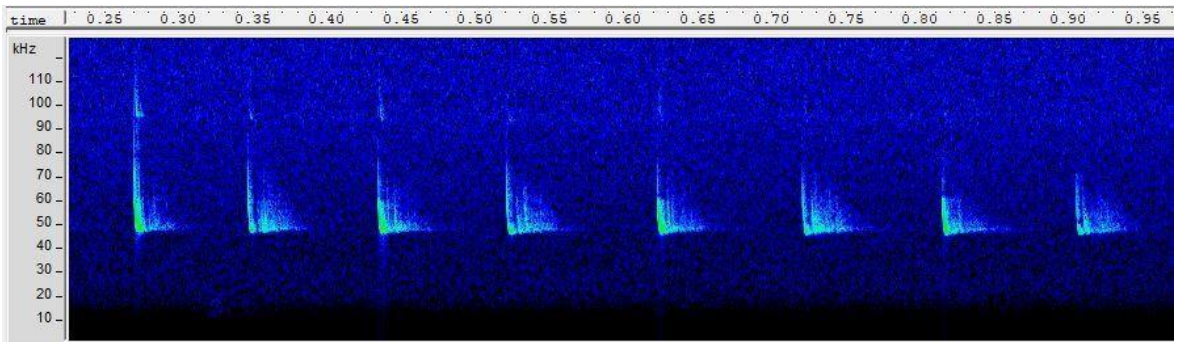
Recorder and microphones on the first floor of the tower – mic 0 is to the left while mic 1 is through the window

West end of nave with window at first floor level into tower

Results

542 sequences of bat calls were recorded during the survey. All appear to be from bats flying within the nave and none from within the tower. All calls recorded on the tower microphone appear to originate form the nave. An initial automated analysis of the recorded calls was conducted using *BatClassify*[2] software followed by visual checks on selected recordings, converted to time-frequency sonograms using *Wavesurfer*[3] display and analysis software.

British bat calls are generally emitted at frequencies between 15 and 120kHz, and above the range of most adult human hearing. An example "sonogram" for a recording in All Saints is shown below.



Sonogram plot for a common pipistrelle recorded at 02:49:05 on 3rd July.
The plot shows time from left to right (seconds) and frequency from bottom to top (kHz).
There are typical "hockey stick" shaped echo-location calls from pipistrelles.

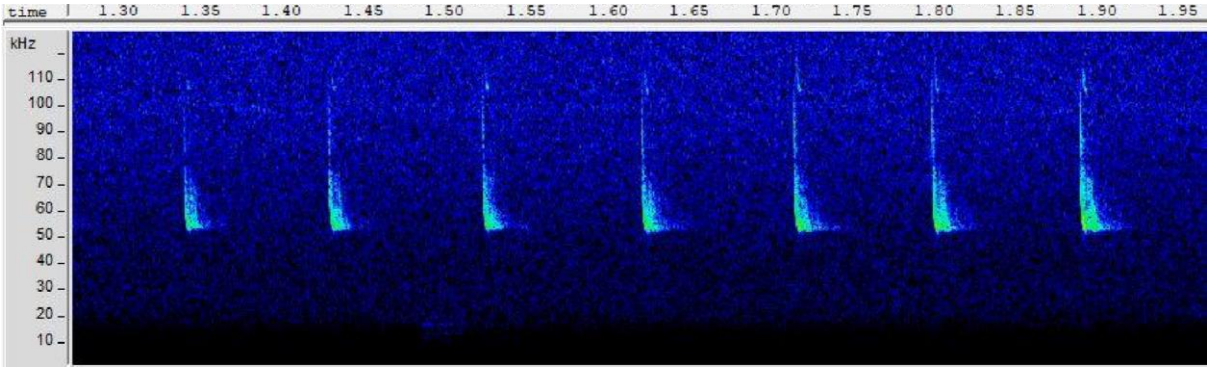
[2] https://bitbucket.org/chrisscott/batclassify/downloads

[3] WaveSurfer 1.8.5, Centre for Speech Technology, KTH Stockholm

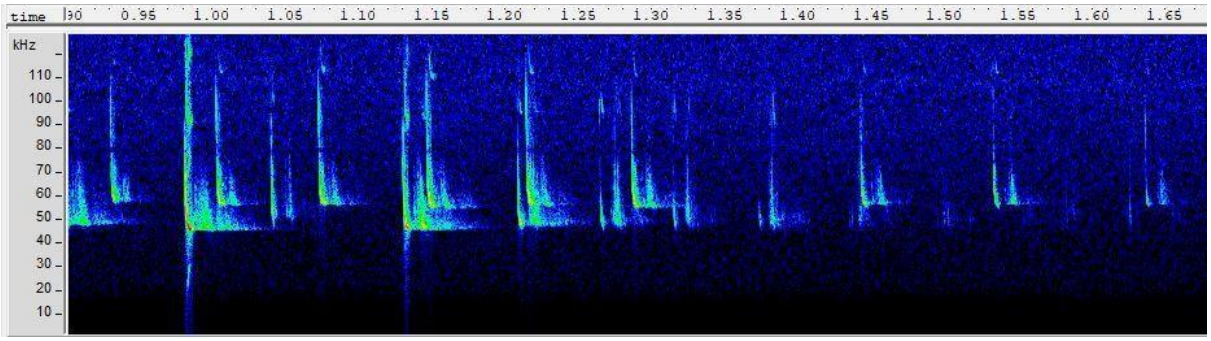
Four species of bat were recorded in All Saints.

- By far the predominant species recorded was the common pipistrelle (Pipistrellus pipistrellus).
- Frequent recordings were also made of brown long-eared bats (Plecotus auritus), although some of the call characteristics were a little unusual, causing uncertainty in the automatic identification software. *[The calls were often loud and at a higher-than-typical frequency. It is likely that some bats were closely approaching the microphone]*
- Soprano pipistrelles (Pipistrellus pygmaeus) were recorded, but it was often difficult to distinguish between the two species. This is not unusual in church interiors.
- A few sequences of recordings were made over the week of Natterer's bat (Myotis nattereri).

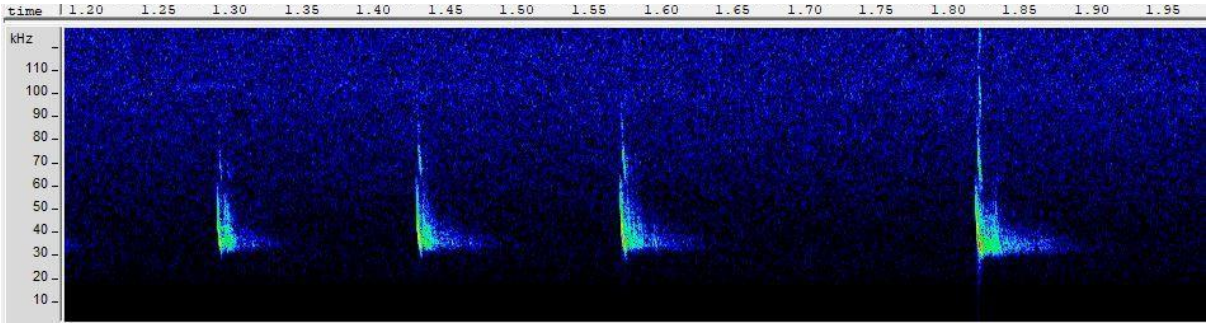
Selected sonograms covering the different bat species recorded are illustrated below.



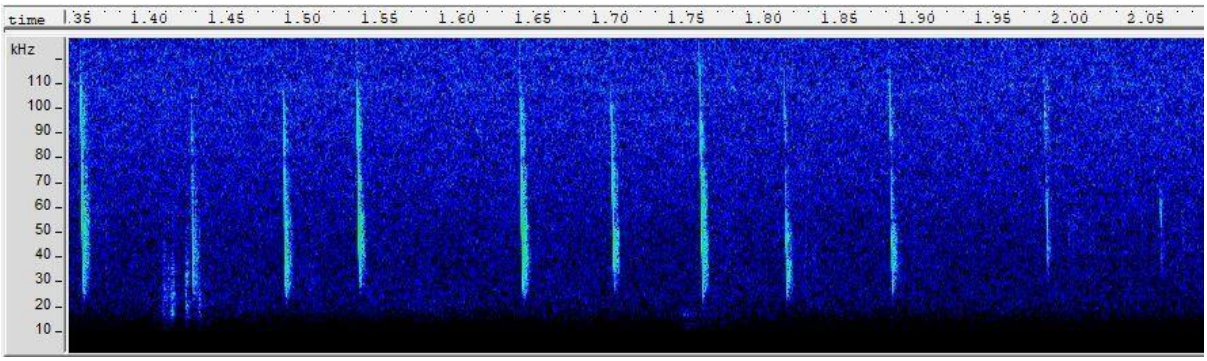
Soprano pipistrelle 03:21:19 on 3rd Jiuly. Soprano pipistrelles emit typical echolocation calls above 50kHz, in contrast to common pipistrelles. In All Saints, many sequences of calls were barely above 50kHz and are difficult to assign to either species.



Recording of several bats flying together in the nave – both common and soprano pipistrelles 23:15:59 on 5th July



Echo-location calls of a brown long-eared bat 22:11:56 7th July.



Calls from a Natterer's bat 22:12:58 2nd July. Natterer's is a member of the myotis genus - echolocation calls from bats of this genus are typically short clicks and appear as rather simple vertical lines on a sonogram.

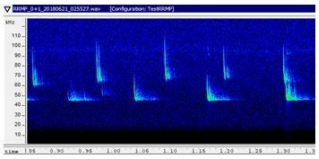
The Acoustic Remote Roost Monitoring Project

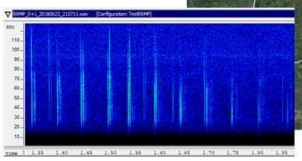
Since 2015, the Essex Bat Group has been conducting surveys of bat species in churches across Essex using ultrasonic recording equipment. Our Remote Roost Monitoring Project was supported with funding from the Essex Field Club. To date, over 35 churches have been surveyed.

- We have broadened contacts with churches in Essex and the people who use and care for them
- We monitor over long periods, extending and complementing one-off surveys
- We have recorded barbastelle bats, a scarce species, within and around some churches in Essex

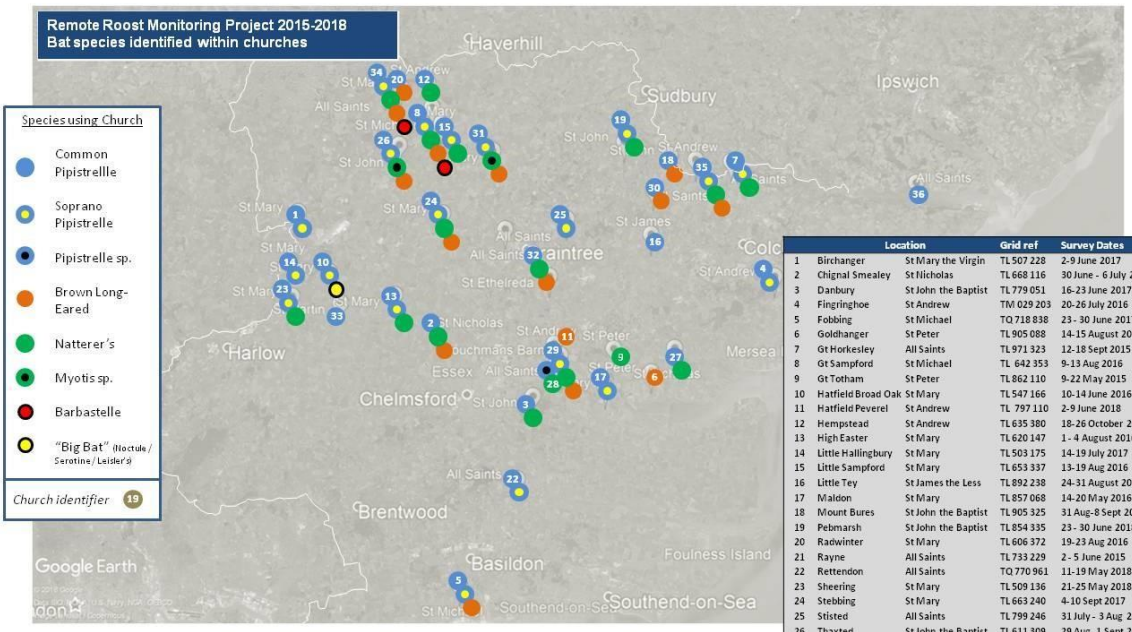
Our results can be used to help assess the potential impacts of repair work in churches. Essex Bat Group already has a good relationship with the local diocese of the Church of England and is consulted on planned works.

Old churches are important to bats, holding roosts and hibernation sites. Roosts can be small and evidence of bats may be limited to a few droppings. Recording bats' ultrasonic calls can help identify which species are using a church.





Ultrasonic bat calls from Essex churches displayed as sonograms: time is horizontal and frequency vertical. Left: common & soprano pipistrelles. Right: Natterer's bats. Adult humans hear frequencies below 20kHz



	Location		Grid ref	Survey Dates
1	Birchanger	St Mary the Virgin	TL 507 228	2-9 June 2017
2	Chignal Smealey	St Nicholas	TL 668 116	30 June - 6 July 2016
3	Danbury	St John the Baptist	TL 779 051	16-23 June 2017
4	Fingringhoe	St Andrew	TM 029 203	20-26 July 2016
5	Fobbing	St Michael	TQ 718 838	23 - 30 June 2017
6	Goldhanger	St Peter	TL 905 088	14-15 August 2015
7	Gt Horkesley	All Saints	TL 971 323	12-18 Sept 2015
8	Gt Sampford	St Michael	TL 642 353	9-13 Aug 2016
9	Gt Totham	St Peter	TL 862 110	9-22 May 2015
10	Hatfield Broad Oak	St Mary	TL 547 166	10-14 June 2016
11	Hatfield Peverel	St Andrew	TL 797 110	2-9 June 2018
12	Hempstead	St Andrew	TL 635 380	18-26 October 2015
13	High Easter	St Mary	TL 620 147	1 - 4 August 2016
14	Little Hallingbury	St Mary	TL 503 175	14-19 July 2017
15	Little Sampford	St Mary	TL 653 337	13-19 Aug 2016
16	Little Tey	St James the Less	TL 892 238	24-31 August 2018
17	Maldon	St Mary	TL 857 068	14-20 May 2016
18	Mount Bures	St John the Baptist	TL 905 325	31 Aug-8 Sept 2018
19	Pebmarsh	St John the Baptist	TL 854 335	23 - 30 June 2018
20	Radwinter	St Mary	TL 606 372	19-23 Aug 2016
21	Rayne	All Saints	TL 733 229	2 - 5 June 2015
22	Rettendon	All Saints	TQ 770 961	11-19 May 2018
23	Sheering	St Mary	TL 509 136	21-25 May 2018
24	Stebbing	St Mary	TL 663 240	4-10 Sept 2017
25	Stisted	All Saints	TL 799 246	31 July - 3 Aug 2017
26	Thaxted	St John the Baptist	TL 611 309	29 Aug- 1 Sept 2017
27	Tolleshunt D'Arcy	St Nicholas	TL 929 117	08-12 August 2015
28	Ulting	All Saints	TL 801 088	21-26 October 2018
29	Ulting	Couchmans Barn	TL 804 098	23-28 Sept 2018
30	Wakes Colne	All Saints	TL 889 286	21 - 25 July 2017
31	Wethersfield	St Mary	TL 712 312	25 - 29 Aug 2017
32	White Notley	St Etheldreda	TL 786 182	3-7 Oct 2016
33	White Roding	St Martin	TL 562 134	3-6 May 2016
34	Wimbish	All Saints	TL 590 369	13-22 June 2018
35	Wormingford	St Andrew	TL 933 324	28 Aug- 2 Sept 2015
36	Wrabness	All Saints	TM 174 319	6-10 August 2018

We are an active voluntary group passionate about the conservation of bats, their roosts and foraging habitat within Essex. Our activities include survey, research, rescue & care and providing advice & information. We are a partner group of the Bat Conservation Trust, a national charity promoting bat conservation.

www.essexbatgroup.org www.bats.org.uk