



Bats:

An assessment of current status in Greater Lincolnshire

March 2013

Achieving more for nature



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Acknowledgements

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1. Introduction

1.1. Bat species population declines and their legal status

UK bat populations have declined considerably during the past century: particularly through the loss of breeding and hibernation roosts; loss of feeding habitats and flight lines; and reductions in insect prey¹.

In England, Scotland and Wales, all 18 native species of bat and their roosts are afforded legal protection under the Wildlife and Countryside Act 1981 (as amended)², which prohibits their intentional killing, injuring or taking (including capture); possession; intentional disturbance whilst occupying a 'place used for shelter or protection' and obstruction or destruction of these places; and their sale, barter, exchange, transport for sale and advertisement to sell or to buy. Other UK and European Union (EU) Acts, Conventions and Directives³ also offer varying levels of legal protection. Seven of the 18 UK bat species are UK BAP priority species, and all of the 11 bat species that are found in Greater Lincolnshire (an area that includes Lincolnshire County, North Lincolnshire and North East Lincolnshire) are covered by the Lincolnshire Biodiversity Action Plan (BAP) 3rd edition⁴.

1.2. Bat conservation and research in Lincolnshire

1.2.1. Lincolnshire Biodiversity Action Plan

The Lincolnshire BAP describes the species and habitats that are priorities for conservation in Greater Lincolnshire, and identifies actions that can take place at a local level which also contribute to national and international conservation commitments. The BAP includes a grouped Species Action Plan (SAP) for all 11 species of bat known to be present in Greater Lincolnshire.

The SAP for bats outlines a number of objectives and targets and the actions to be undertaken in order to achieve them:

Objectives

- To protect roosts in trees as well as buildings.
- To continue to improve and widen understanding of the needs of bats, the threats to them, and the rationale for their legal status.

¹ www.bats.org.uk/pages/threats_to_bats.html

² www.legislation.gov.uk/ukpga/1981/69

³ www.bats.org.uk/publications_download.php/974/Table_of_legal_and_conserv_status_of_UK_bats.pdf

⁴ Lincolnshire Biodiversity Partnership (2011). *Lincolnshire Biodiversity Action Plan 2011-2020 (3rd edition)*.

- To ensure that the available legal protection is fully used by local authorities, in development control and all other aspects of their operations.

Targets

- Establish and publish by 2012 a current baseline, using data available to the end of 2010, for the status and distribution of bats in Lincolnshire.
- Update this baseline using new survey and monitoring data, by the end of 2015, and five-yearly thereafter.
- Continue to implement an annual programme of talks, walks, demonstrations, local press releases and attendance at local and regional fairs, shows etc., aimed at widening understanding of bats among the general public and professional land and buildings managers.
- By 2012 bat survey reports are submitted with felling licence and Tree Preservation Order applications where indicated necessary by best practice guidelines.
- By 2012 bat survey reports accompany planning or listed building consent applications for any building or structure with the potential for use by bats.

Actions

- Publish a baseline report on the known status and distribution of each species, including roosts and hibernacula, to the end of 2010.
- Continue to monitor and improve all known and accessible hibernation sites annually, and seek to locate others and take them into the monitoring programme.
- Continue to update records with the results of surveys and monitoring of bats across the county.
- For verification of difficult or scarce species records (i.e. barbastelle, Leisler's, Nathusius's pipistrelle) advise surveyors to provide a sonogram or details of the expert who verified it.
- Aim to give as many talks, walks or demonstrations to the general public, and to relevant professionals with responsibility for managing or safeguarding bat habitat. Attend and publicise bats at as many local events in each local authority (LA) area as is practicable.
- Continue to provide advice and support to roost-owners and landowners who wish to improve their land (including gardens and public open spaces) for foraging bats.
- Encourage suitable management of woodland for barbastelles, including woodland expansion where appropriate and improved connectivity.
- Recommend bat surveys to be carried out prior to work on trees with Tree Preservation Orders that have potential for bat roosts.
- Continue to provide advice and support to personnel with responsibilities for the maintenance and management of churches, trees and bridges in order to help protect and enhance bat roosting sites.



- Produce targeted advice on bat habitat protection, restoration and creation specific to each LA area, and ensure that this is provided to all applicants for planning, and all ecologists requesting bat data.
- Ensure all LA Development Control officers refer to Natural England's Protected Species Guidelines (2011) and the Lincolnshire Bat Group Checklist (2009) identifying applications that should include a bat survey. This also includes historic buildings.

This report fulfils one of the targets in the bats SAP: Establish and publish a current baseline, using data available to the end of 2010, for the status and distribution of bats in Lincolnshire.

1.2.2. Lincolnshire Bat Group

Throughout the year the Lincolnshire Bat Group (LBG) organises a wide variety of bat walks, surveys, training events and indoor meetings as well as giving talks and attending shows and other events around Greater Lincolnshire. This is an essential part of bat conservation work – through raising awareness and improving people's knowledge of bats and their habitats.

Membership is open to anyone and includes a twice-yearly newsletter as well as information on forthcoming bat walks, social meetings, training opportunities, surveys and shows.

See the Bat Group website⁵ for more details.

1.2.3. Grounded bats

A grounded bat will almost always need help, and without assistance, most grounded bats would die. They are most vulnerable when they are first learning to fly and feed themselves and may have difficulties returning to the roost; juveniles may wander from the roost if something happens to the mother; or individuals can get into trouble if they come out of hibernation too early.

The LBG runs the BatLincs Helpline⁶, and has volunteers who care for, rehabilitate and re-release the bats whenever possible.

1.2.4. Roost monitoring, hibernation surveys and advice

One of the main roles of LBG is to survey bat roost sites within Greater Lincolnshire. This includes checking bat boxes, surveying hibernation sites and carrying out surveys for the National Bat Monitoring Programme.

Some Bat Group members are also Volunteer Bat Roost Visitors (VBRV) for Natural England – providing free advice to householders who have or think they may have bats roosting in

⁵ www.lincsbatgroup.co.uk/meetings

⁶ BatLincs Helpline: 01775 766286 see www.lincsbatgroup.co.uk/grounded_bats for more details. Or for enquiries outside of Lincolnshire – National Bat Helpline: 08451 300228.

their property. Commonly this relates to queries about insulation, timber treatment or the need to undertake repairs to roofs, fascias and other external features. This also extends to most church repairs. VBRVs visit the householder to carry out a roost survey, discuss the work needed or the problem encountered, and work out the best way forward. A roost report is then submitted to Natural England, who will provide the roost owner with an advice note on how to proceed in order to stay within the law.

1.3. Getting involved

1.3.1. Sending in records

In order to be able to better protect bats and their habitats and prevent declines, it is important to have an accurate picture of the species' ranges and population statuses.

Please send information on bat sightings, or location of roosts/suspected roosts to the county bat recorder⁷ in the first instance. The information will then be passed on to the Lincolnshire Environmental Records Centre (LERC) and included in national datasets in due course. Other species records can also be sent to LERC.

NOTE: All domestic roosts are treated as confidential.

For any record it is important to include as much information as possible – in particular:

- 'What' – the species (if known).
- 'When' – the date the bat was seen.
- 'Where' – the location of the sighting (a grid reference or postcode is best).
- 'Who' – contact details in case any further details are needed.

The records used to produce this report originated from a large number of sources including LBG volunteers, ecological consultants, members of the public and other records held by LERC. They have been collated by LERC, whilst maintaining confidentiality of the individuals that submitted the records, and this data plays a vital role in informing conservation efforts, habitat management work and decisions about planning applications. As well as being useful from a local perspective, information on the distribution of bats in Greater Lincolnshire is sent to the Bat Conservation Trust, combined with data from all over the country, and used to inform national policy.

1.3.2. Put up a bat box

Bats need a range of roosting sites, including summer daytime roosts, winter hibernation roosts and breeding sites. You can help increase the availability of roost sites by putting up a simple bat box.

Further advice on buying bat boxes or building your own and where to site them can be obtained from Lincolnshire Bat Group or Bat Conservation Trust websites.

⁷ Annette Faulkner annettefaulkner@btinternet.com



1.3.3. Careful roof works

It is important to remember that bats and their roosts are protected by law all year round, but this does not need to prevent maintenance works from being undertaken where there are bats present. It just means that the work will need careful consideration, especially in terms of time and materials, so that the area can continue to be used by both bats and people. If bats are taken into account early on in the process, there will be much less disruption to building plans.

If the proposed work does not require planning permission, contact Natural England or Lincolnshire Bat Group for advice – this service is free. If planning permission is required an ecological consultant might be required to carry out a survey and write a method statement on behalf of the person proposing the work; they will also help apply for a licence if this is necessary.

If you have found a bat whilst carrying out development or building work, legally you must stop work in that part of the building until you have received advice on what to do next. Contact the Lincolnshire Bat Group Helpline⁸, the Bat Conservation Trust Helpline⁹ or Natural England¹⁰ in the first instance.

1.3.4. How to recognise a bat roost

Watching a building at dusk (between May and September) is one way of finding out if there is a bat roost. However, you do not necessarily need to see bats to know there is a bat roost; a collection of droppings can be the tell-tale sign. Bat droppings look very similar to mouse droppings but are dry and will crumble to dust under very little pressure. If you notice any droppings in the loft space or externally, you can check them with a quick crumble test (use gloves or a tissue).

Another clue could be the chattering sound that bats make at dusk before they fly out to feed. In June and July they are particularly vocal around dawn, when hungry babies call to mothers as they return from their night's insect hunting.

Pipistrelle bats are the species most often found roosting in houses. They often choose tight spaces such as behind hanging tiles, between or under felt and tiles, frequently in fascias and sometimes between window frames. Look out for droppings on window sills and walls in the summer.

Long-eared bats usually roost inside the roof void, often along the ridge. Look out for droppings in the loft below the roof apex, particularly in older buildings.

⁸ BatLincs Helpline: 01775 766286

⁹ Bat Helpline: 0845 1300 228

¹⁰ Natural England: 0845 600 3078

2. Using this report

The maps and species accounts in Section 3 summarise the information that is currently available (up to the end of 2011) on the distribution and status of bats in Greater Lincolnshire. The report is intended to inform and support bat conservation and awareness-raising work undertaken by Lincolnshire Bat Group and other BAP Partners. It can also be used by conservation organisations, land managers, ecologists, planners and other interested parties to:

- Highlight key areas of the local area that are of importance for bats.
- Identify areas where further surveys are needed.
- Indicate areas where particular consideration of the presence of bats needs to be taken during building/ tree management works, though this should also be taken into account in all areas of suitable habitat.
- Identify areas where habitat enhancement works could be targeted to benefit feeding or roosting bats.

NOTE: The absence of a record does not mean that bats are not present – simply that they have not been recorded. It should also be noted that many isolated records resulted from single, one-off surveys. Bats may still be there but the site has never been re-surveyed.

This report should not be used for commercial purposes in place of a data search with Lincolnshire Environmental Records Centre, which will be able to provide more detailed, up-to-date information.

3. Species accounts

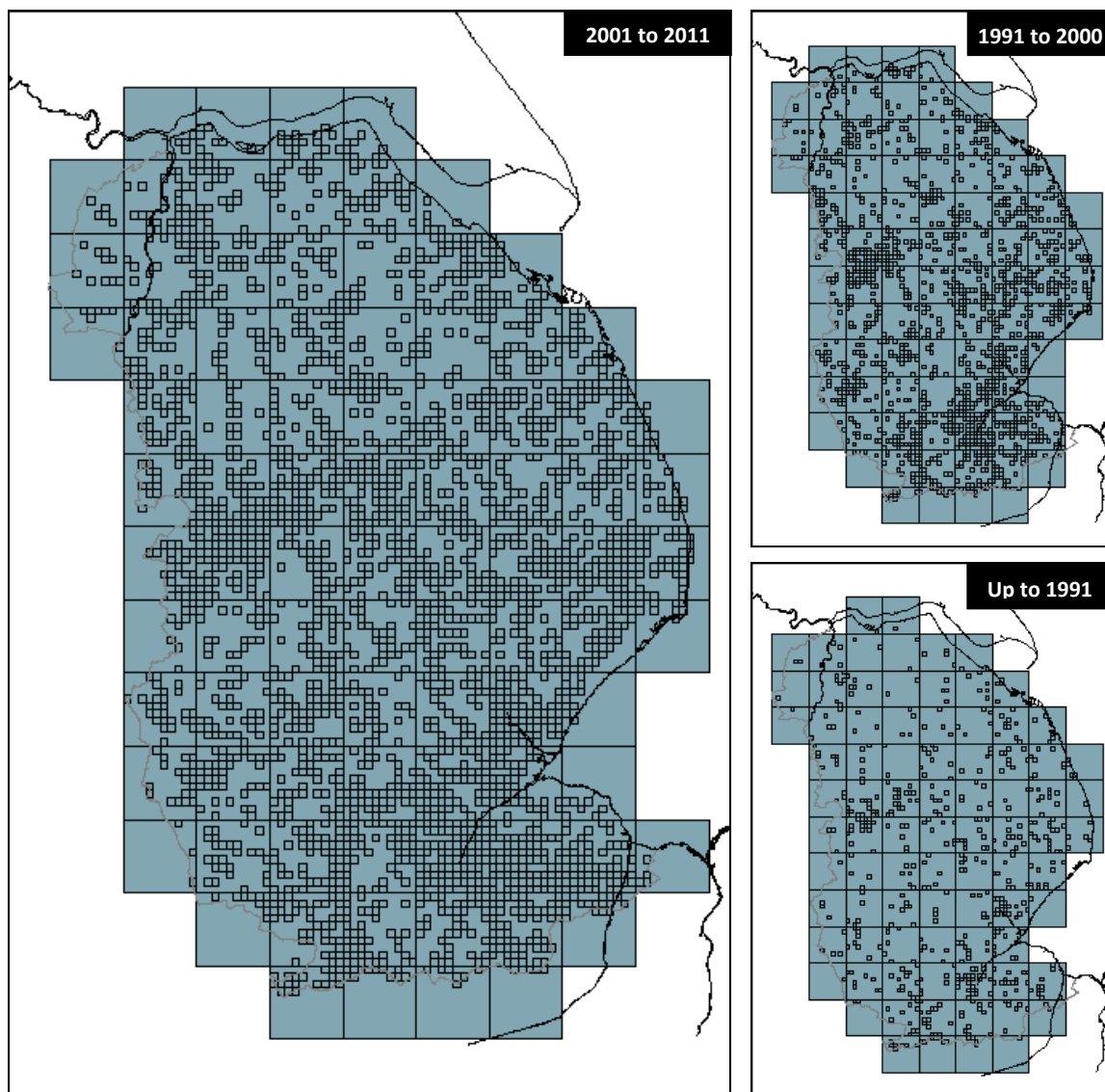
The maps on the following pages have been produced using the bat records held by LERC, one page per species, showing occupied 10km and 1km squares and split into three date ranges; Up to 1990, 1991-2000 and 2001-2011, to allow for comparison.

They are each followed by an interpretation of trends and possible explanations, information about known roosts or hibernacula, and identification of gaps in survey effort/knowledge.

The maps clearly show that some parts of Greater Lincolnshire are under recorded for bats; the Lincolnshire Bat Group and LERC would be pleased to hear from anyone that can add any further information or additional records (historic or recent) to the maps.



3.1. All bats *Chiroptera*

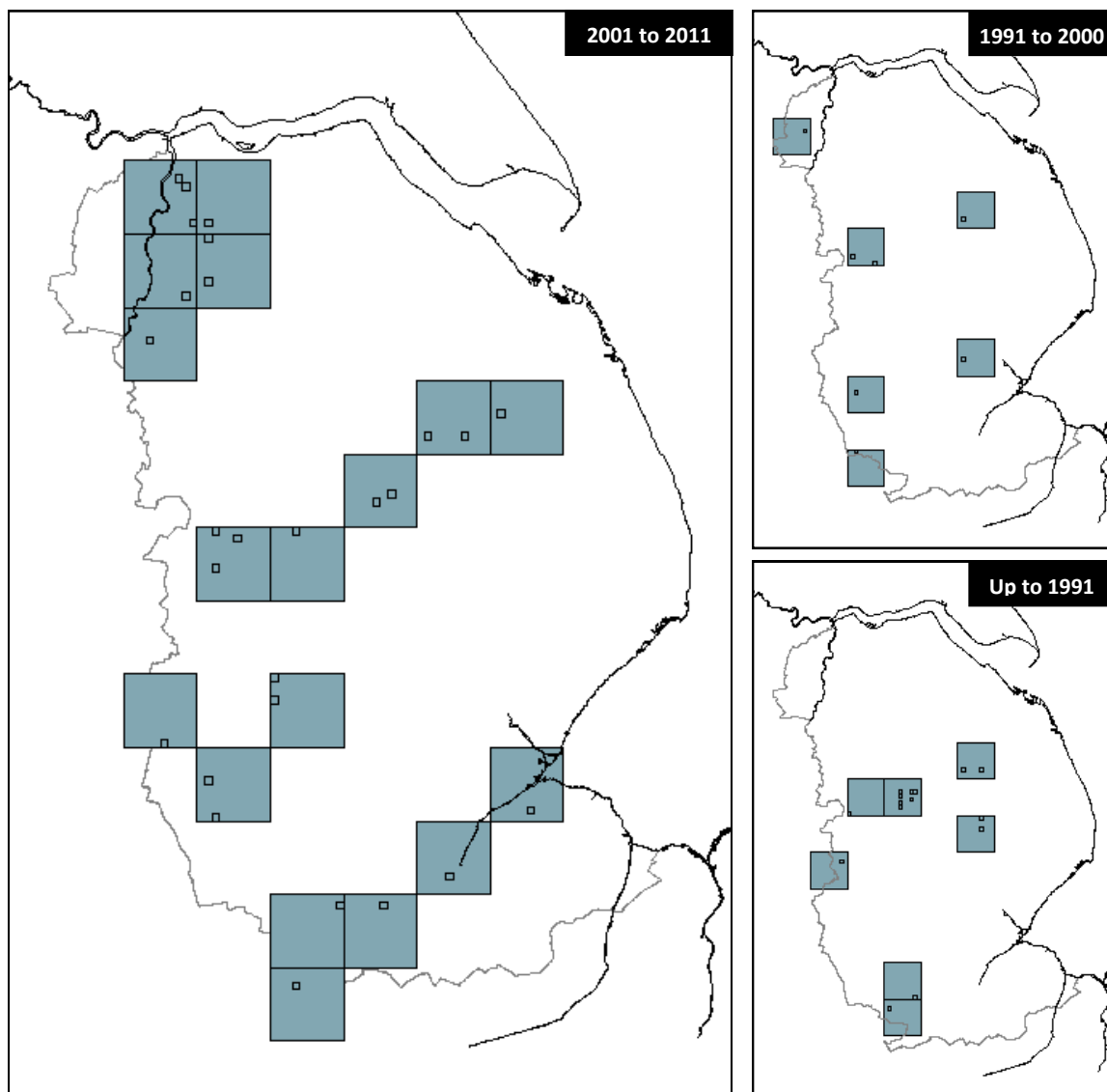


As our knowledge of bat species has increased so has our understanding and interest, but there are still gaps, particularly in the north and west of Greater Lincolnshire. More records are always needed, even if not identified to species level, as it tells us where bats are.

It should be noted that any apparent increase in bat records over the last twenty years is likely to be due to greater surveyor effort rather than an increase in bat populations across Greater Lincolnshire.

These maps show that there are still areas of Greater Lincolnshire where bats have not yet been recorded. This does not mean they are absent, just unknown.

3.2. Whiskered/Brandt's bat *Myotis mystacinus/brandtii*



These two species are very difficult to tell apart, and are thus frequently lumped together as either 'Whiskered/Brandt's' or 'Whiskered sp'. The two species were only separated in the 1970s. See the following maps for distribution of the individual species.

Both species are under-recorded and there are many gaps in our knowledge of their distribution. Both historically and to the present neither species has been recorded in the north east of Greater Lincolnshire, despite many general surveys. The reason for the species' apparent absence is unclear.



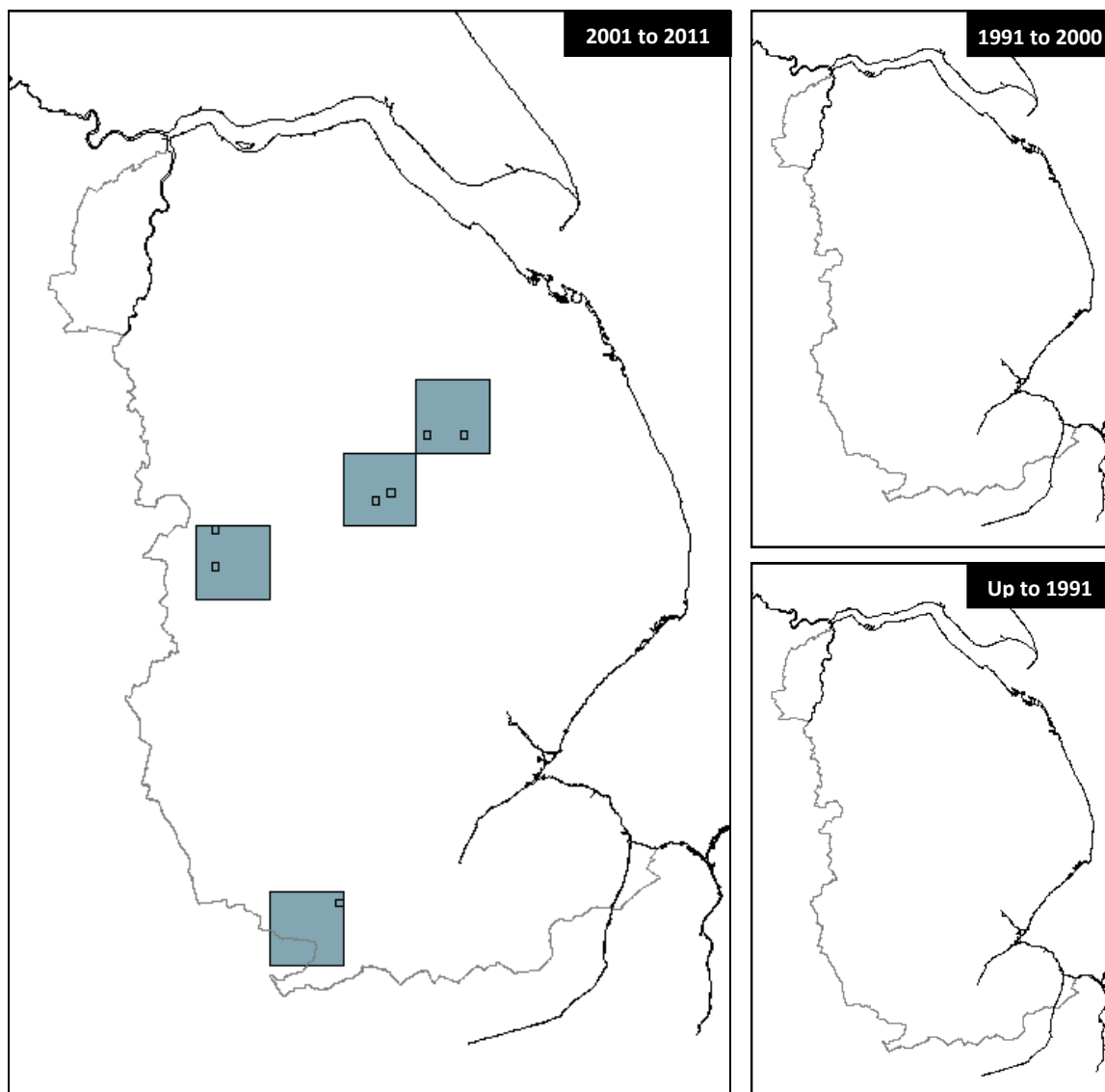
3.3. Whiskered bat *Myotis mystacinus*



As noted, the whiskered bat can be a difficult animal to identify to species, but existing records suggest it is more common and widespread than the Brandt's bat. The recent technique of DNA sampling from droppings or fur clippings is diagnostic, and is providing us with much useful information.

These maps show that there are still areas of Greater Lincolnshire where the whiskered bat has not yet been recorded, but is not necessarily absent.

3.4. Brandt's bat *Myotis brandtii*

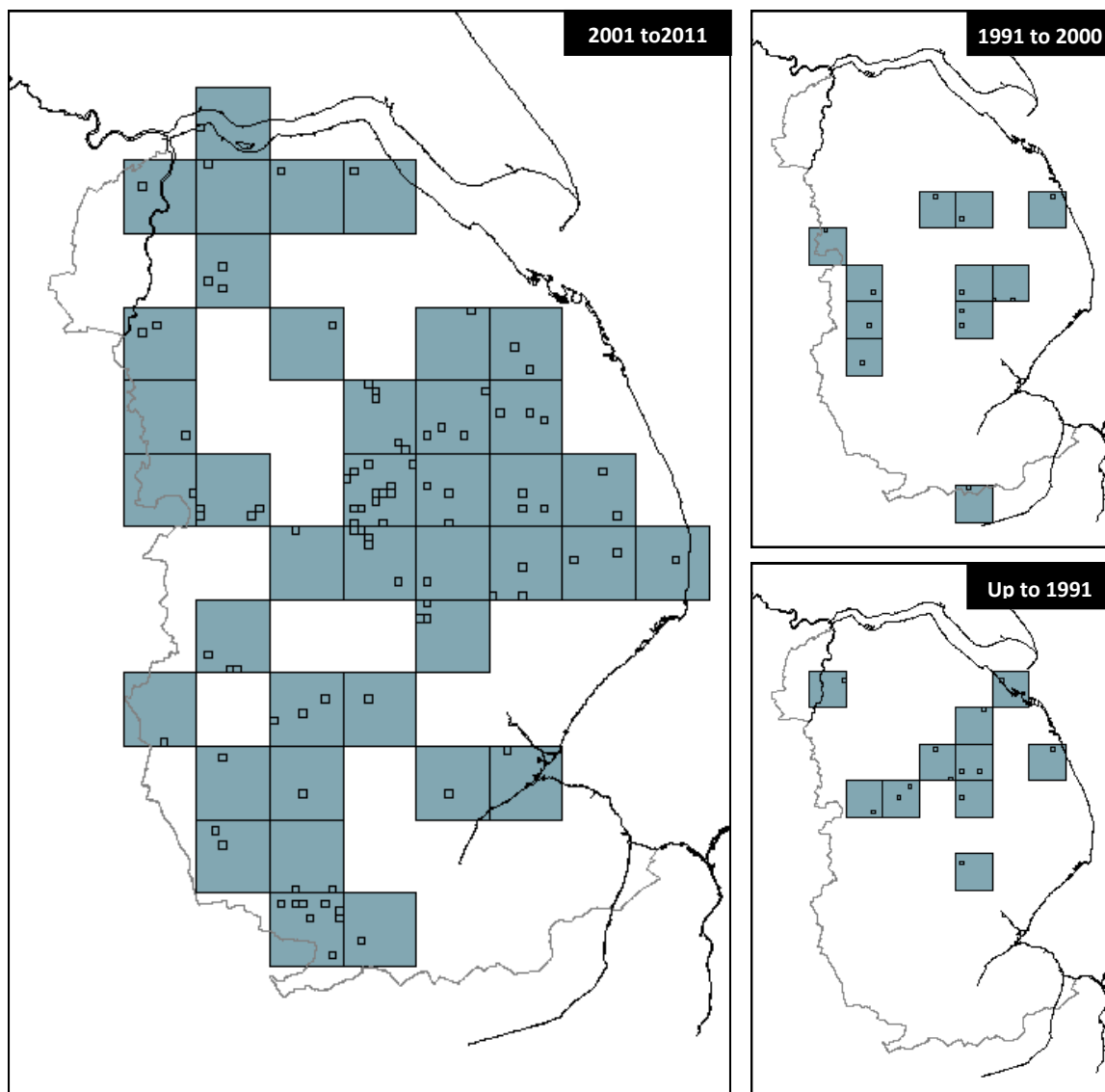


The Brandt's bat is a species very similar to the whiskered bat, as noted, and therefore difficult to tell apart. This species is under-recorded. The recent technique of DNA sampling from droppings or fur clippings is diagnostic, and is providing us with much useful information. Few roosts are known, but it has been found hibernating in underground tunnels.

These maps show that there are still areas of Greater Lincolnshire where the Brandt's bat has not yet been recorded, but is not necessarily absent.



3.5. Natterer's bat *Myotis nattereri*

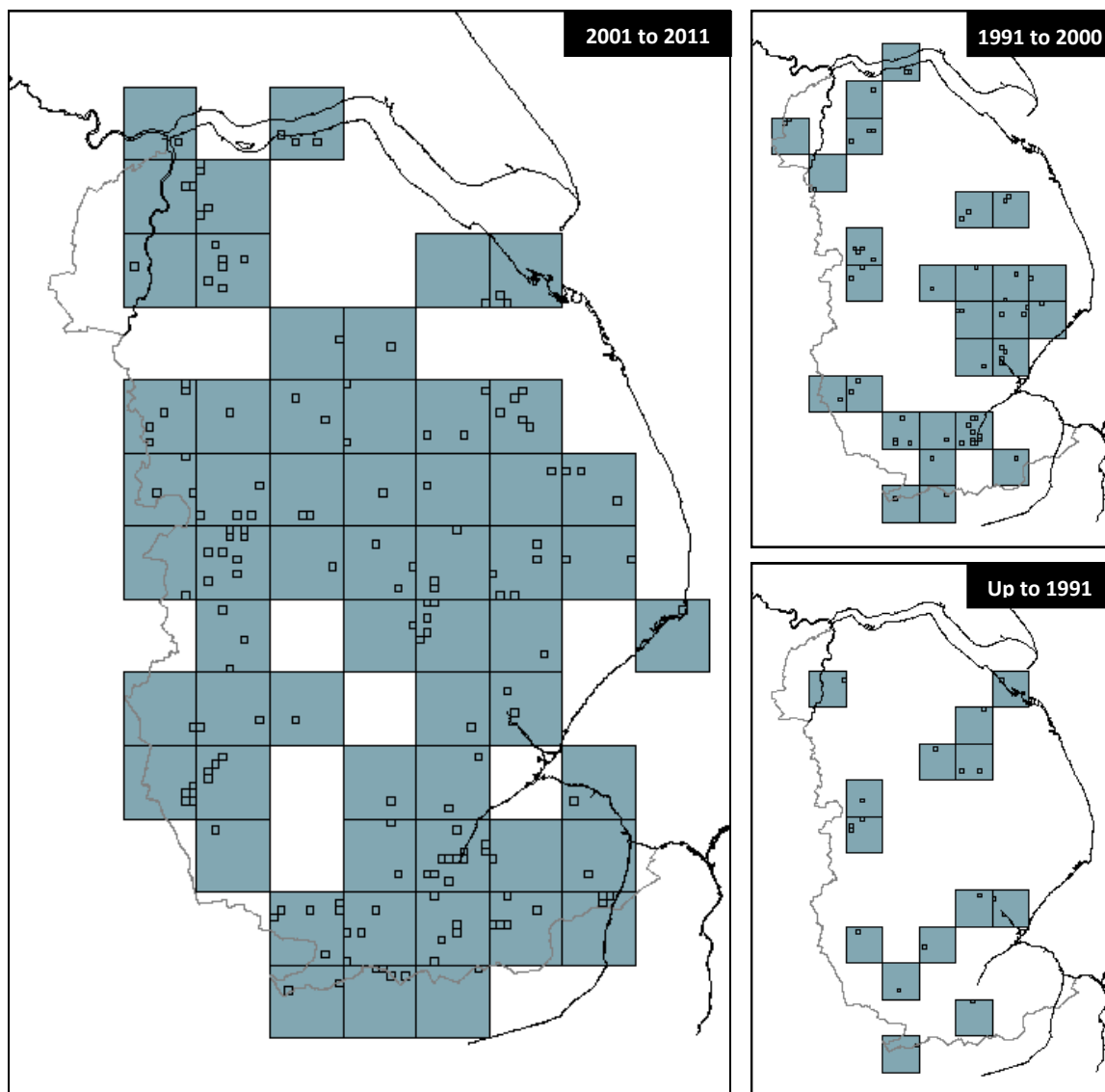


The Natterer's bat is a species with a scattered distribution and a marked preference for stone buildings. There are a few roosts recorded in churches and occasionally they roost in roof voids alongside brown long-eared bats. They change roosts frequently when using outbuildings and are vulnerable to barn conversions. They will also use tree holes and are known to hibernate in underground tunnels.

The current status of the Natterer's bat in Greater Lincolnshire is unclear. The similarity of their echolocation signals to those of the other *myotis* spp, Daubenton's and whiskered/Brandt's makes them difficult to separate in the field and relatively few roosts are known.

These maps show that there are still areas of Greater Lincolnshire where the Natterer's bat has not yet been recorded. This does not mean they are absent, just unknown.

3.6. Daubenton's bat *Myotis daubentonii*



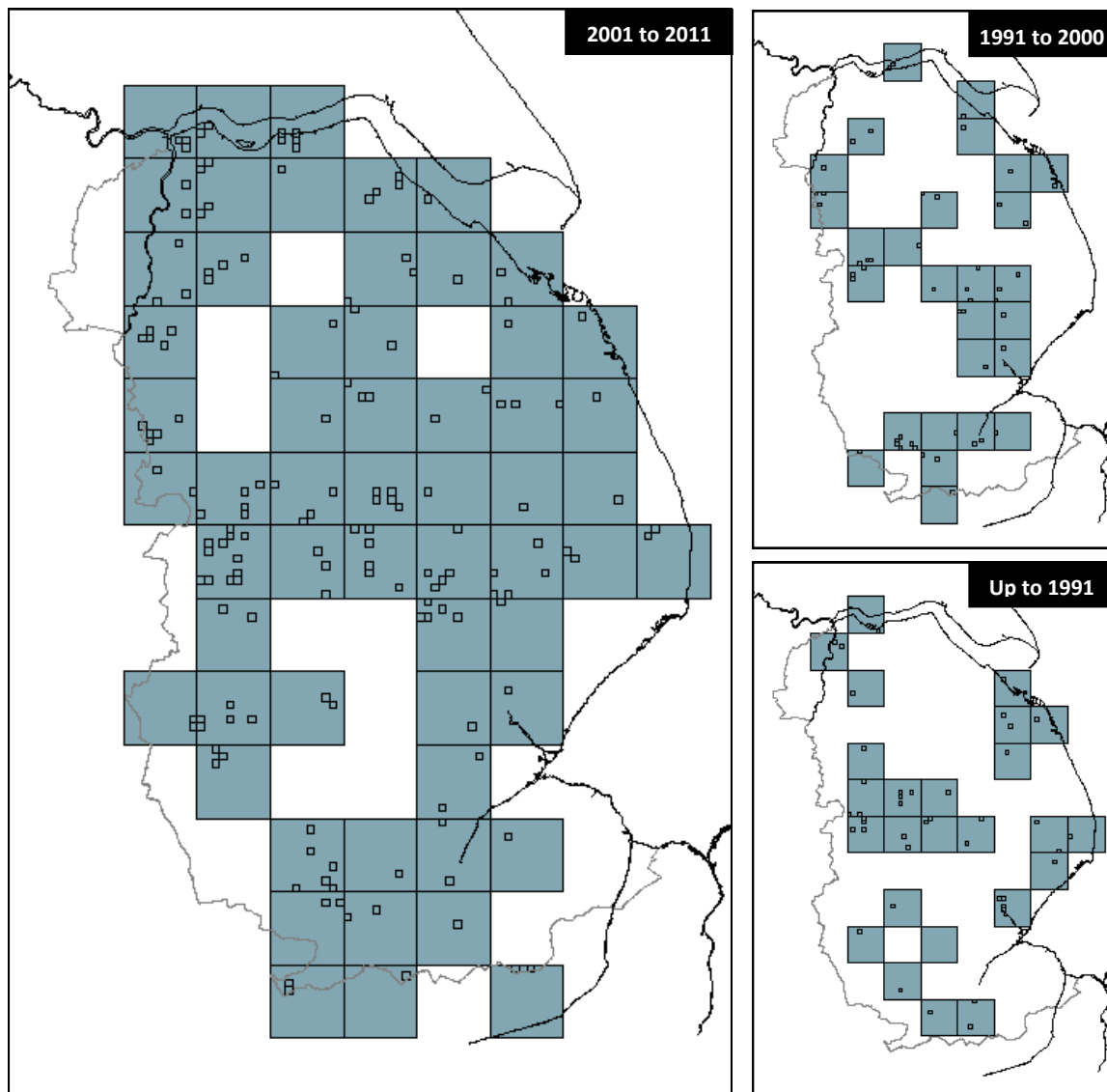
The Daubenton's bat is a very common species associated with larger water courses and drains everywhere. With the exception of one church, all known roosts are in culverts, pumping stations or trees. They are known to hibernate in underground tunnels.

The current status of the Daubenton's bat in Greater Lincolnshire is stable.

These maps show that there are still areas of Greater Lincolnshire where the Daubenton's bat has not yet been recorded. This does not mean they are absent, just unknown.



3.7. Noctule *Nyctalus noctula*



The noctule is our largest bat, with a preference for roosting in old woodpecker holes, and thus primarily a woodland bat. It is only very rarely found in buildings. This bat has a pronounced north south bias, being encountered frequently in the north, but much less so in the south and south west. It emerges early in the evening, is fast flying, and can be seen foraging above tree tops or in the open. Most hibernation sites are unknown, but it is thought to hibernate in trees.

The current status of the noctule bat in Greater Lincolnshire is unclear. There is some evidence to suggest there may be the start of a decline in the north, but a very small recovery in the south.

These maps show that there are still areas of Greater Lincolnshire where the noctule bat has not yet been recorded. This does not mean they are absent, just unknown.

3.8. Leisler's bat *Nyctalus leisleri*

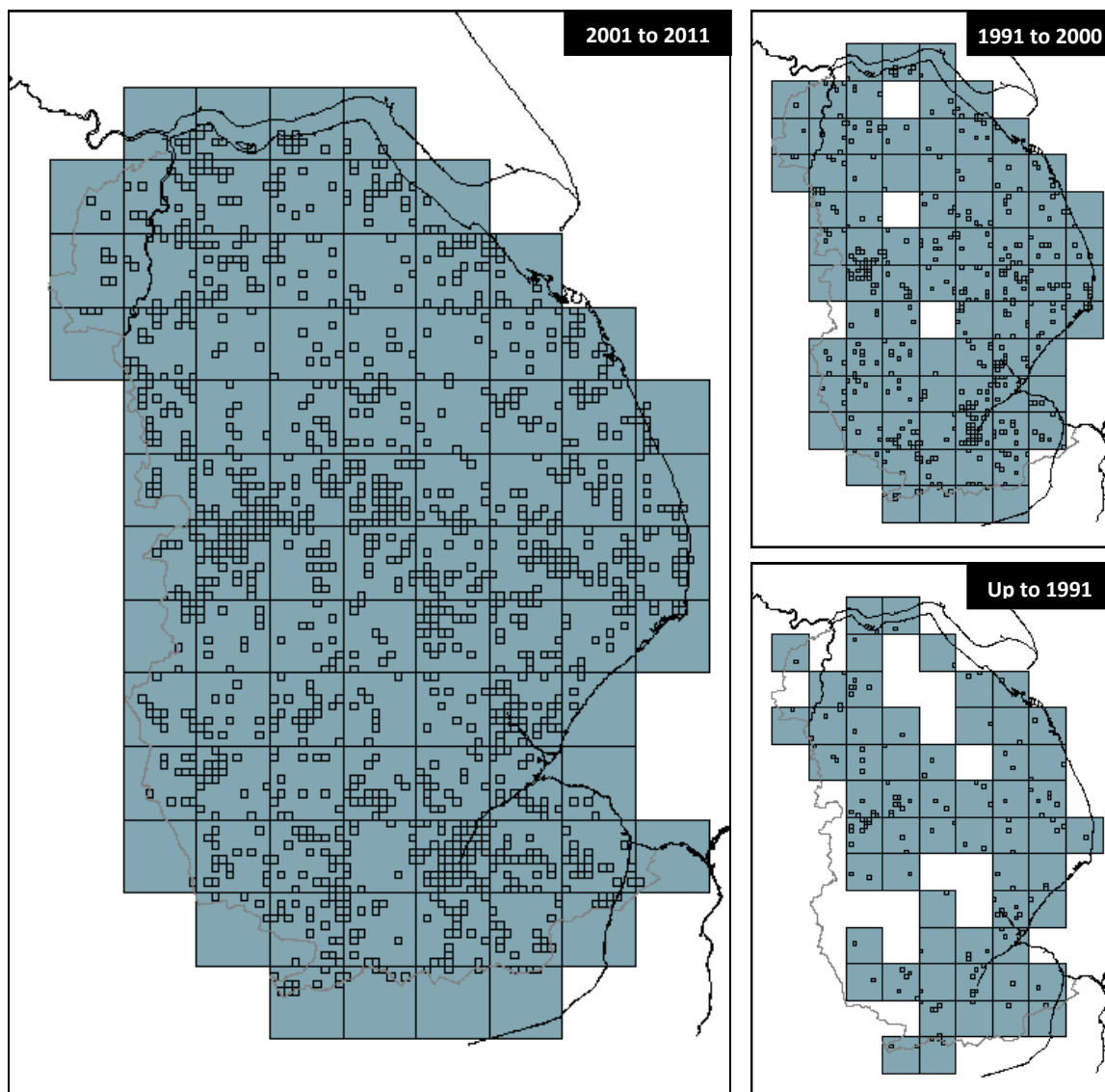


The Leisler's bat is another species that is under-recorded, owing to the similarity of its echolocation calls to the noctule, though it is a somewhat smaller animal. It has a fairly widespread distribution, though is considered to be scarce. It roosts in bat boxes, tree holes and buildings. Hibernation sites are not known and more information is needed.

These maps show that there are still areas of Greater Lincolnshire where the Leisler's bat has not yet been recorded. This does not mean they are absent, just unknown.



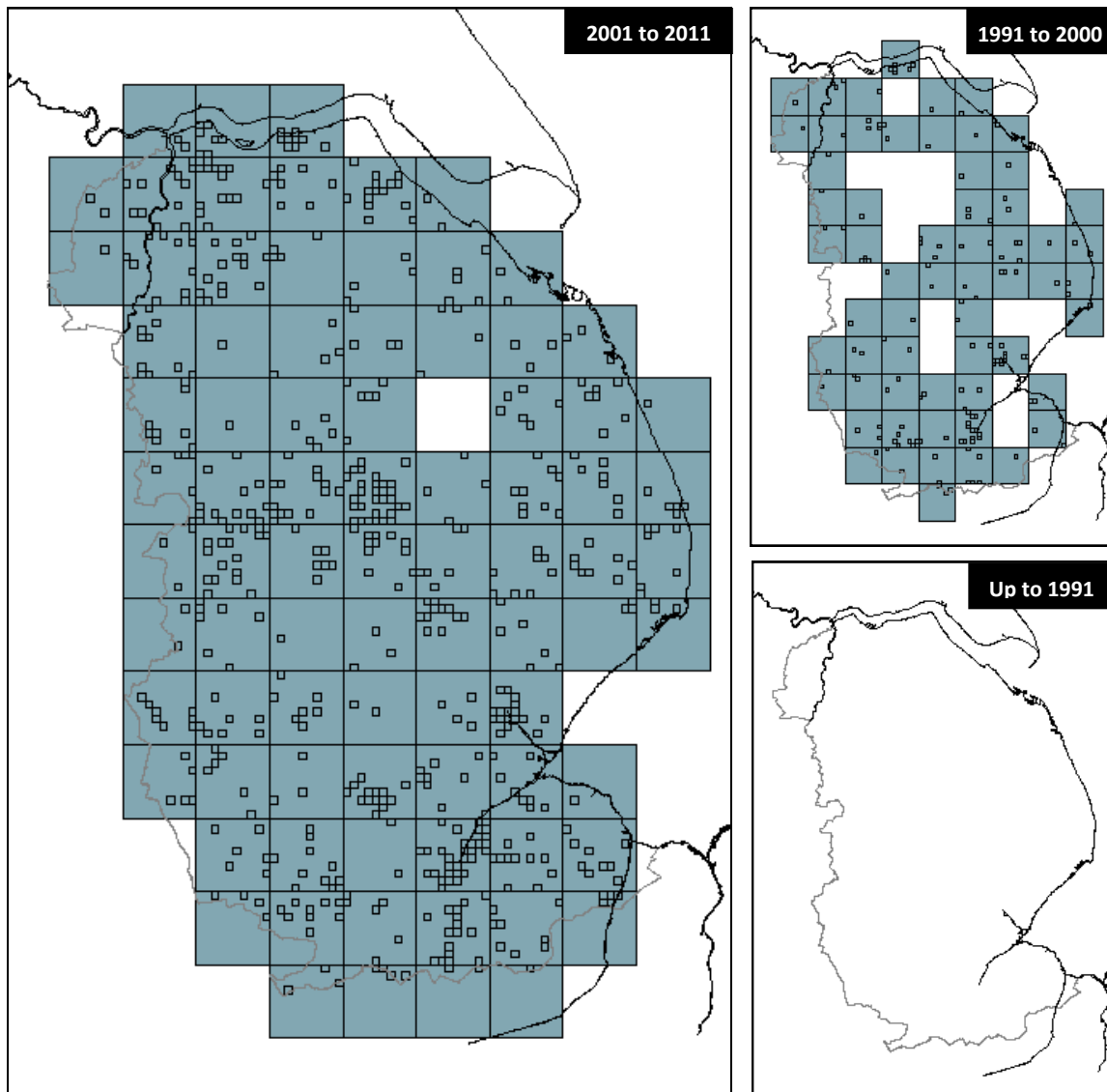
3.9. Pipistrelles *Pipistrellus* spp.



The common and soprano pipistrelles were not separated into two species until 1995, when DNA analysis showed a clear difference between them. They have many shared features and can often be difficult to tell apart, both in the hand and from some types of bat detector, and we still have many records for 'pipistrelle sp'.

Although the pipistrelle bat spp have been recorded in every 10km square in Greater Lincolnshire there are still many gaps in our knowledge of their distribution.

3.10. Common pipistrelle *Pipistrellus pipistrellus*



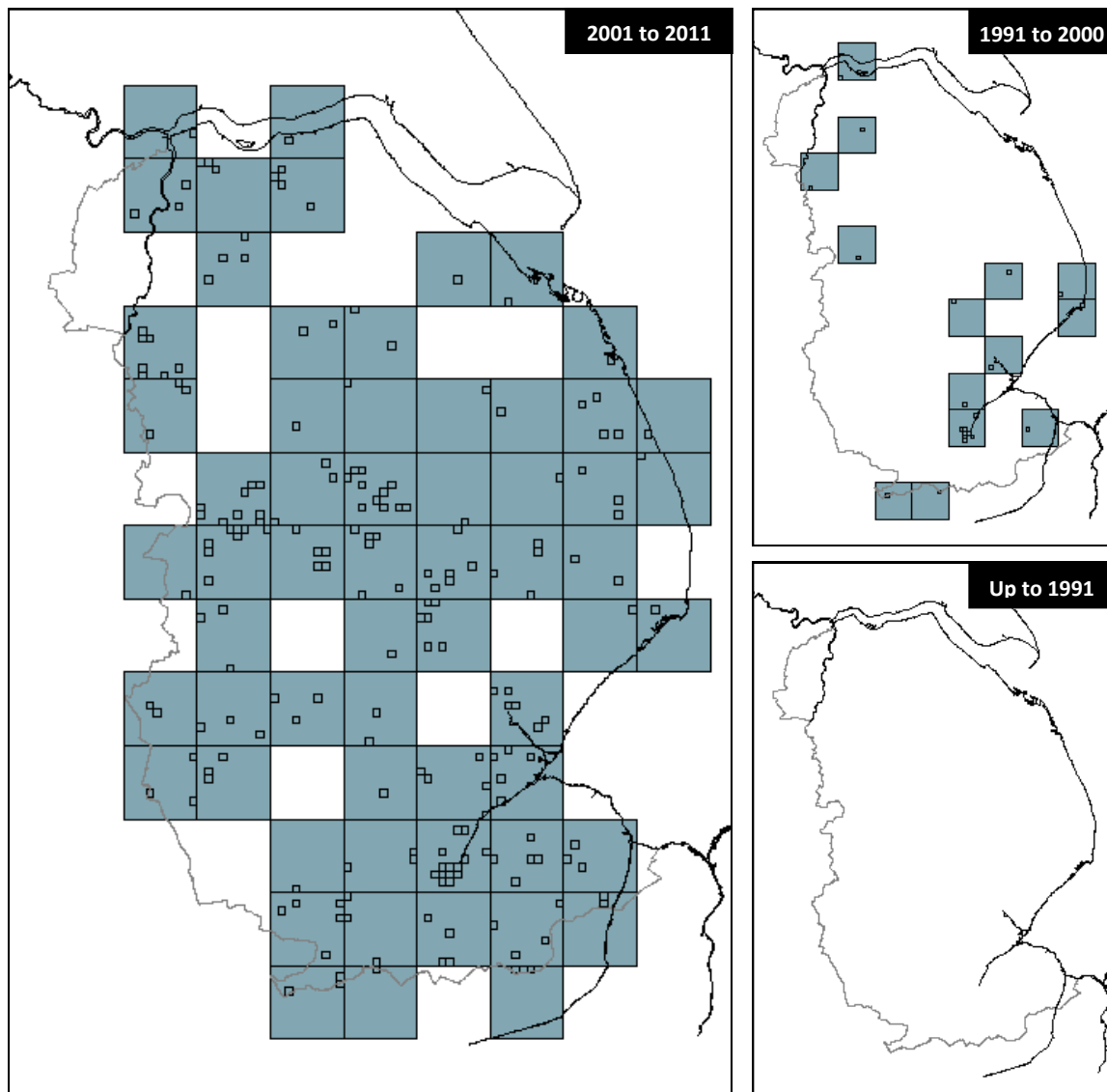
The common pipistrelle is a common, very hardy species which can be found everywhere, though not necessarily in large numbers. Their roosts utilise the external features of houses, and they are frequently found in post war housing estates, where a colony will split between a number of properties, moving between them according to their needs. This makes them very vulnerable to home improvements. They also roost in churches. Few hibernation sites are known, but are thought to include window frames, behind cladding, and in gaps in brickwork.

As the two species weren't separated until 1995 this explains the lack of records before 1990.

These maps show that there are still areas of Greater Lincolnshire where the common pipistrelle bat has not yet been recorded but there will be few places where it will not be found.



3.11. Soprano pipistrelle *Pipistrellus pygmaeus*



The soprano pipistrelle is another common species, though not as widespread as the common pipistrelle. They have a preference for roosting in cavity walls, where the whole colony will stay together, sometimes in large numbers. This species is vulnerable to cavity wall insulation and other home improvements. It is also found in churches. Hibernation sites are similar to those of the common pipistrelle.

There are still many gaps in our knowledge of the distribution of the soprano pipistrelle within Greater Lincolnshire and it will be more widespread than these maps suggest.

As the two species weren't separated until 1995 this explains the lack of records before 1990.

3.12. Nathusius' pipistrelle *Pipistrellus nathusii*



The Nathusius' pipistrelle is likely to be under-recorded or overlooked, as it is only slightly larger than the other pipistrelle species. A well-known migrant from continental Europe, it is frequently recorded in coastal areas nationally, but has also turned up inland in Greater Lincolnshire. A small roost in the Skegness area is no longer in use, but recent records from the north-east suggest further evidence of breeding. It is most frequently recorded in the autumn.

More survey effort is needed to establish the true status of this species.



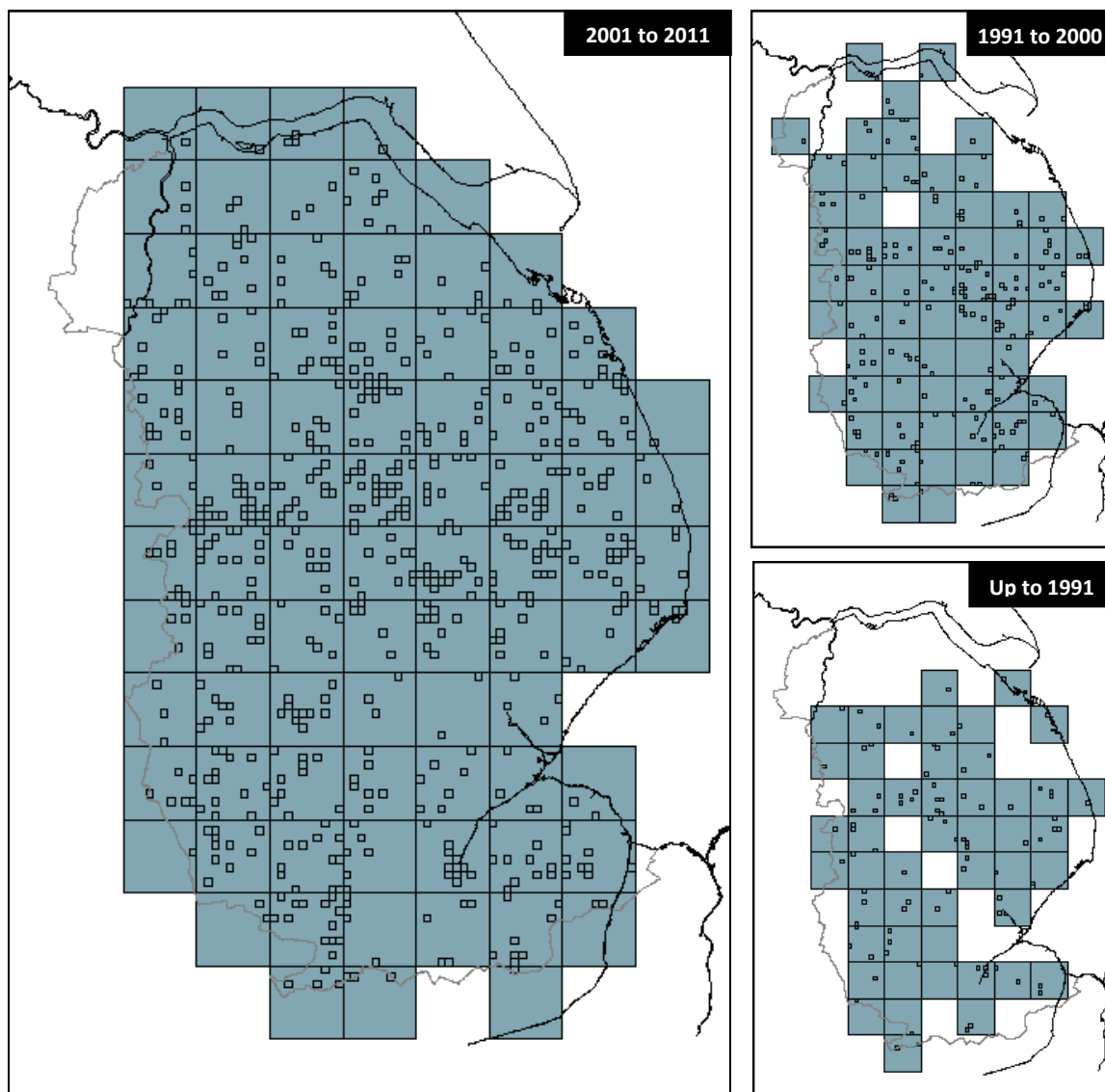
3.13. Barbastelle *Barbastella barbastellus*



The barbastelle is a widespread but uncommon woodland species, which has its main roosts in splits, cracks and behind loose bark of trees. They appear to be concentrated in the central Limewoods and south west Lincolnshire woodlands, but are still under-recorded and could be present in many un-surveyed woods. Elsewhere single animals have been found in barns and outbuildings almost anywhere in Greater Lincolnshire except in the very north. They frequently hibernate in buildings or tunnels.

Work is on-going on the distribution of the barbastelle bat within Greater Lincolnshire.

3.14. Brown long-eared bat *Plecotus auritus*



The brown long-eared bat is a widespread and relatively common species, but with very variably-sized populations in different parts of Greater Lincolnshire. These bats have their main roosts in large roof voids, usually of older houses, with outlying roosts in surrounding barns and outbuildings, so they are very vulnerable to barn conversions and re-roofing. They will also roost in trees and churches and are sometimes found in underground sites. They hibernate in buildings and underground tunnels.

Few roosts are monitored so it is difficult to assess how stable the population is.



4. Conclusion

Greater Lincolnshire is very fortunate to have 11 bat species present, but only by a mixture of monitoring known sites and surveying new sites will we begin to establish the full distribution picture. By increasing our knowledge of bat species' ranges, and protecting the habitats and connectivity they depend on, we hope to protect the bats within Greater Lincolnshire.

4.1. Implications

This report satisfies one of the targets of the bat SAP;

- Establish and publish by 2012 a current baseline, using data available to the end of 2010, for the status and distribution of bats in Lincolnshire.

This has been made possible by the annual achievement of one of the bat SAP actions:

- Continue to update records with the results of surveys and monitoring of bats across the county.

The contribution of individuals working or volunteering in the field is vital to the broadening of our knowledge and understanding of bats. It is hoped that conservation organisations, ecologists, and other interested parties will feel encouraged by this report to carry out further surveys to identify roost and hibernation sites and to realise the importance of submitting their records as the information they submit will be used to identify potential sites for habitat enhancement, restoration and creation to facilitate population expansion.

4.2. Further information/useful contacts

- **Bat Conservation Trust** www.bats.org.uk 0845 1300228
- **BatLincs Helpline** For bat related enquiries in Lincolnshire 01775 766286.
- **Bat Surveys: Good Practice Guidelines** Hundt, L. (2012) *Bat Surveys: Good Practice Guidelines, 2nd edition*, Bat Conservation Trust.
www.bats.org.uk/pages/guidanceforprofessionals.html
- **Lincolnshire Bat Group** www.lincsbatgroup.co.uk.
- **Lincolnshire Biodiversity Partnership** (2011). *Lincolnshire Biodiversity Action Plan 2011-2020 (3rd edition)*. www.glnp.org.uk/partnership/nature-strategy/
- **Lincolnshire Environmental Records Centre** www.glnp.org.uk/partnership/lerc/
01507 528381
- **Natural England** – advice, legislation and licences.
www.naturalengland.org.uk/ourwork/regulation/wildlife/species/bats.aspx.

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