

CAMBRIDGESHIRE MAMMAL ATLAS



CAMBRIDGESHIRE MAMMAL GROUP

Cambridgeshire Mammal Atlas

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Cambridgeshire Mammal Atlas

Preface

This mammal atlas shows the distribution of wild mammals through the county of Cambridgeshire based on records from volunteers and various organisations during the period 2004 to 2014. 'Cambridgeshire' includes Huntingdon(shire), the Isle of Ely and Peterborough. Recorded coverage may not be equal in all parts of the county – this needs to be taken into consideration when assessing the distribution of any particular species. The absence of a record for a species in a particular area does not necessarily mean that the species is not present in that area – it merely means 'not recorded'.

Records are based on sightings, field signs, owl pellet analyses, targeted live-trapping and road traffic collisions. The distribution maps are grid references plotted from each record.

The species in the main part of this atlas are listed in the order used in the 4th Edition of the Handbook of the Mammals of the British Isles published by the Mammal Society in 2008. That same publication has been used as the prime source for common and scientific names, the sizes and weights and the life spans of the species – the sizes and weights are approximately those of adult males.

Cambridgeshire Mammal Group

The Group exists to further the study, conservation and protection of wild mammals in the county. Maintaining records of the presence and activities of mammals is an important element of this work. It enables the Group to monitor changes in the number and distribution of species, to promote public awareness of mammals in their area and provide advice and practical help with mammal conservation in the county.

Note:

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Cambridgeshire

Size

3,389 km² (1,309 sq. miles)

Geology

The geology of Cambridgeshire consists largely of unconsolidated Quaternary sediments such as marine and estuarine alluvium and peat overlying deeply buried Jurassic and Cretaceous age sedimentary rocks. Limestones, mudstones and sandstones of the Inferior Oolite Group and Great Oolite Group dating from the early to middle Jurassic Period are present at depth beneath western Cambridgeshire. The later Kellaways and Oxford Clay formations and Ampthill Clay formations all assigned to the Ancholme Group of middle to late Jurassic times underlie much of central Cambridgeshire. Cretaceous rocks come to the surface in the east of the county and beneath Cambridge itself including the lower and upper Greensand, the Gault Formation and lastly the Chalk Group, youngest element of the local bedrock. Extensive areas of older glacial till are mapped across parts of the southwest of the county, notably between Peterborough and Royston, south of Newmarket and in isolated patches around March and Ely.

Habitats

Using Natural England's 'National Character Areas' designations, the county has three particular areas including a very wide range of habitats:

1 – The Fens – this is a very heavily cultivated landscape, and farmed land is an important habitat in the Fens. Features include ditches, drains, small watercourses and wash-lands, with extensive winter flooding and traditional forms of agricultural management. Relics of wetland areas are unusual, but these include mosaics of wetland habitat, fen, reed-bed and wet woodland, with very little true fen remaining. Open water occurs as large rivers and drains, occasional ponds and flooded gravel workings. Woodland cover in the Fens is very sparse. There are very few unploughed lowland meadows. Towards the Wash itself there are tidal mudflats, sandbanks and saltmarshes.

2 – Cambridgeshire Claylands – a major feature of the area is the reservoir at Grafham Water – important for biodiversity. There are a number of old flooded and restored clay and gravel pits in the north of the county, with some flood plain grazing marsh in the valleys of the main watercourses. Reed-bed, swamp and fen are localised. Ancient woodland is scattered in a band to the north-west of the county whereas elsewhere the woods are more isolated – mostly on heavy clay and with a coppice with standards structure. Some lowland meadow has ridge and furrow topography. Farmed land contains features such as hedgerows and mature trees, field margins, ponds and ditches.

3 – East Anglian Chalk – this is an open, generally tree-less landscape featuring beech shelter belts and copses. Arable farming dominates with cereals. Field margins are an important habitat. There is some wet woodland, and reed-bed, fen, coastal and flood plain grazing marsh habitats have developed on alkaline fen peat. Grazing marsh is scattered along the ridge spring line and the chalk streams are significant habitats for a wide variety of species. Patches of calcareous grassland are scattered throughout the area, and lowland meadow is found on unimproved loamy soils. Exposed faces in chalk pits, road cuttings and quarries are valuable sites for biodiversity.

Climate

Cambridgeshire has a maritime temperate climate which is broadly similar to the rest of the United Kingdom, though it is drier than the UK average due to its low altitude and easterly location, the prevailing south-westerly winds having already deposited moisture on higher ground further west. Average winter temperatures are cooler than the English average due to Cambridgeshire's inland location and relative nearness to continental Europe, which results in the moderating maritime influence being less strong. Snowfall is slightly more common than in western areas due to the relative winter coolness and easterly winds bringing occasional snow from the North Sea. In summer temperatures are average or slightly above due to less cloud cover. It reaches 25°C on around 10 days each year and is comparable to parts of Kent and East Anglia.



Burwell Fen

Grey Squirrel (*Sciurus carolinensis*)

Size: 24-28cm – 19-24cm tail

Weight: 400-600g

Lifespan: max. 9 years

Identification: Grey with some red/brown fur and a large bushy tail. Some individuals are melanistic.

General: A very common species introduced from North America in the 19th Century. They are responsible for the decline of the native red squirrel both by out-competing them and by bringing squirrel pox (for which reds have no immunity) to the UK. They inhabit most habitats where trees are present, only being absent from very wet areas.

They have two litters - one in spring and one in autumn in large tree top nests called dreys. The young are weaned after 8 weeks.

They are diurnal - feeding on shoots, bark, seeds and flowers particularly from trees and can be quite destructive. Although mostly herbivorous they will take birds' eggs and chicks. They cache food in the autumn to get through the winter, marking each cache with scent from cheek patches so they are able to relocate them at a later date.

Melanistic form



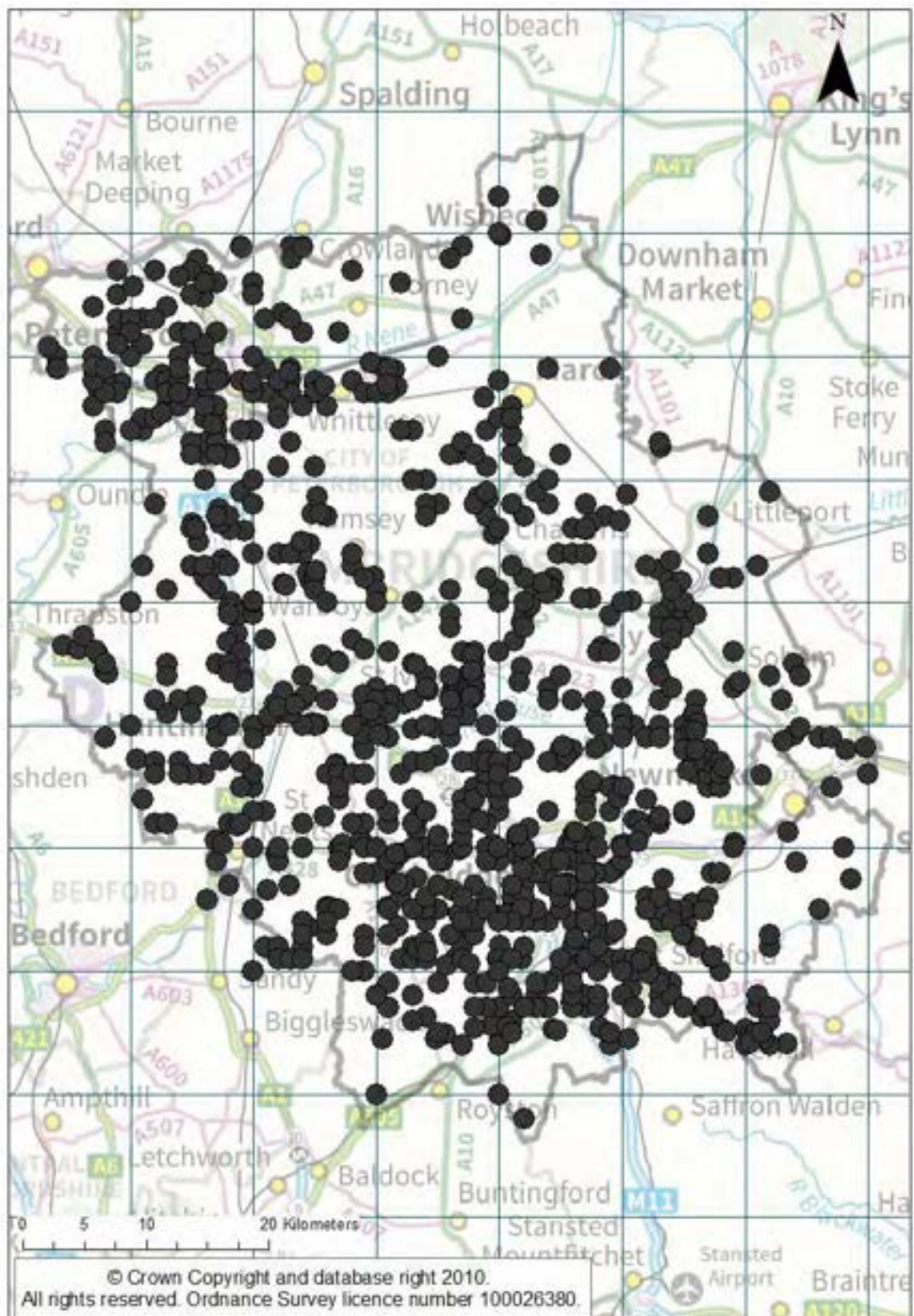
Drey



They have few predators - birds of prey and mustelids are probably the most significant in the countryside and domestic cats in urban areas.

Distribution - UK: Widespread in almost all of England, Wales and Northern Ireland and the central Scottish belt. Many islands in all countries are free of grey squirrels. The population is increasing and their range is spreading.

Grey Squirrel distribution – Cambridgeshire: Present in almost all the county except parts of the fens where the habitat is unsuitable. The melanistic form is present mainly in south-west Cambridgeshire and Cambridge itself and its range is expanding.



Hazel Dormouse (*Muscardinus avellanarius*)



Identification: Orange/brown fur and a long hairy tail (the only mouse with such a tail).

General: A most rare and elusive species in the county. A Red Data Book and a Biodiversity Action Plan (BAP) species, this species was re-introduced into the county at one site in 1993. The 500+ nest-boxes on site are monitored monthly during the summer months to determine the success of the re-introduction both in terms of whether the population is growing or merely holding its own, and whether it is expanding into nearby hedgerows and woodland. This species is unusual for hibernating for up to 8 months. Hibernation is usually underground – under tree roots for example. During active periods they are nocturnal and arboreal. The young are normally reared well above ground in carefully-woven nests made mainly of strips of honeysuckle bark with some grass, leaves and occasionally moss added – these nests are quite distinctive and used (when made in artificial nest boxes) to check on dormouse populations. The best evidence of the presence of the animal, in the absence of nests in boxes, are hazelnuts from the wood floor with distinctive openings where the dormouse has nibbled its way in. With practice these can be distinguished from holes made by other mice, voles and squirrels. The main diet consists of nuts, berries, fruits, flowers and pollen, depending on the season, and they occasionally eat insects, birds' eggs and nestlings.

Torpid dormouse in nest



Distribution - UK: Widespread but patchy distribution south of a line from London to Gloucester with a very few isolated populations further north.

Bank Vole (*Myodes glareolus*)

Size: 8-12cm – 4-6cm tail

Weight: 14-40g

Lifespan: max. 18 months

Identification: Small eyes and ears with a blunt nose. The reddish brown fur on the head and back is contrasted with grey flanks and underside. The tail is at least half the length of the body and it is dark on top and light below. The only confusion species is field vole.

General: A native species, common in most rural habitats and present in urban areas. It

is the smallest UK vole and lives underground in burrows. Young are born blind and hairless between April and October but sometimes later in mild conditions and are



independent in about 3 weeks. Bank voles prefer thick ground cover to feed but are able to climb for food. Being largely herbivorous, they feed on grass, roots, fruits and seeds, as well as worms and insects. They are largely crepuscular but can be active both day and night and have many native predators both

mammalian and avian as well as domestic cats.

Distribution - UK: There are thought to be in the region of 20 million bank voles distributed widely throughout the UK in all parts except for Northern Ireland and some Scottish islands. The population is stable.



Droppings



Field Vole (*Microtus agrestis*)



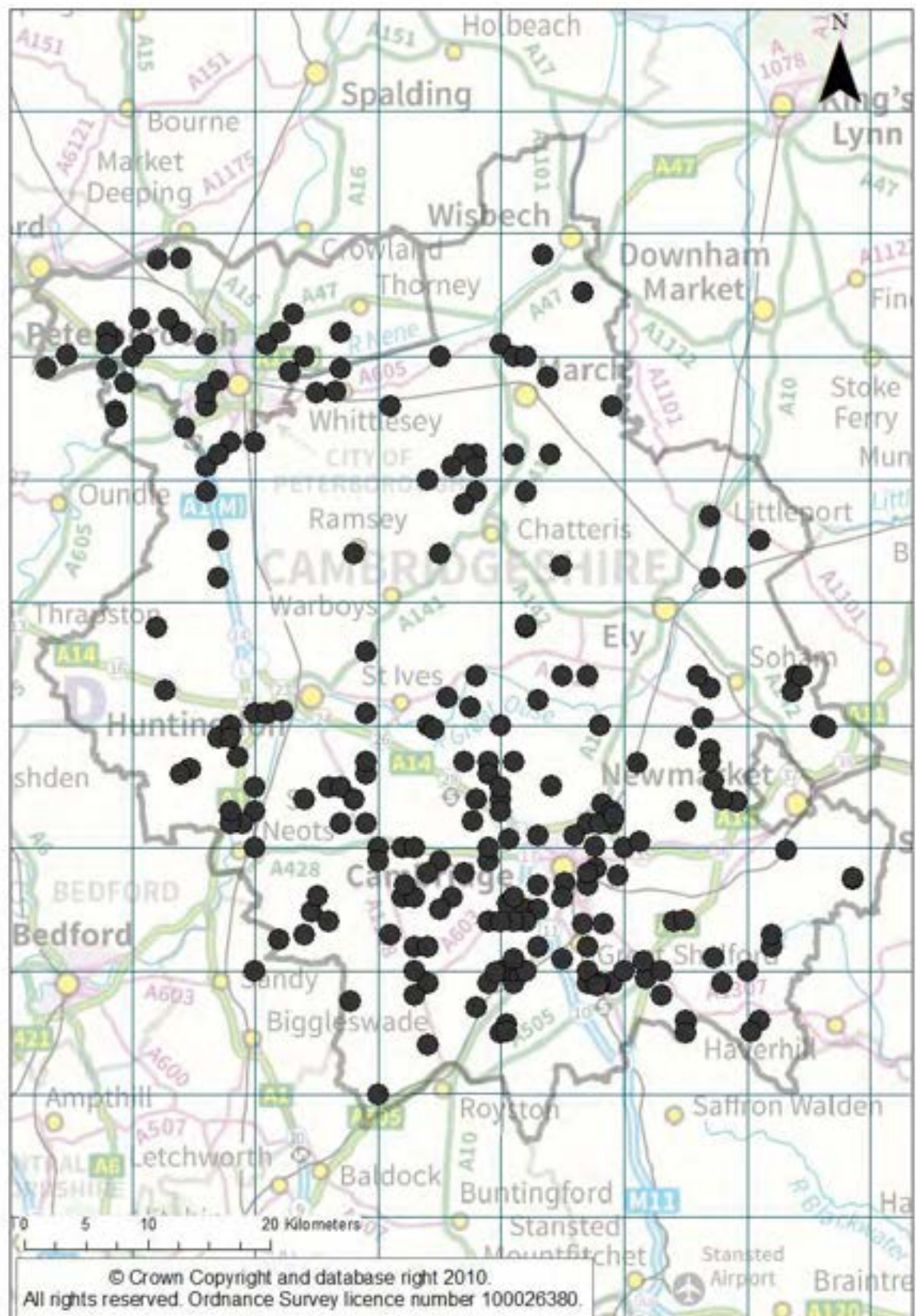
Identification: Small eyes and very small ears with a blunt nose. The grey brown fur on the head and back is not really contrasted with its grey flanks and underside. The tail is less than half the length of the body. The only confusion species is bank vole.

General: A native species, locally common in many rural habitats but much more particular about its habitat than bank voles. They like open grassland, mountain heath, dunes and plantations - grass must be high enough to provide cover from predators. They live mainly in a network of runways in vegetation and underground burrows, are very territorial and will defend their runway/burrow systems. Young are born blind and hairless between April and October - sometimes later in mild conditions and independent in about 3 weeks. They are almost entirely herbivorous feeding on grass and plants. They have many native predators both mammalian and avian and are largely crepuscular (but can be active both day and night).

Distribution - UK: There are thought to be in the region of 75 million field voles distributed widely but patchily throughout the UK in all parts except for Northern Ireland and some Scottish islands. The population is stable.



Field Vole distribution – Cambridgeshire: Field voles are widely distributed throughout the county apart from in the far north and in the wetland areas but the records are scattered. Records are difficult to obtain and are mainly from targeted live trapping or owl pellets.



Water vole (*Arvicola terrestris*)



Identification: Dark brown fur (occasionally black), rounded body, short chubby face with small protuberant eyes and small hairy ears, and a relatively short tail.

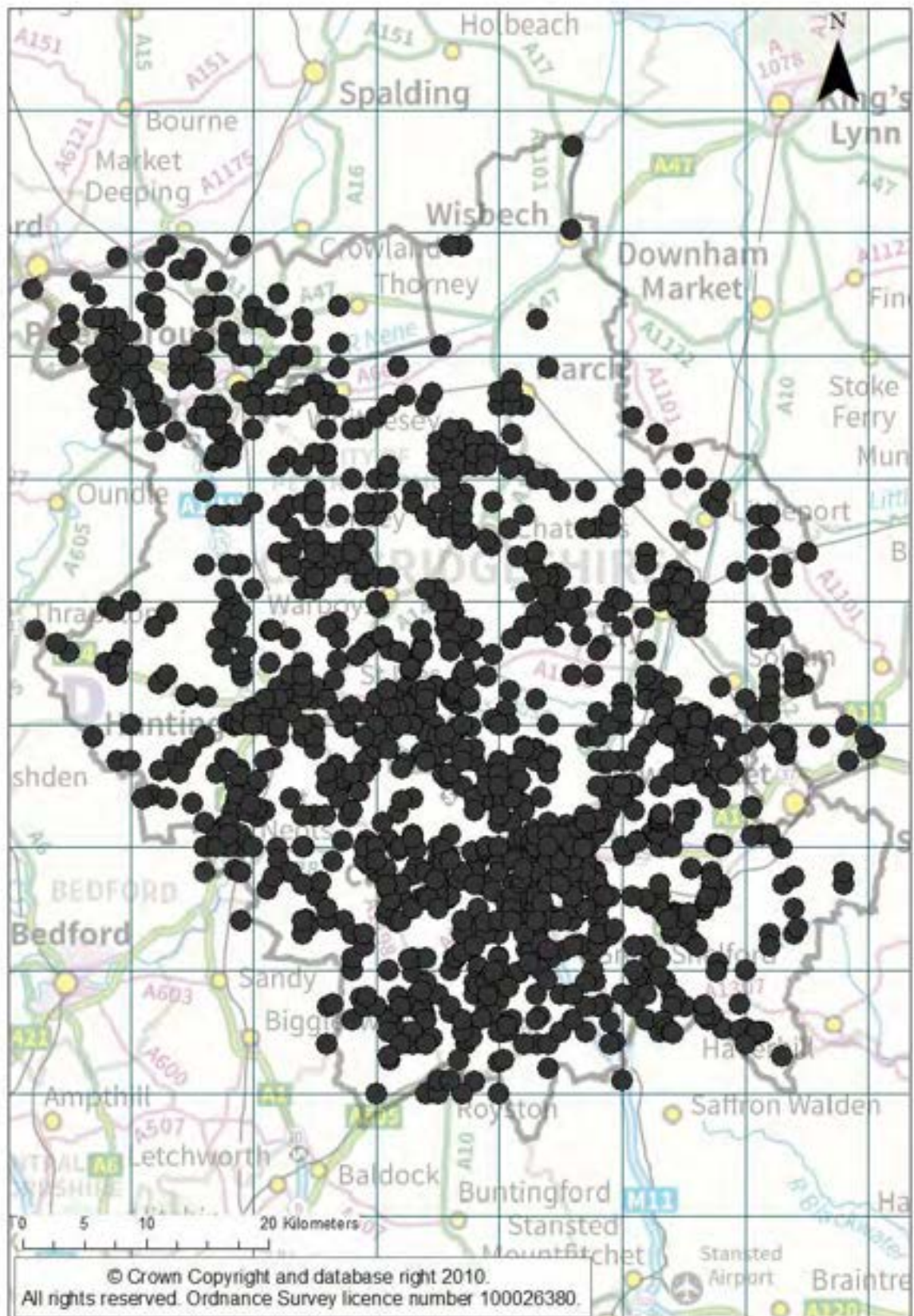
General: Another elusive species, numbers have dropped dramatically (by 95% or so) over the last 30+ years following the widespread increase in the American mink population, following releases and escapes from mink farms. These very attractive mammals can be seen in the flesh, with patience, from the riverbank but their signs are easier to spot. Their droppings (c10mm long, c3.5mm in diameter, and often greenish in colour when fresh) are fairly distinctive, while feeding remains (stems of aquatic plants typically 10cm long and bitten off cleanly at an angle of 45 degrees) are more so. These are all best sought in early spring when river and stream-side vegetation is still quite short after the winter. Water voles live in burrow systems in river banks with holes along the waterline and some below. The systems open out on to the bank – these holes often have a ‘halo’ of nibbled grass round their edges.

Distribution - UK: Widespread in the SE corner of the UK but with currently small isolated populations. Decreasing numbers towards the north and west of the UK, but present in Scotland and number of Scottish islands.

Latrine



Water Vole distribution – Cambridgeshire: Widespread in the county but with the populations are isolated.



Harvest Mouse (*Micromys minutus*)



Identification: A small two-tone mouse - sandy above and white below. A blunt muzzle, medium sized eyes, small hairy ears and a prehensile tail make this unmistakable.

General: A native species uncommon in their traditional habitat of grassland, hedgerows, field edges, scrubland, fens and marshes. They are omnivorous, feeding on everything from roots, fruit and seeds to insects. Unusually amongst rodents they build an aerial ball-like nest of woven grass and leaves. Up to 12 young are born as one litter in the late spring and summer and become independent in 15 days. They have many native predators and are largely crepuscular but can be active both day and night.

Distribution - UK: There are estimated to be approx. 1.5 million harvest mice in the UK, confined mainly to southern and eastern England. They are present in parts of Wales and northern England but scarce here and they are absent from Scotland. The population is declining.

Nest



Wood Mouse (*Apodemus sylvaticus*)



Identification: A large mouse with a long tail, large hairy ears and large protruding eyes. The fur is yellowish brown on the back with white fur underneath. Sometimes a yellow spot in or streak down the middle of the chest is present. The similar but larger yellow-necked mouse is the only confusion species. However, juveniles are grey in colour and may be confused with house mice. They are sometimes known as long-tailed field mice.

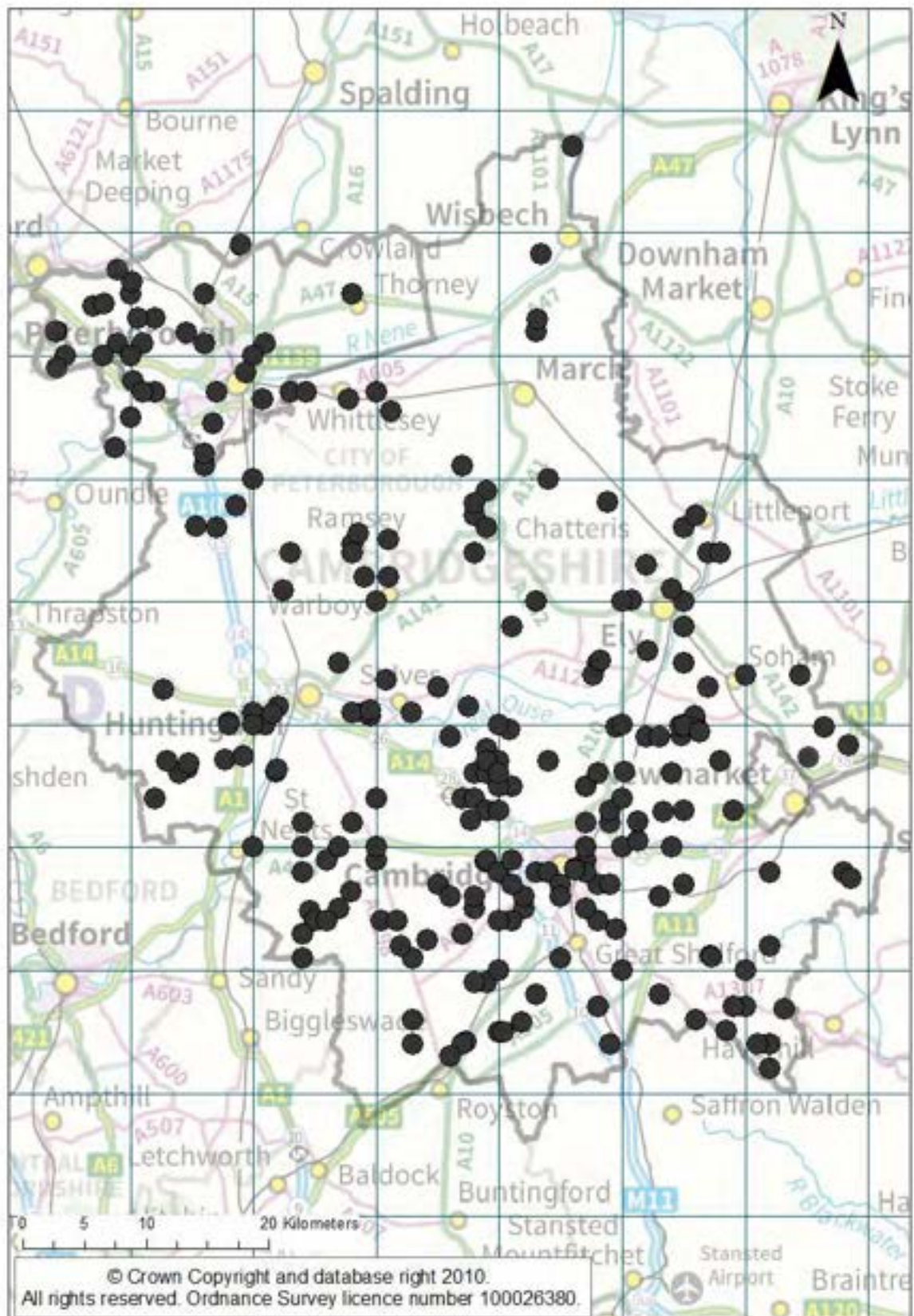
General: Common in both the countryside and urban areas, they thrive in almost all habitats apart from open mountain areas. Mating takes place during the late winter/early spring. The nest is usually underground or in any suitable hole where the young remain until they are weaned at 18 days - they develop quickly and can breed at 2 months old. They are highly adaptable and opportunistic, being omnivorous and feeding on everything from seeds, leaves, insects, worms, roots, fruit and carrion. They are very agile and can feed nearly everywhere, sometimes even utilising bird boxes. They have many native predators, particularly owls, as they mainly forage at night - domestic cats are also a major predator.

Chest mark



Distribution - UK: There are estimated to be approx. 110 million wood mice distributed widely throughout the UK. The population is stable.

Wood Mouse distribution – Cambridgeshire: Wood mice are widely distributed in Cambridgeshire in all areas and habitats.



Yellow-necked Mouse (*Apodemus flavicollis*)

Size: 10-12cm – 15cm tail
Weight: 25-50g
Lifespan: max. 2 years



Identification: A very large mouse with a very long tail, large hairy ears and large protruding eyes. The dorsal fur is more orange than wood mice. This is contrasted with white fur underneath. The dorsal fur joins to form a distinctive collar round the neck. The similar but smaller wood mouse is the only confusion species.

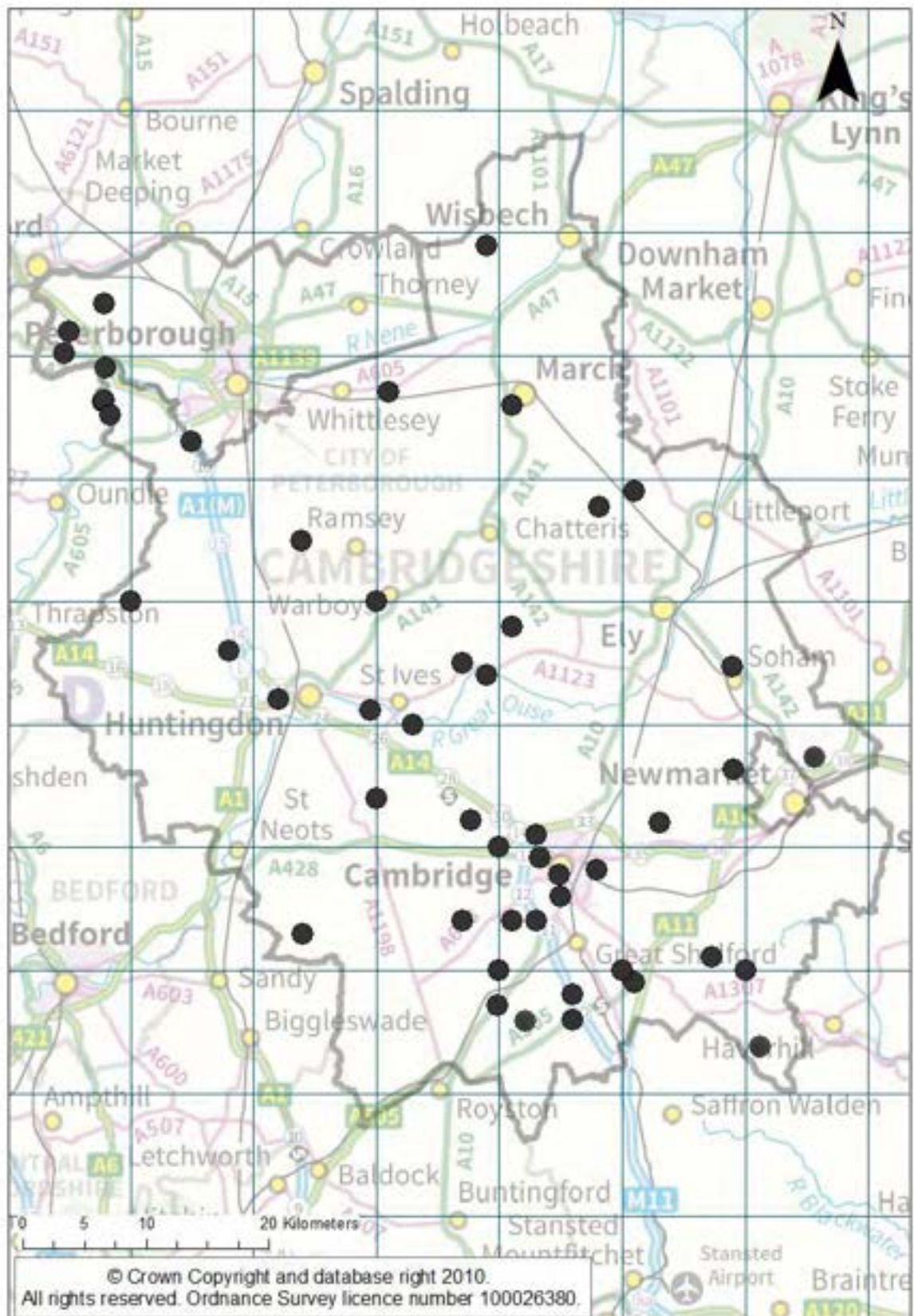
General: A native species locally common in both the countryside and urban areas, their favoured habitats are hedgerows, woodland and orchards. Yellow-necked mice can be communal nesters - nests being usually underground or in any suitable hole, including bird nest boxes, where the young remain until they are weaned by 4 weeks. They develop quickly and can breed at 10 weeks old. They are highly adaptable and opportunistic being omnivorous and feeding on everything from seeds, buds, insects, worms, fruit and carrion. They are largely nocturnal and are excellent climbers - able to feed in large trees. They have many native predators.

Distribution - UK: There are estimated to be approx. 1 million yellow-necked mice distributed mainly in the Midlands and the south and east of England. The population is stable.

Yellow neck



Yellow-necked Mouse distribution - Cambridgeshire: Yellow-necked mice are sparsely distributed throughout Cambridgeshire mostly in woodland habitats.



House Mouse (*Mus domesticus*)



Identification: A uniform coloured fur which can vary from grey to dull brown. They have large pink ears, medium sized eyes and a long scaly tail make this mouse quite distinctive. The only confusion species are juvenile wood mice.

General: A species most common in inhabited areas but can also be found in other habitats throughout the countryside. A prolific breeder, they can breed all year round. Half a dozen young are usually born sometimes into communal nests - the young being weaned in 3 weeks and able to breed 1 week later. They are highly adaptable and opportunistic being omnivorous although preferring to feed on seeds and grains - they can be particularly destructive in houses and feed stores eating almost anything. They travel widely in search of food, are very agile, largely nocturnal, and are widely predated. They make unpopular house residents as they have a distinctive smell and use their urine to mark their territory.

Distribution - UK: There are approx. 10 million house mice distributed widely throughout the UK but this number is thought to be an under estimation. The population is thought to be declining.

Droppings



Common Rat (*Rattus norvegicus*)



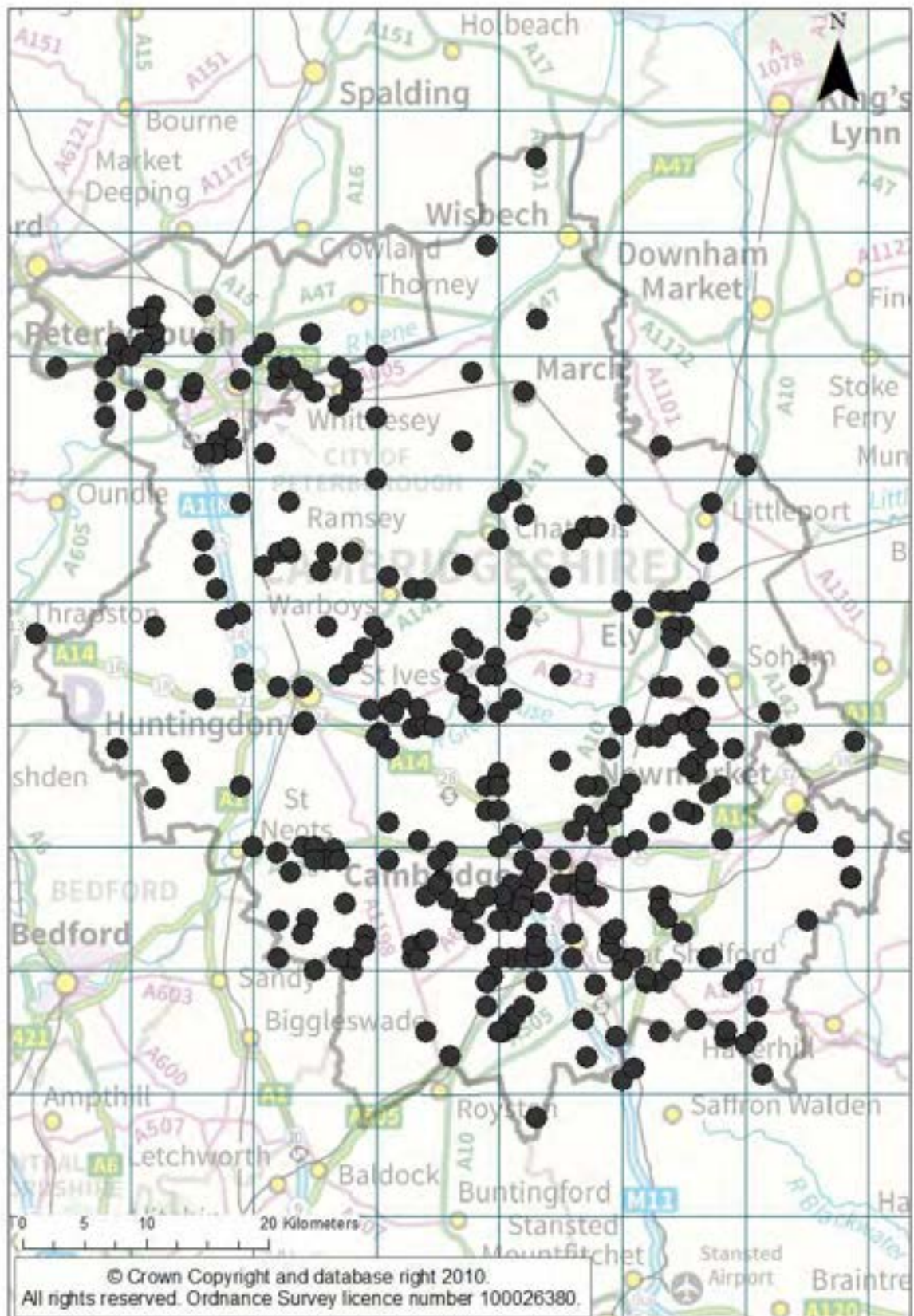
Identification: Brown/black fur, short fleshy hairy ears, long scaly tail, relatively pointed muzzle, relatively large size.

General: Although generally associated with people and their habitats the brown rat as it is more commonly known has expanded its range to cover uninhabited islands. On islands they subsist by predating seabird colonies and attempts are being made to eradicate them from a number of smaller islands, nationally and internationally. They are found around farm buildings and farmland, particularly field margins around root crops and hedgerows and ditches around cereals, outdoor pig units, pheasant feeders and cover crops. They are also found in urban areas such as refuse tips, sewers, urban waterways and warehouses. Brown rats naturally live in burrow systems, but are also found under floorboards, in roof spaces and in walls. Holes leading to underground tunnels can be easily seen next to watercourses - distinct well-trodden runs join one to another. These can be confused with water vole burrow systems - useful distinguishing signs are the droppings. Rat droppings are c12mm long and fairly thin, and are often dark and taper to a point at both ends with a coarser surface.

Distribution - UK: Very widespread throughout the UK.



Common Rat distribution – Cambridgeshire: Very widespread throughout the county.



Rabbit (*Oryctolagus cuniculus*)



Identification: The rabbit has a compact body shape and sandy brown coat. The ears are uniformly brown. The tail is held up showing the white underside.

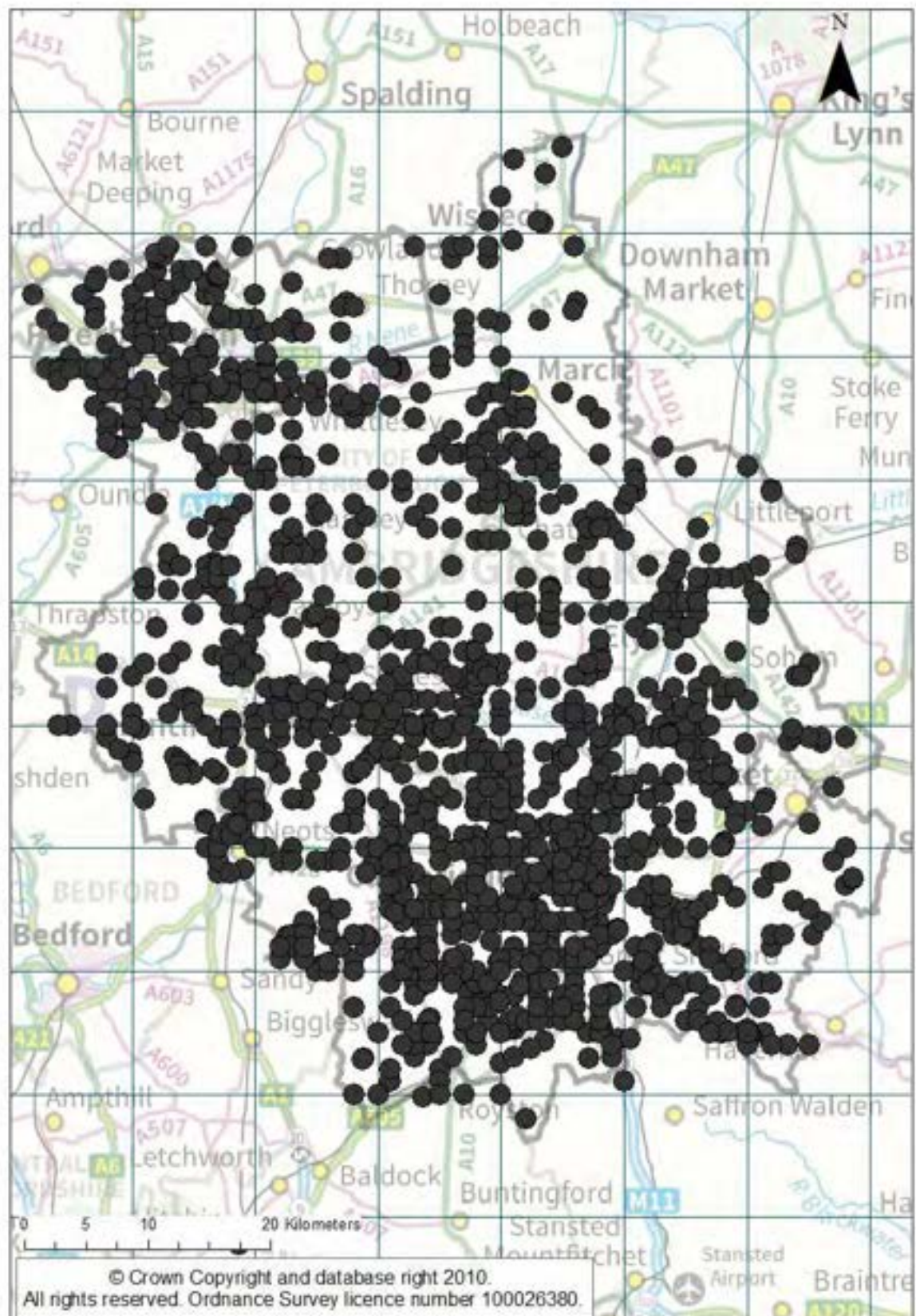
General: The 10-50cm diameter burrows are seen on slopes or banks. Usually several burrows are interconnected to form warrens. These are the focus of group living with the numbers and sex ratio of rabbits in each warren dependent on the ease of burrowing and food availability. Rabbits are prolific breeders with females producing litters of 3-7 young every 5-6 weeks during the February – August period under favourable conditions. Numerous entrances to the warren aid escape from polecats or stoats which can hunt rabbits within the warren. Other important predators of rabbits are foxes and buzzards, whilst badgers, weasels and domestic cats will take young ones. Rabbits are most common in areas of short grassland particularly where cover such as scrub or hedgerow is nearby. However, they can be a significant pest in agricultural crops where they can frequently be subject to control by shooting, gassing or ferreting

Burrow / droppings



Distribution - UK: Widespread across Britain. Distribution and abundance have been increasing again since the 1953 heavy mortality caused by the myxoma virus.

Rabbit distribution – Cambridgeshire: Rabbits are very common in Cambridgeshire in all habitats.



Brown Hare (*Lepus europaeus*)



Identification: The hare has a larger, longer limbed frame than rabbit giving an angular rather than compact appearance. The long ears have distinct black tips. The tail is held down when moving, showing the black and white upper surface.

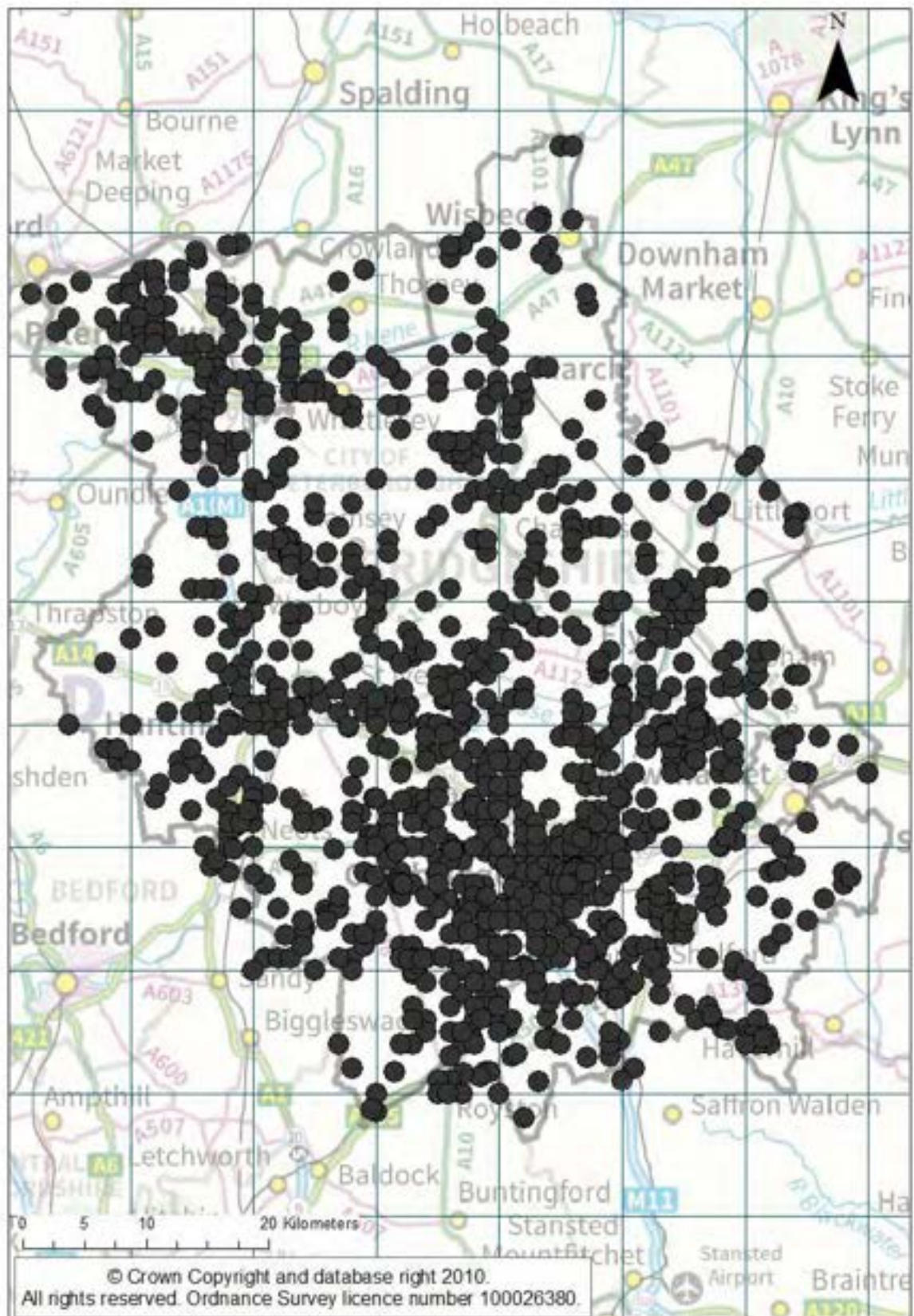
General: Breeding mainly occurs between February and August but may extend if the autumn is mild. 2 – 4 leverets are produced in the average litter. As they are born above ground rather than in the safe warm environment of a burrow, they have a full coat of fur, open eyes and are mobile at birth, in contrast to newborn rabbit kittens. A short period of nursing occurs only once a day. Once the mother leaves, the leverets take cover in vegetation and remain still to avoid predation. First year mortality of leverets can range from 50 – 90%. The main predator is the red fox. Changes in agricultural practises also have a considerable effect on first year survival.

Distribution - UK: They are widespread across East Anglia, the Midlands and north-east England, with increasing populations seen in south Wales and the south-west.

Field signs



Brown Hare distribution – Cambridgeshire: Brown hares are common in all habitats except the fens where they are less common.



Hedgehog (*Erinaceus europaeus*)



Size: 30cm
Weight: 450-1500g
Lifespan: max. 5 years,
average 2-3 years

MH

Identification: Unmistakable, there are no confusion species - the only spiny mammal in the UK.

General: A native species, widespread in both the countryside and urban areas. The young are born between May and August usually in one litter but occasionally two. They are born blind and spineless - white spines grow after a week and these are replaced within a few weeks by dark spines. They are weaned after 4 weeks and are independent shortly after. Their traditional habitat is woodland, rough pasture, meadows, heaths and moorland as well as farmland - they avoid wet habitats but are able to swim. They are omnivorous, feeding mainly on insects and worms but will eat carrion and birds eggs. Badger and foxes are the main predators but road traffic collisions are the major cause of death. They are nocturnal and use their keen sense of smell to forage. Being able to run from danger, they often curl up into a tight ball. They usually hibernate from November to March.

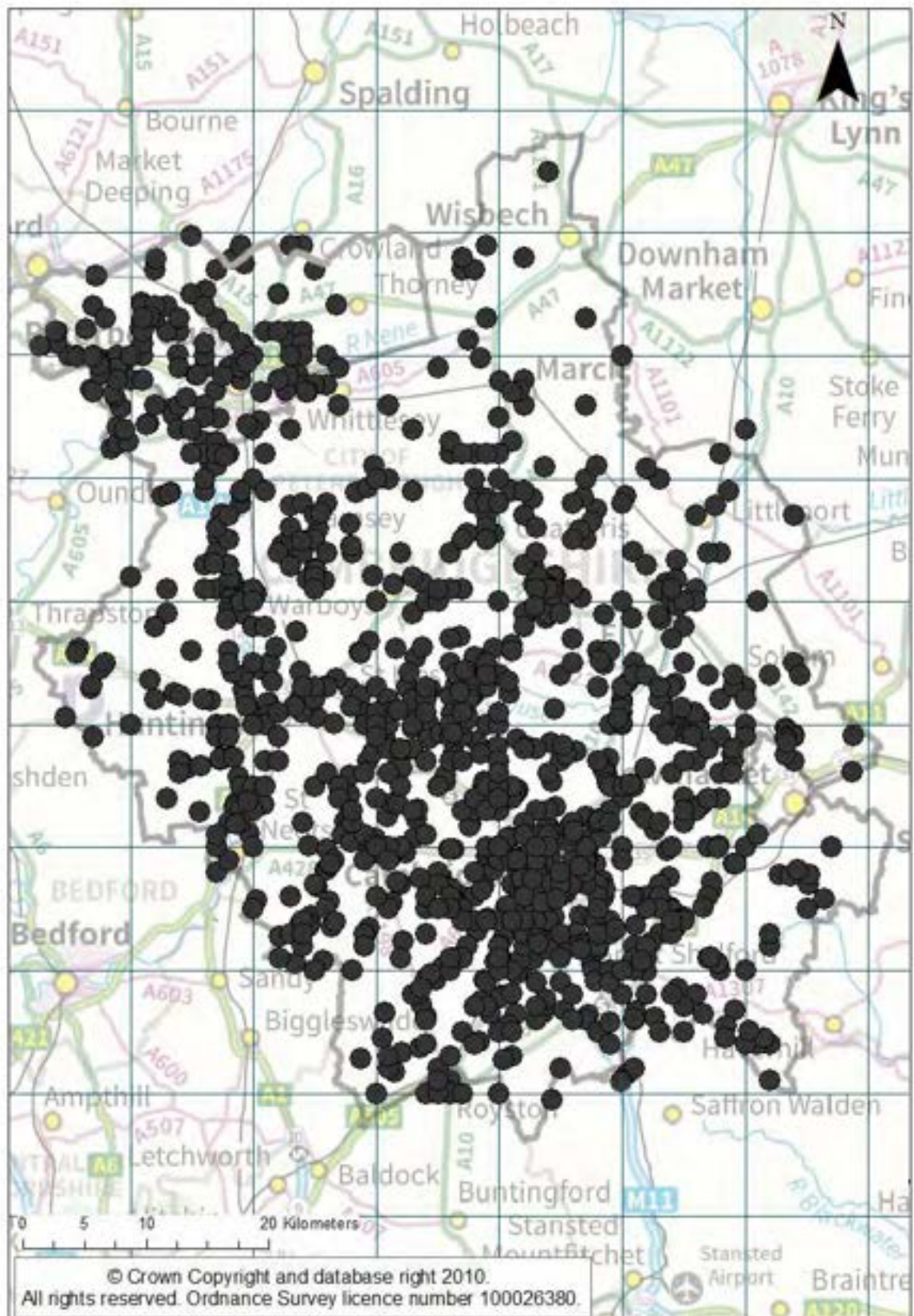
Distribution - UK: There are approx. 1 million hedgehogs distributed widely throughout the UK in all parts except for some Scottish islands. The population has declined rapidly over recent years.

Droppings



PP

Hedgehog distribution – Cambridgeshire: Common in all parts of Cambridgeshire except the fens.



Mole (*Talpa europaea*)



Identification: Short black velvety fur – cylindrical body – heavily clawed spade-like forefeet. The eyes are minute and well-hidden. Pink fleshy snout and short tail (usually carried erect).

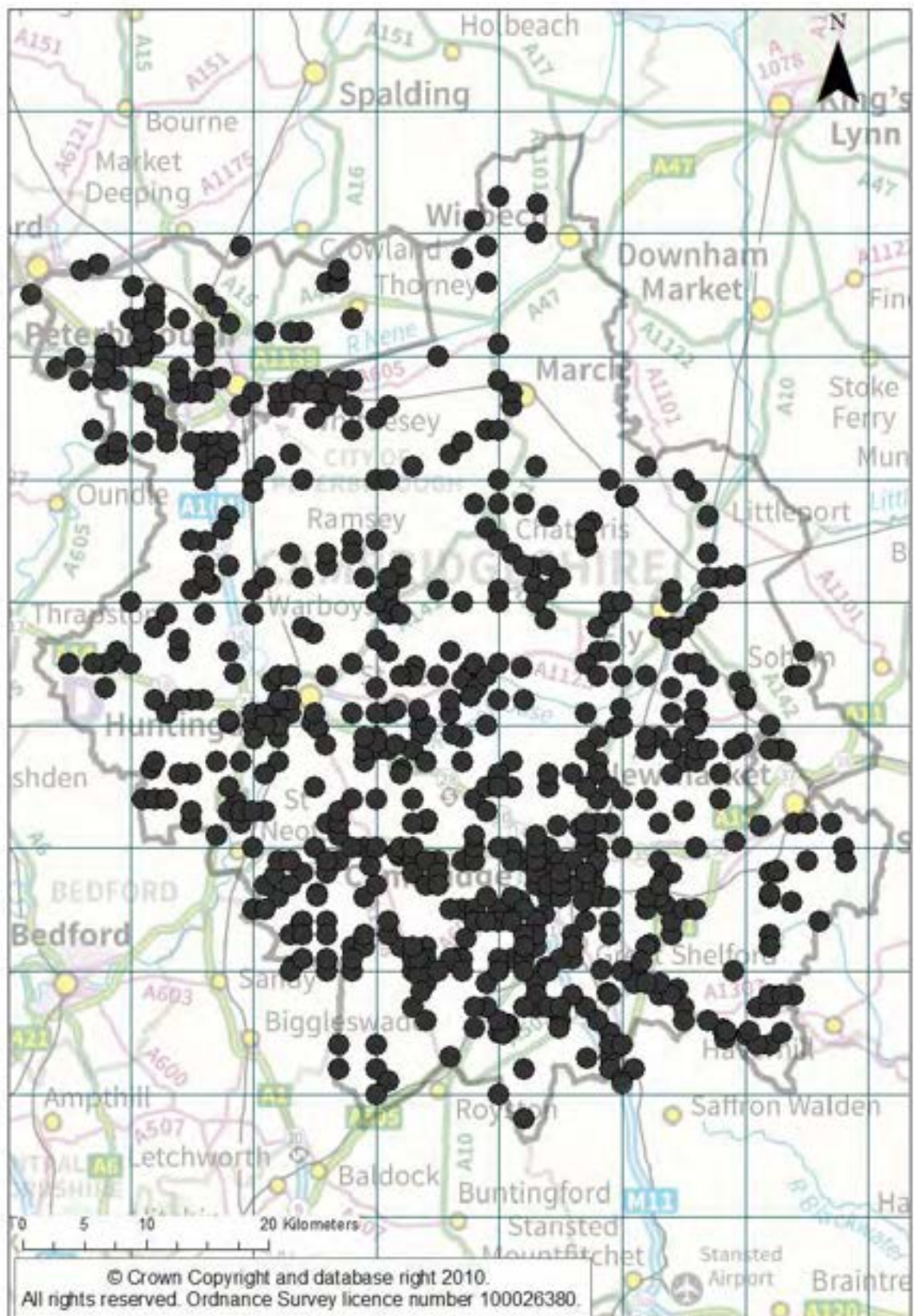
General: Although not at all rare, moles are very rarely seen above ground – a lot of patience is needed to see this very elusive mammal. Evidence of their presence is however very easy to see – molehills abound in deciduous woodland, arable fields and permanent pasture. Temporary surface tunnels may be formed when a new area is being colonised, but the normal underground burrow systems are only evident from the lines of molehills formed during a night's digging. The animal is very specialised for living underground – the body is cylindrical and the forelimbs are highly adapted for digging, including an extra bone (a 'sixth finger') to increase the surface area of the hand. The hind limbs also have a 'sixth toe' to broaden the foot and help brace the body against the tunnel walls while digging. They tunnel up to about 1m deep where the soil is suitable. The main diet consists of earthworms plus a variety of beetles, insect larvae, centipedes, millipedes, slugs and snails.

Distribution - UK: Widespread throughout the UK up to an altitude of c 1000m with a population of approximately 30 million.

Molehills



Mole distribution – Cambridgeshire: Very widespread throughout the county.



Common Shrew (*Sorex araneus*)



Identification: With no visible ears and very small eyes they have a long whiskered snout. The dorsal fur is usually brown although almost black forms exist. The belly is pale and the flanks buff coloured. About 10% of the population has white ear tufts similar to water shrews though the major confusion species is pygmy shrew.

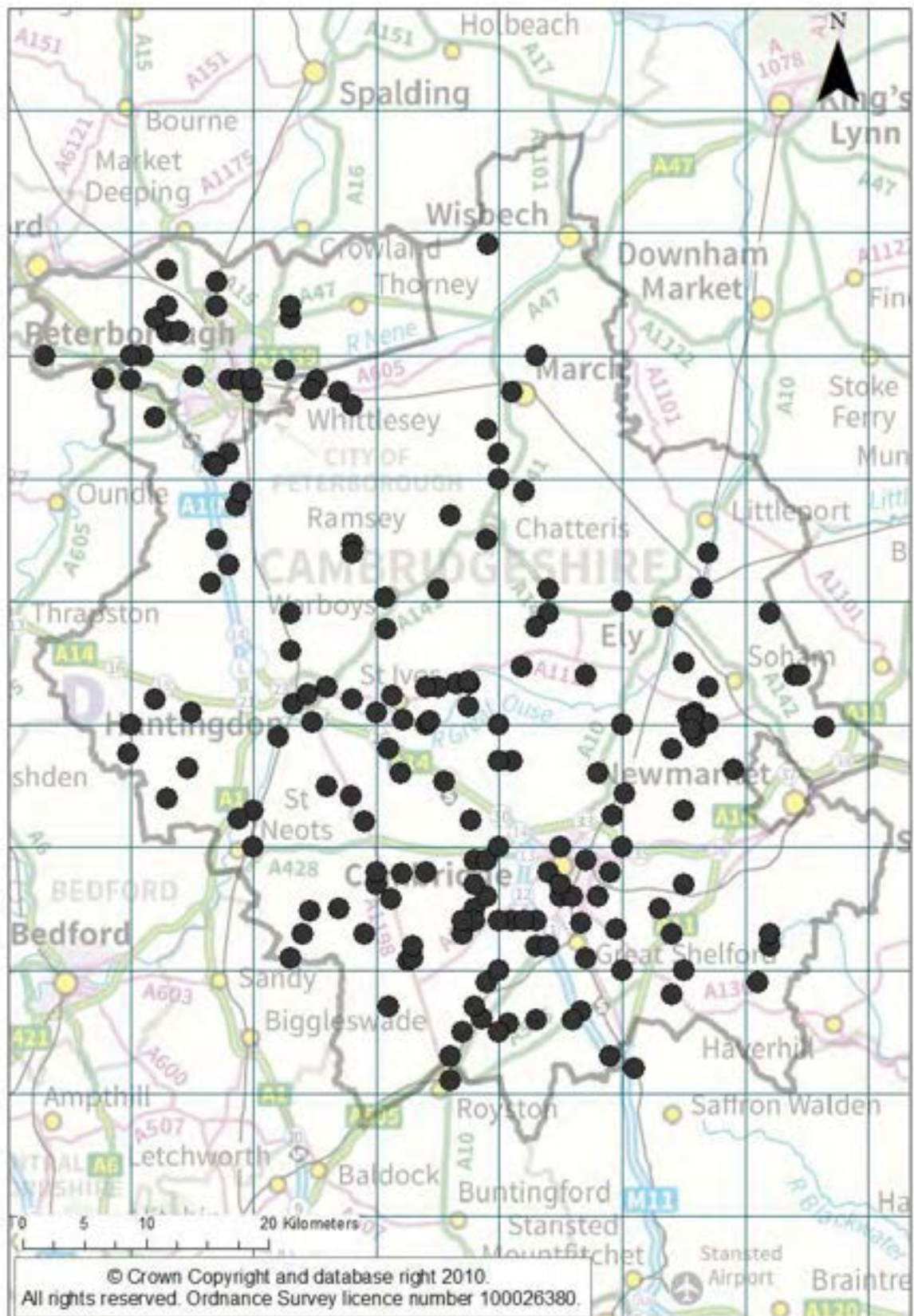
General: A native species, very common in both the countryside and urban areas, they utilise many habitats from woodlands, grassland to moorland and marshland. Mating takes place in the late spring / summer - young are weaned after 25 days and can sometimes be seen closely following their mother. They are usually solitary and aggressively defend their territory, feeding mostly on insects, slugs and worms etc., but will take seeds and fruits as well as carrion. They are mainly nocturnal, but due to their high metabolism they need to feed frequently so will forage during the day usually under cover. Their audible squeaks are usually mistaken for mice. Common shrews have many predators and their life expectancy is short.

Distribution - UK: There are estimated to be approx. 40 million common shrews distributed widely throughout the UK in all parts except for some Scottish islands. The population is stable.

Droppings



Common Shrew distribution – Cambridgeshire: Widely distributed throughout the county.



Pygmy Shrew (*Sorex minutus*)



Identification: With no visible ears and very small eyes they have a long whiskered snout. The dorsal fur is brown while the belly is pale in colour. The major confusion species is common shrew. The key distinguishing feature is the proportionally long and very thick tail.

General: A native species common in both the countryside and urban areas, they prefer woodlands, grassland hedgerows and gardens. Mating takes place in the late spring/summer. Young are weaned after 21 days and can sometimes be seen closely following their mother. They are usually solitary and aggressively defend their territory, feeding mostly on insects, but will take seeds and fruits as well. They are mainly nocturnal but due to their high metabolism they need to feed frequently so will forage during the day usually under leaf litter or other cover eating more than their own bodyweight each day. Pygmy shrews have many predators and a short life expectancy.

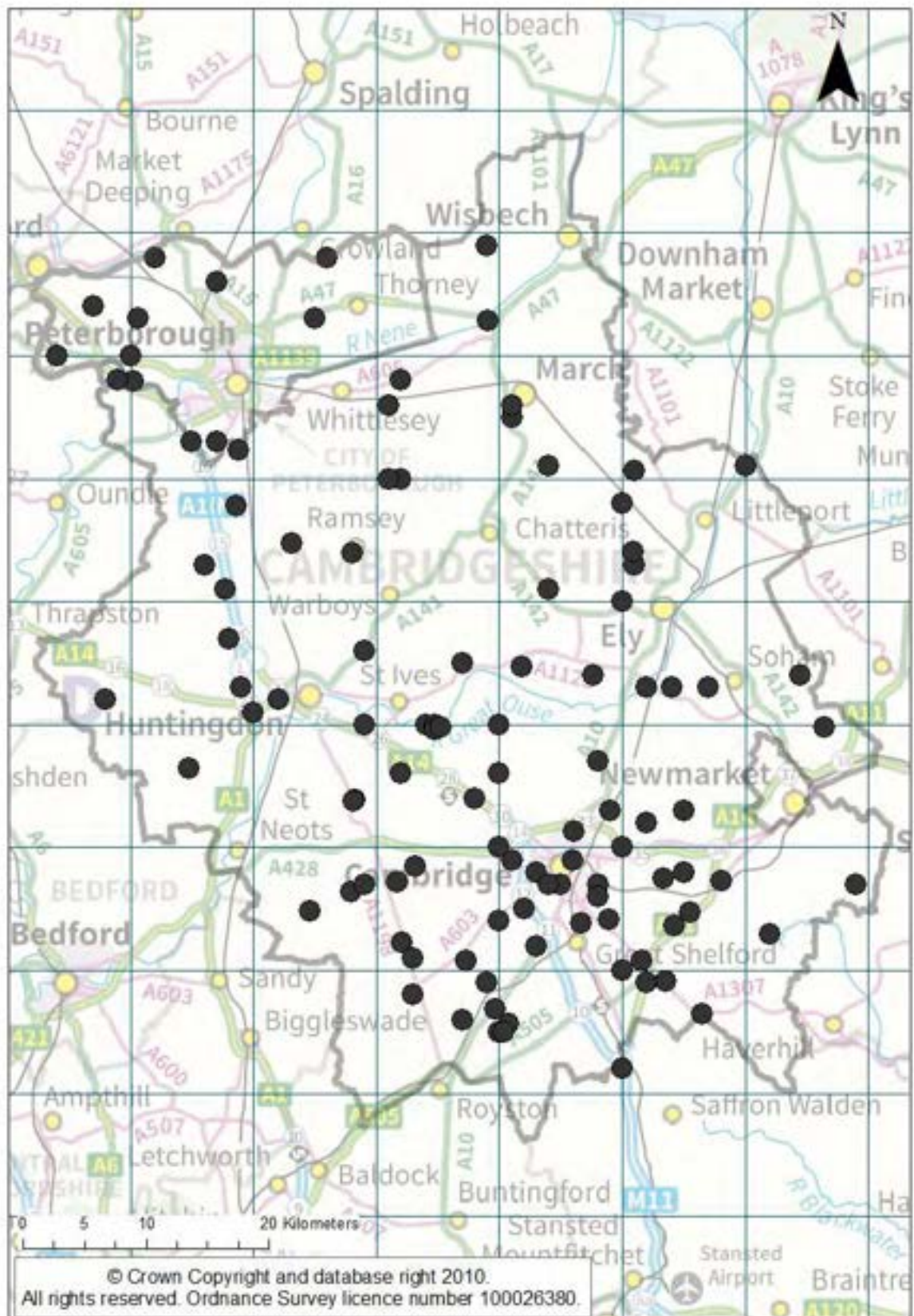
Droppings

Distribution - UK:

There are approx. 8 million distributed widely throughout the UK in all parts except for the Scilly isles and Shetland. The population is stable.



Pygmy Shrew distribution – Cambridgeshire: Sparsely distributed throughout the county.



Water Shrew (*Neomys fodiens*)



Identification: With no visible ears and very small eyes they have a long thick whiskered snout. The dorsal fur is silvery grey brown to black. The belly is usually very pale in colour but all-black individuals occur. A fringe of stiff hairs runs the length of the underside of the tail. The major confusion species is common shrew with white ear tufts.

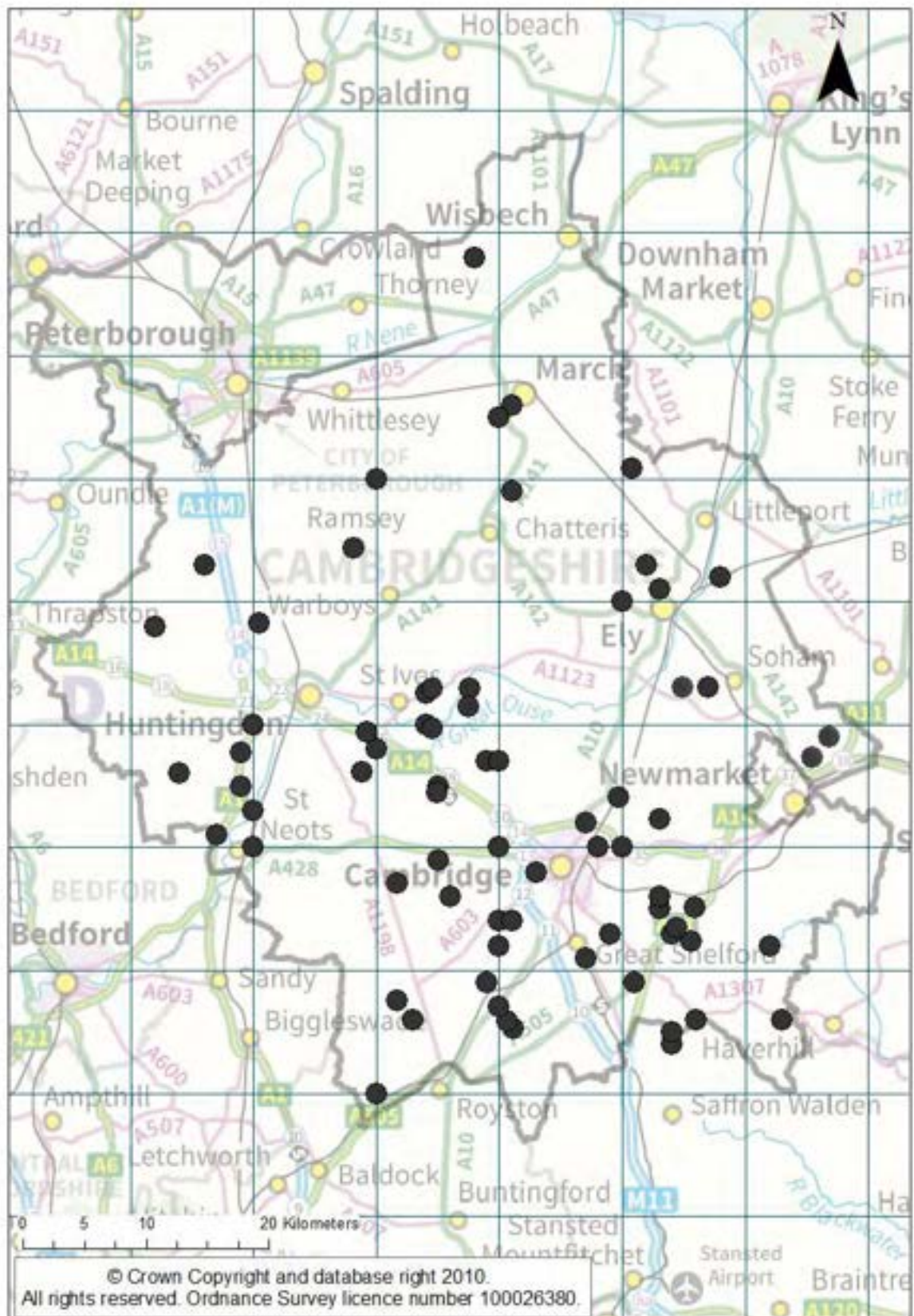
General: A native but scarce species normally found in wetland habitats but can be found some distance from water on occasion. They are well adapted to a mostly aquatic lifestyle. Breeding is in the late spring/summer. Young are weaned after 28 days and are independent after a further two weeks. They are usually solitary and aggressively defend their territory, feeding mostly on land and aquatic insects, but will take small fish and frogs, etc., which they paralyse with their venomous saliva. They are mainly nocturnal but due to their high metabolism they need to feed frequently so will forage during the day. They have underground burrows to rest in when not feeding. Water shrews have few predators and a relatively long-life expectancy.

Distribution - UK: There are approx. 2 million distributed widely throughout the UK in all parts except for the north west of Scotland and some Scottish islands. The population is declining.

Riverbank burrow



Water Shrew distribution – Cambridgeshire: Thinly distributed throughout Cambridgeshire.



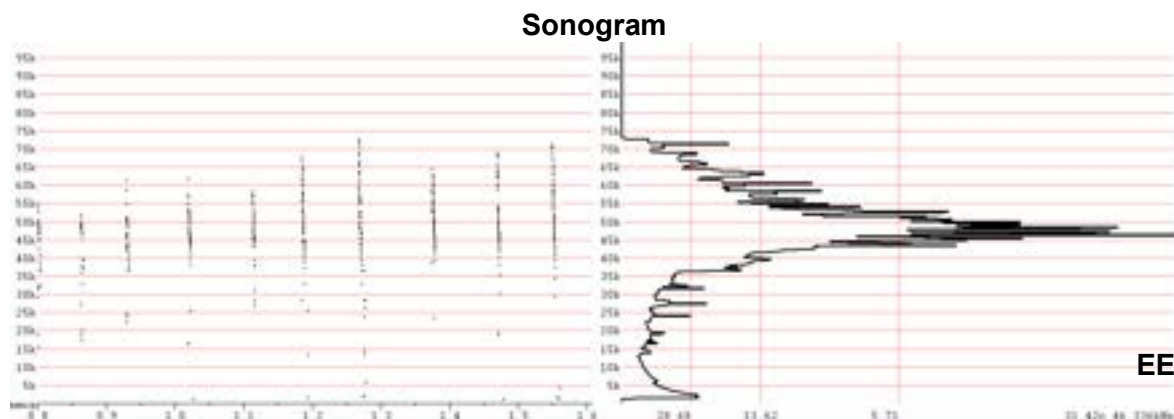
Whiskered Bat (*Myotis mystacinus*)



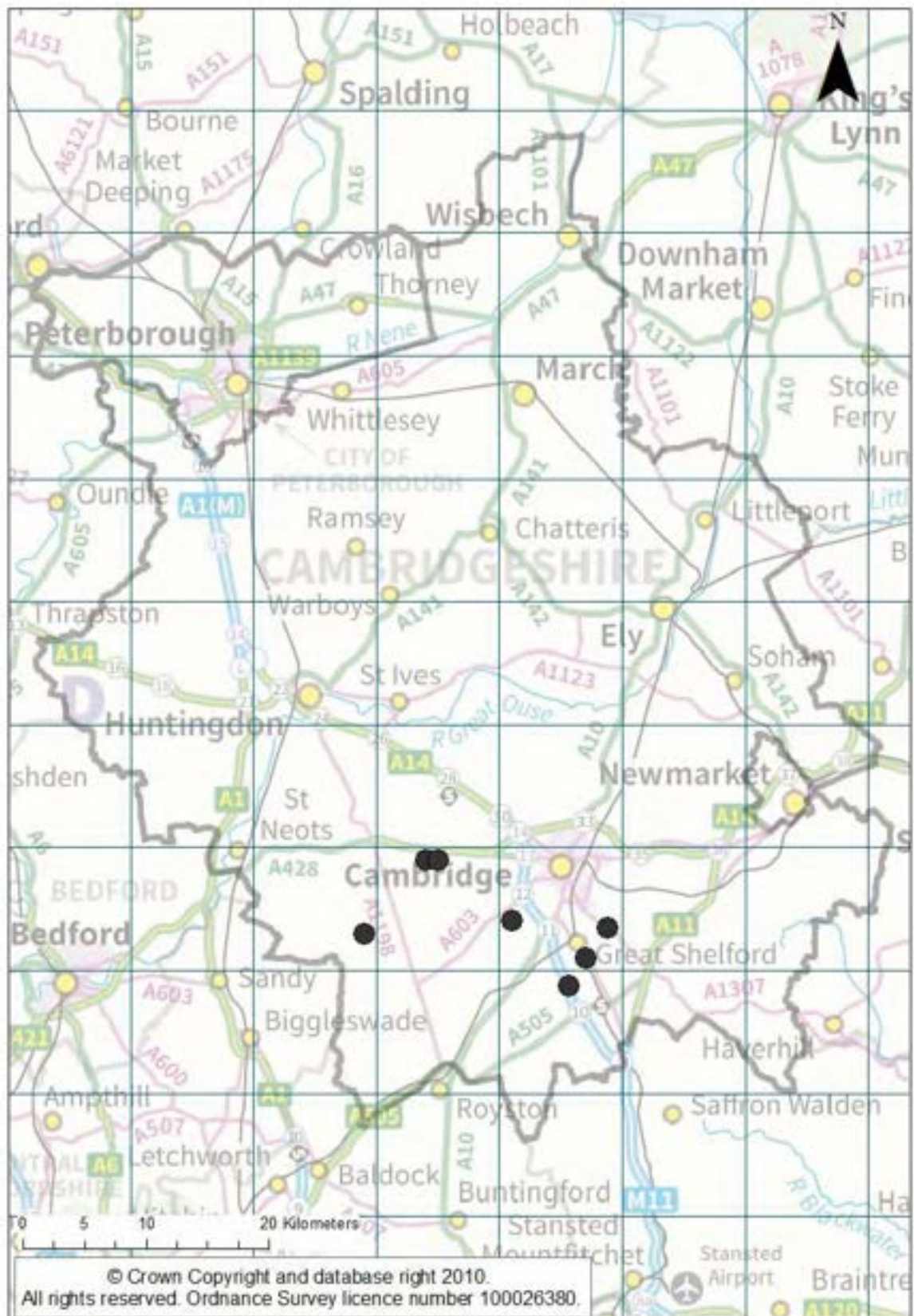
Identification: A small bat - the smallest of the *Myotis* species. It has dark upperparts with the underside buff-grey and the fur is of a shaggy appearance. The face and ears are black. They are very similar to Brant's and Alcatraz bats and can be difficult to separate from these species unless seen in the hand.

General: A native species which commonly feeds on a variety of moths and small insects. They utilise a variety of habitats from meadows, woodland edge to hedgerows and villages. A single pup is born in late spring in small communal maternal roosts. They are weaned after 6 weeks. Roosts are usually in old buildings and trees and will use bat boxes. They hibernate in underground sites such as mines, tunnels and caves.

Distribution - UK: There are approx. 64,000 distributed widely throughout England, Wales, Northern Ireland as well as southern Scotland. The population is stable.



Whiskered Bat distribution – Cambridgeshire: The handful of records of whiskered bats in Cambridgeshire are from the southern part of the county.



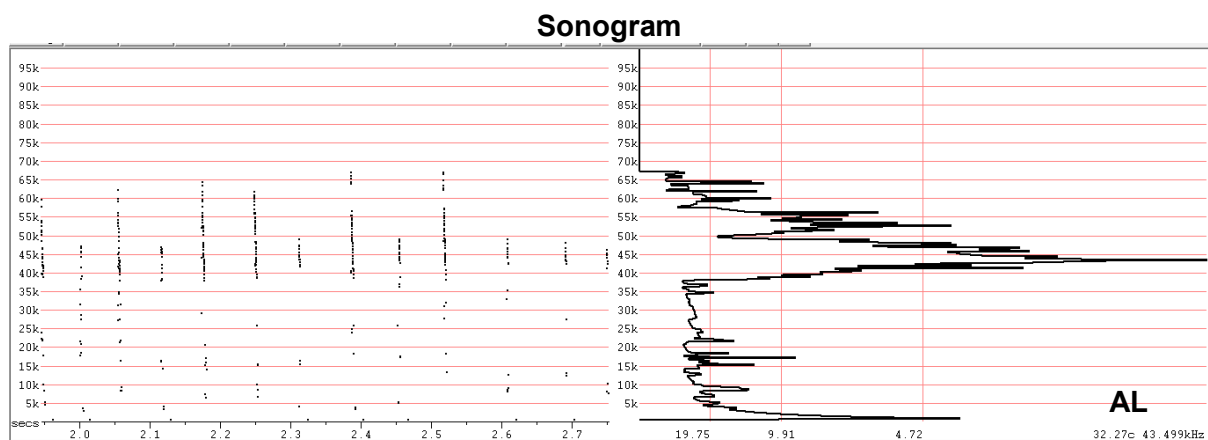
Daubenton's Bat (*Myotis daubentonii*)



Identification: This is a medium-sized bat with dark upperparts and buff-grey underside. Their rounded ears are on the sides of the head. Around the lips and eyes the skin is pink and bare. Wing and tail membranes are dark brown, and very large feet are the key identification features.

General: A native species which commonly feeds over fresh water, grabbing insects with their large hind feet. They are fast flying and may roost some distance from water. A single pup is born in late spring in communal maternal roosts and weaned after 6 weeks. Roosts are usually in trees, tunnels, caves and under bridges. They hibernate in underground sites.

Distribution - UK: There are approx. 150,000 distributed widely throughout the UK in all parts except the extreme north-west of Scotland. The population is stable.



Natterer's Bat (*Myotis nattereri*)

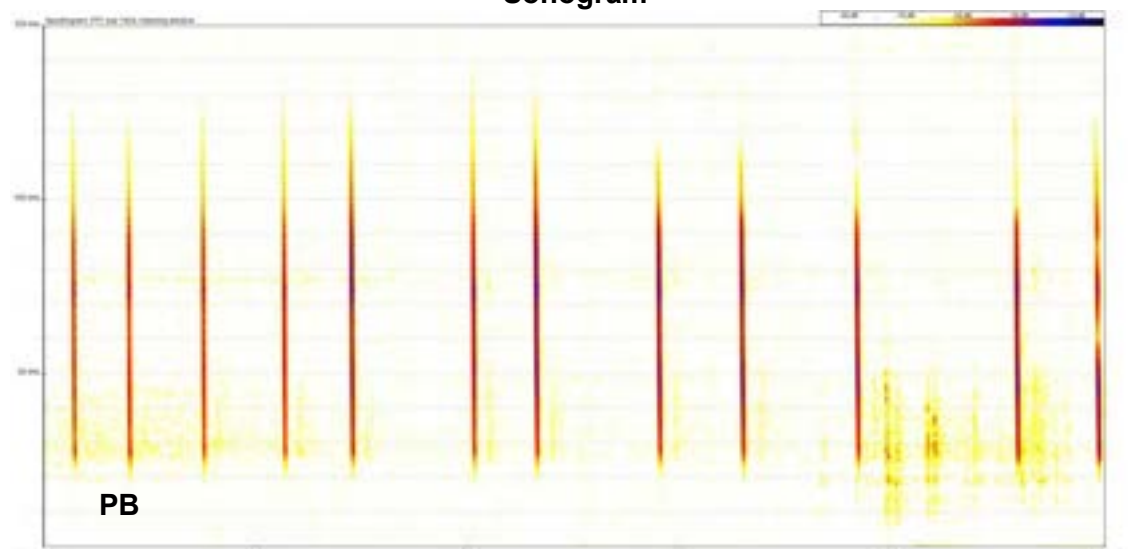


Identification: A medium sized bat with sandy grey upperparts and a white underside. It has rounded ears (which curve at the end) on the side of the head. They have a very pink dog-like face and pinkish arms and are very similar to Daubenton's bats but lack the large feet.

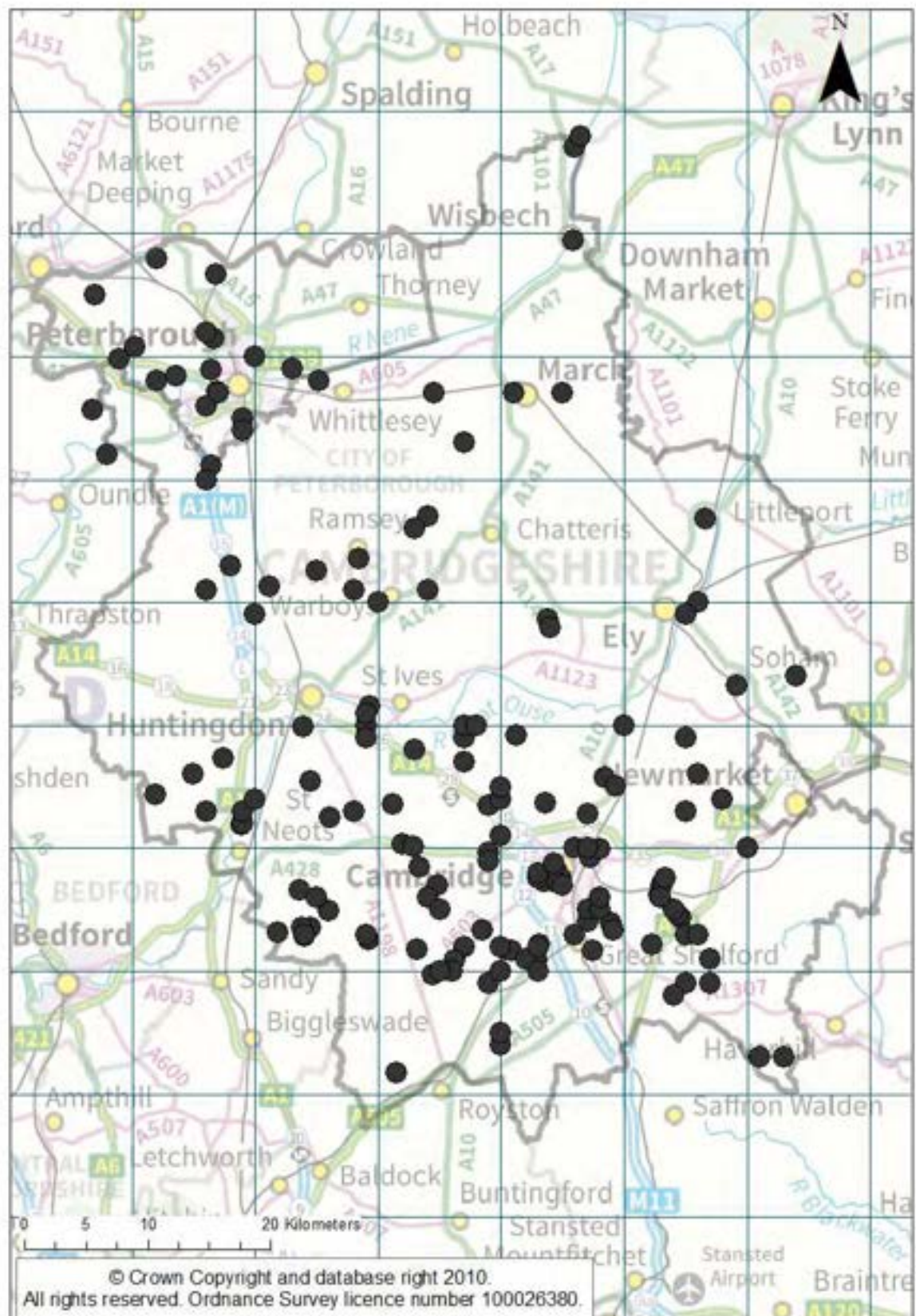
General: A native species which likes to forage in woodland. They are fast flying and agile hunters feeding mostly on small insects. Mating takes place in the autumn and a single pup is born in late spring in communal maternal roosts and weaned after 6 weeks. Roosts are usually in trees and buildings and they hibernate in underground sites.

Distribution - UK: There are approx. 150,000 distributed widely throughout the UK in all parts except the extreme north-west of Scotland. The population is stable.

Sonogram



Natterer's Bat distribution – Cambridgeshire: Natterer's bats are widely distributed and fairly common in Cambridgeshire. They are particularly common in the areas of woodland.



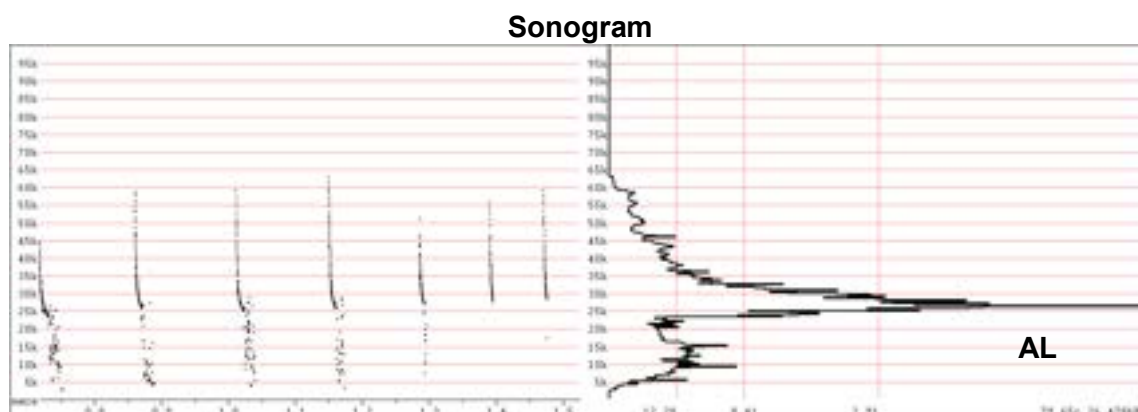
Leisler's Bat (*Nyctalus leisleri*)



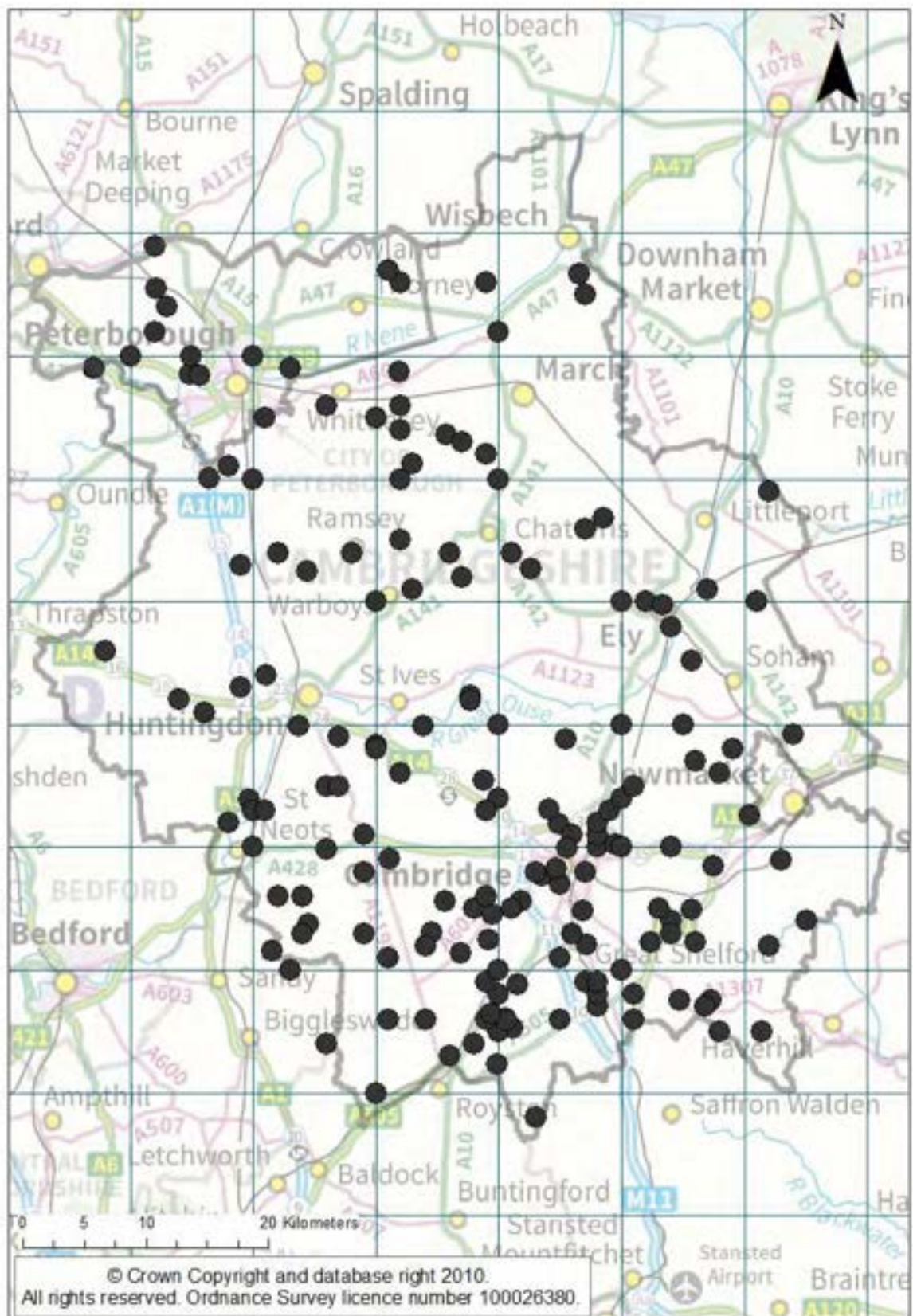
Identification: A large bat with long dark golden-brown shaggy fur, they have thickened fur on the upper back resembling a mane. They have distinctive large forward-facing ears and cannot be easily confused with any other species, although may appear similar to a small noctule. They have hairy forearms - unique amongst UK bats and a useful identification feature.

General: A native species which likes to forage in fields, woodland and urban areas. They are powerful, fast and high-flying and emerge at sunset to feed on larger insects such as beetles and moths stooping at speed to catch them. Mating takes place in the autumn and males have a harem of females. A single pup is born in late spring in small maternal roosts consisting of a handful of females and it is weaned after 6 weeks. They are mainly a tree-roosting species but occasionally use bat boxes and buildings. They are rarely seen in winter and hibernate mostly in tree crevices.

Distribution - UK: There are approx. 28,000 mostly in Northern Ireland where it is common, but it is restricted to a few areas in eastern England and one in southern Scotland. The population is stable.



Leisler's Bat distribution - Cambridgeshire: Leisler's are uncommon but widely distributed.



Noctule (*Nyctalus noctula*)

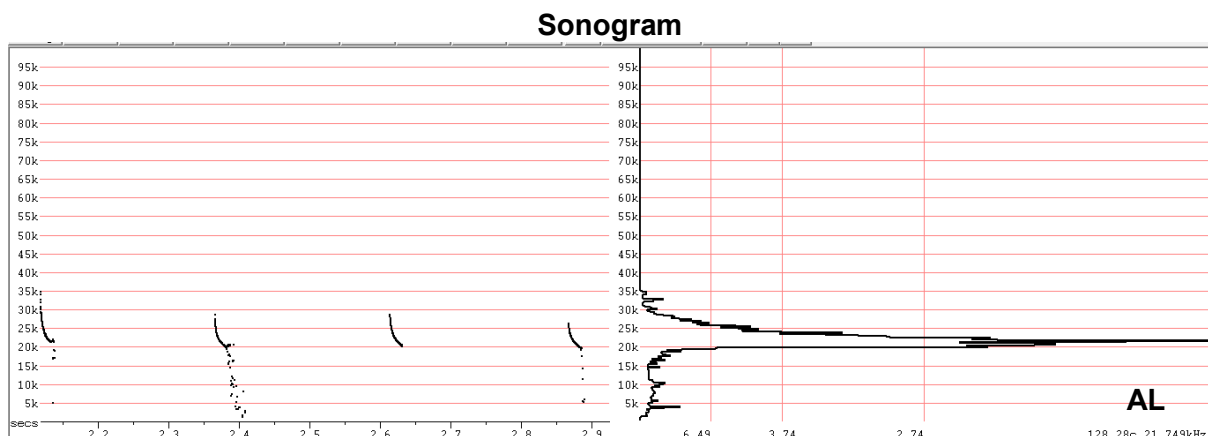


Identification: A large bat with uniform golden-brown shaggy fur. They have large forward-facing ears with a mushroom shaped tragus. They are very distinctive and cannot be confused with any other species.

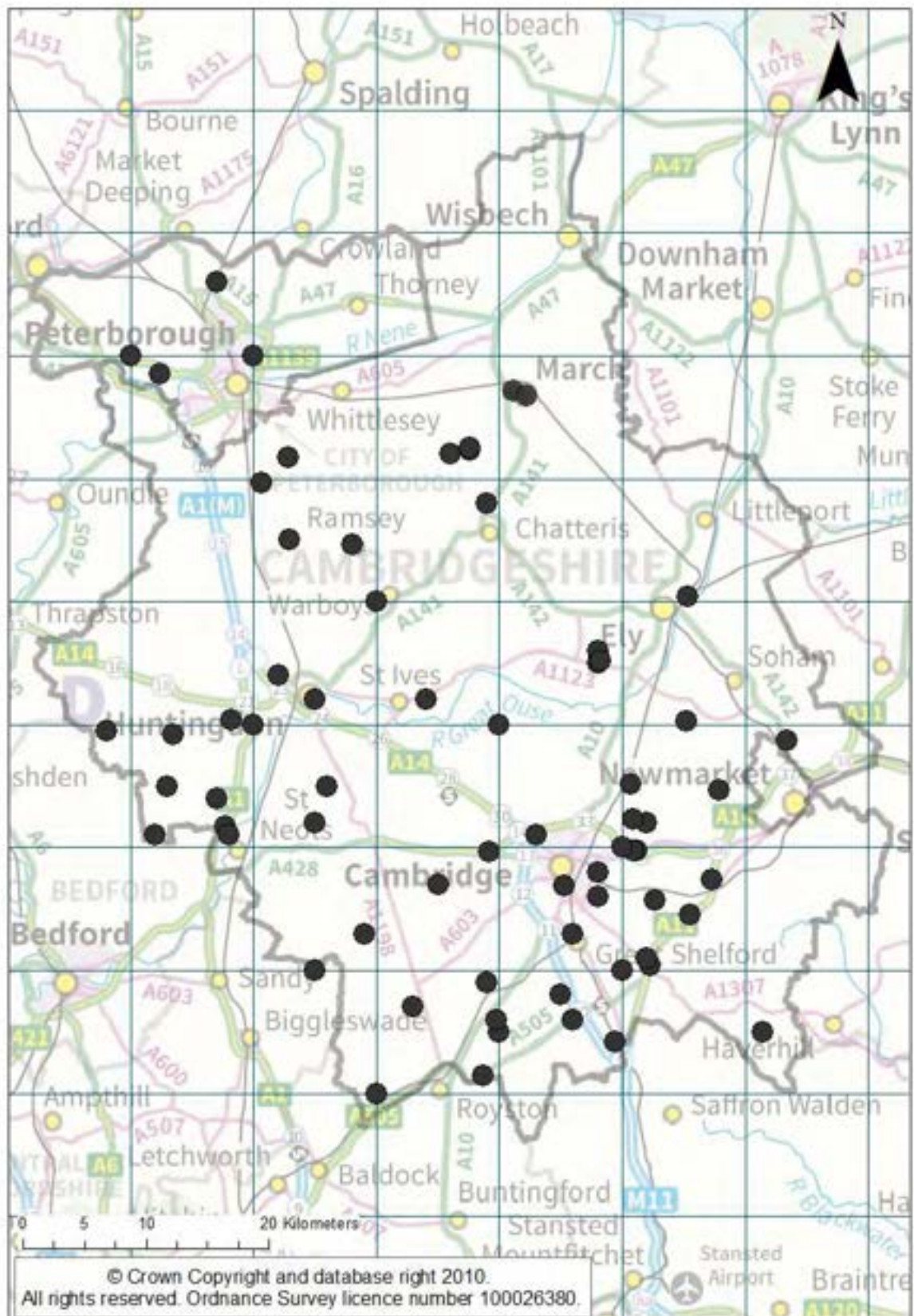
General: A native species which likes to forage in fields and woodland. They are powerful, fast and high flying and emerge well before sunset and are often confused with swifts. Their early emergence does make them susceptible to day-

flying predators. They feed on large insects such as beetles and moths. Mating takes place in the autumn. A single pup is born in late spring in small maternal roosts consisting of a handful of females and is weaned after 6 weeks. They are mainly a tree roosting species but occasionally use other sites such as bat boxes and buildings. They hibernate, mostly in trees roosts, tolerating temperatures well below freezing. Noctules are often active during winter if conditions are suitable.

Distribution - UK: There are approx.50000 noctules distributed widely throughout England and Wales as well as southern Scotland. The population is stable.



Noctule distribution – Cambridgeshire: Noctules are widely distributed and fairly common in Cambridgeshire where suitable habitat is present.



Common Pipistrelle (*Pipistrellus pipistrellus*)

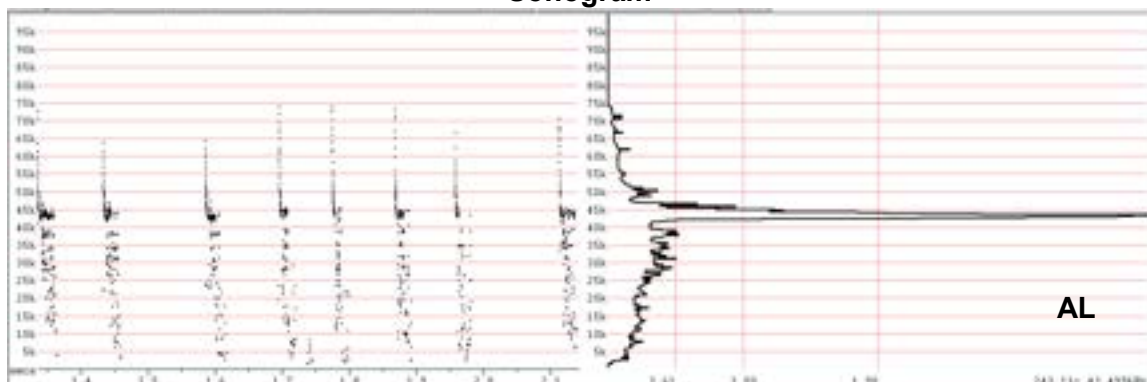


Identification: A small bat with dark brown fur and slightly paler underparts, they are darker on the face than the soprano pipistrelle and are slightly larger.

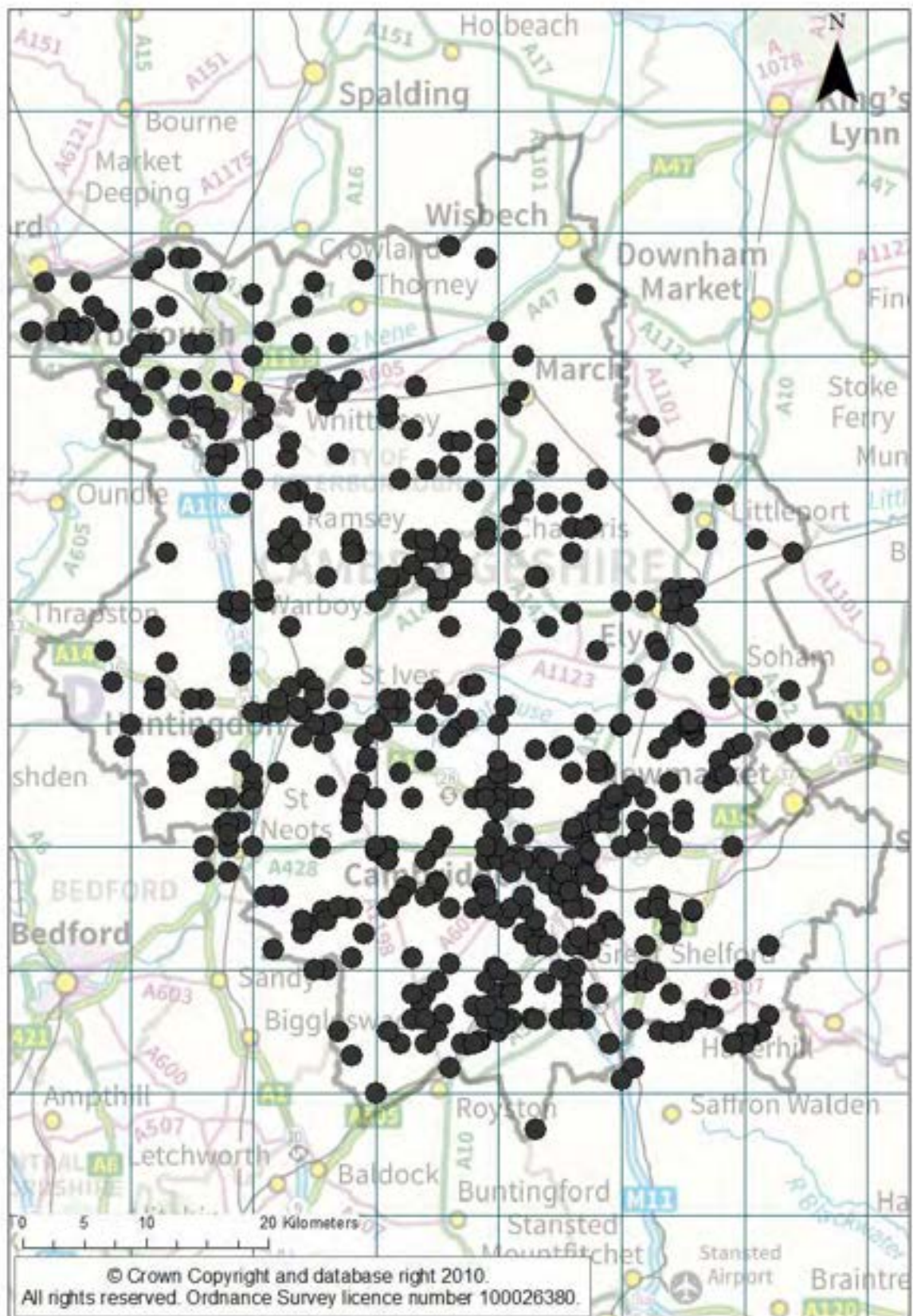
General: A native species which forages in a variety of habitats particularly woodland edges, gardens and hedgerows. They feed mostly on very small insects such as mosquitoes and small moths - often flying the same routes. Mating takes place in the autumn and one or two pups are born in late spring in large maternal roosts and weaned after 6 weeks. Roosts are often in buildings including modern structures and they are particularly fond of churches in which they often hibernate. They also use tree roosts and bat boxes.

Distribution - UK: The commonest UK bat species, there are approx. 1.25 million distributed widely throughout all parts of the UK apart from a few Scottish islands. The population is stable.

Sonogram



Common Pipistrelle distribution – Cambridgeshire: Common pipistrelles are widely distributed throughout Cambridgeshire.



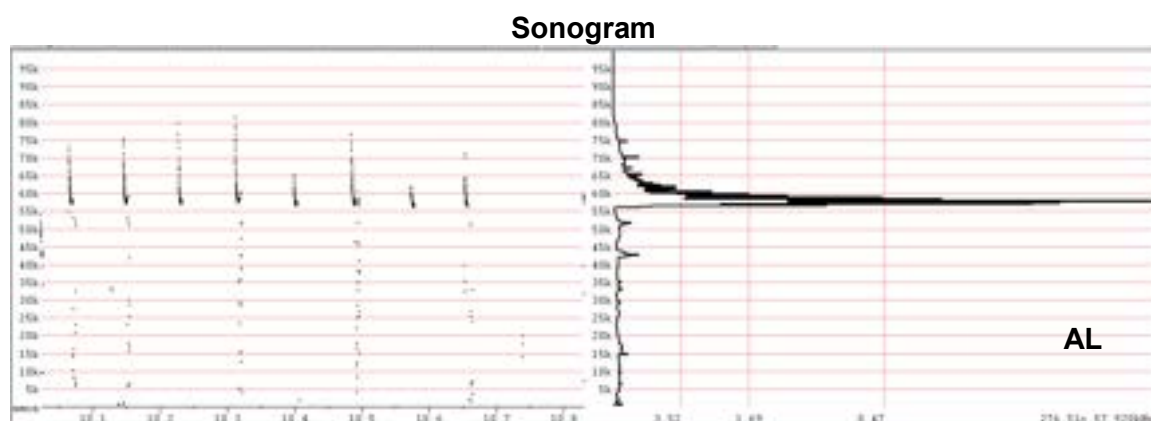
Soprano Pipistrelle (*Pipistrellus pygmaeus*)



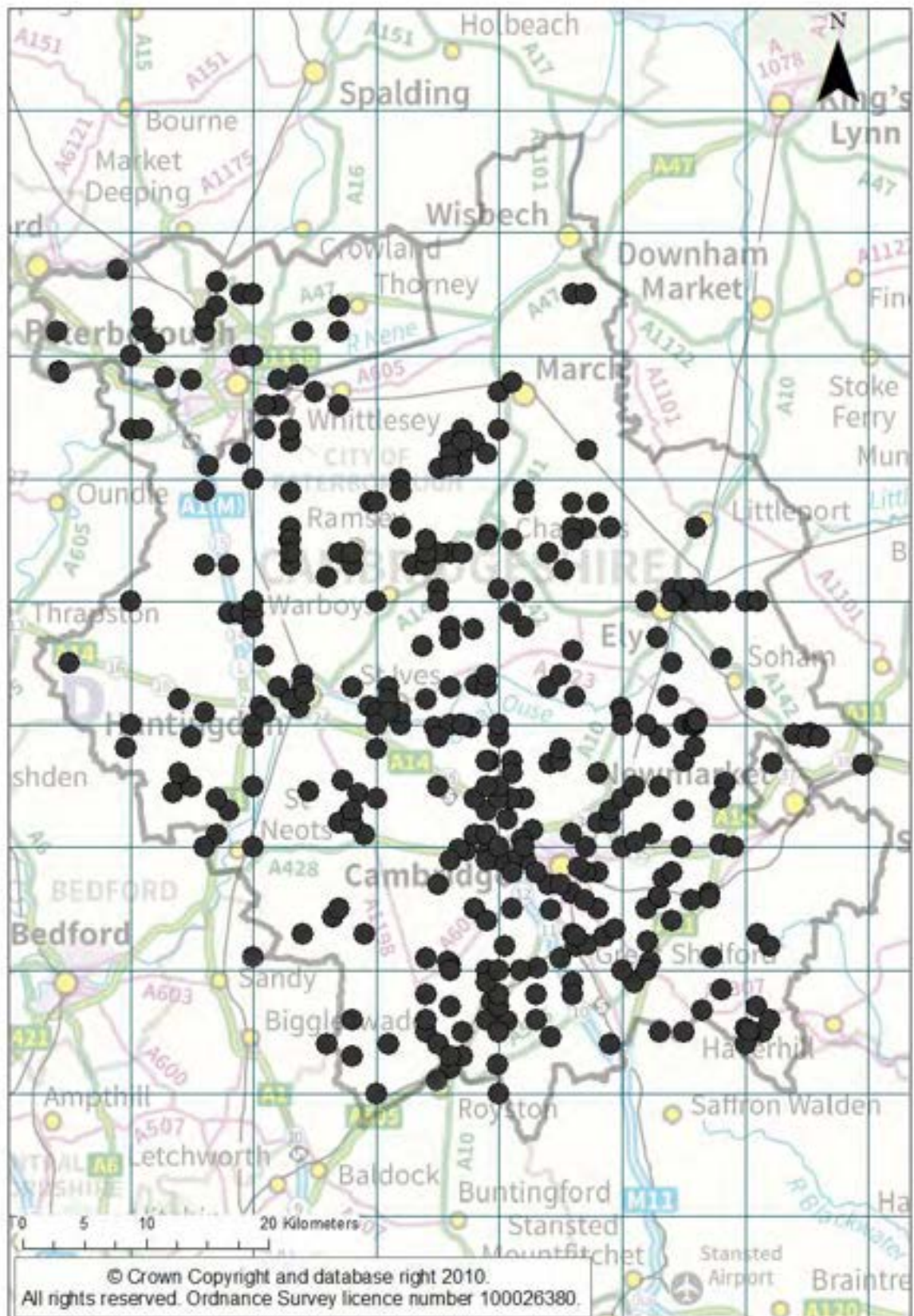
Identification: A small bat with ginger fur and slightly paler underparts, they are paler on the face than the common pipistrelle and are slightly smaller.

General: A native species which forages in a variety of habitats, particularly woodland edges. They feed mostly on small insects such as mosquitoes and small moths. Mating takes place in the autumn and one or two pups are born in late spring in large maternal roosts and weaned after 6 weeks. Roosts are often in buildings particularly churches in which they often hibernate.

Distribution - UK: There are approx. 720,000 distributed widely throughout the UK except the far north of Scotland. The population is stable.



Soprano Pipistrelle distribution – Cambridgeshire: Soprano pipistrelles are widely distributed throughout Cambridgeshire apart from the north-east of the county.



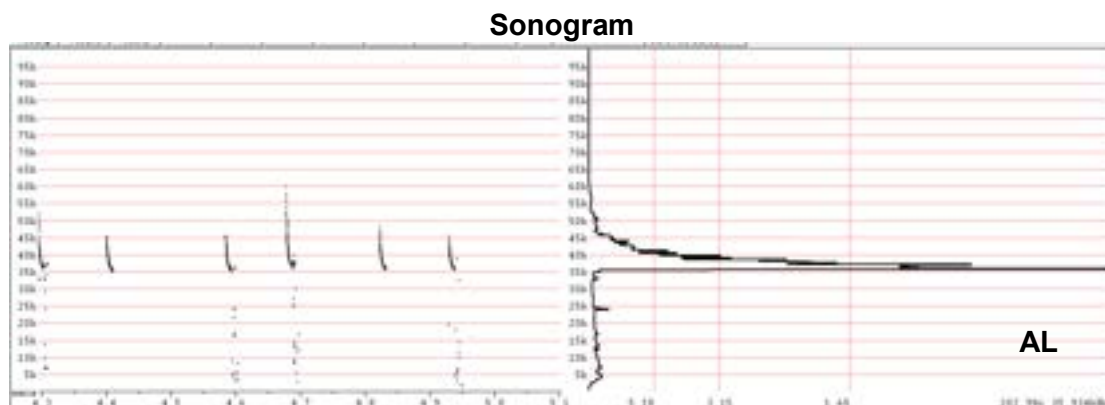
Nathusius' Pipistrelle (*Pipistrellus nathusii*)



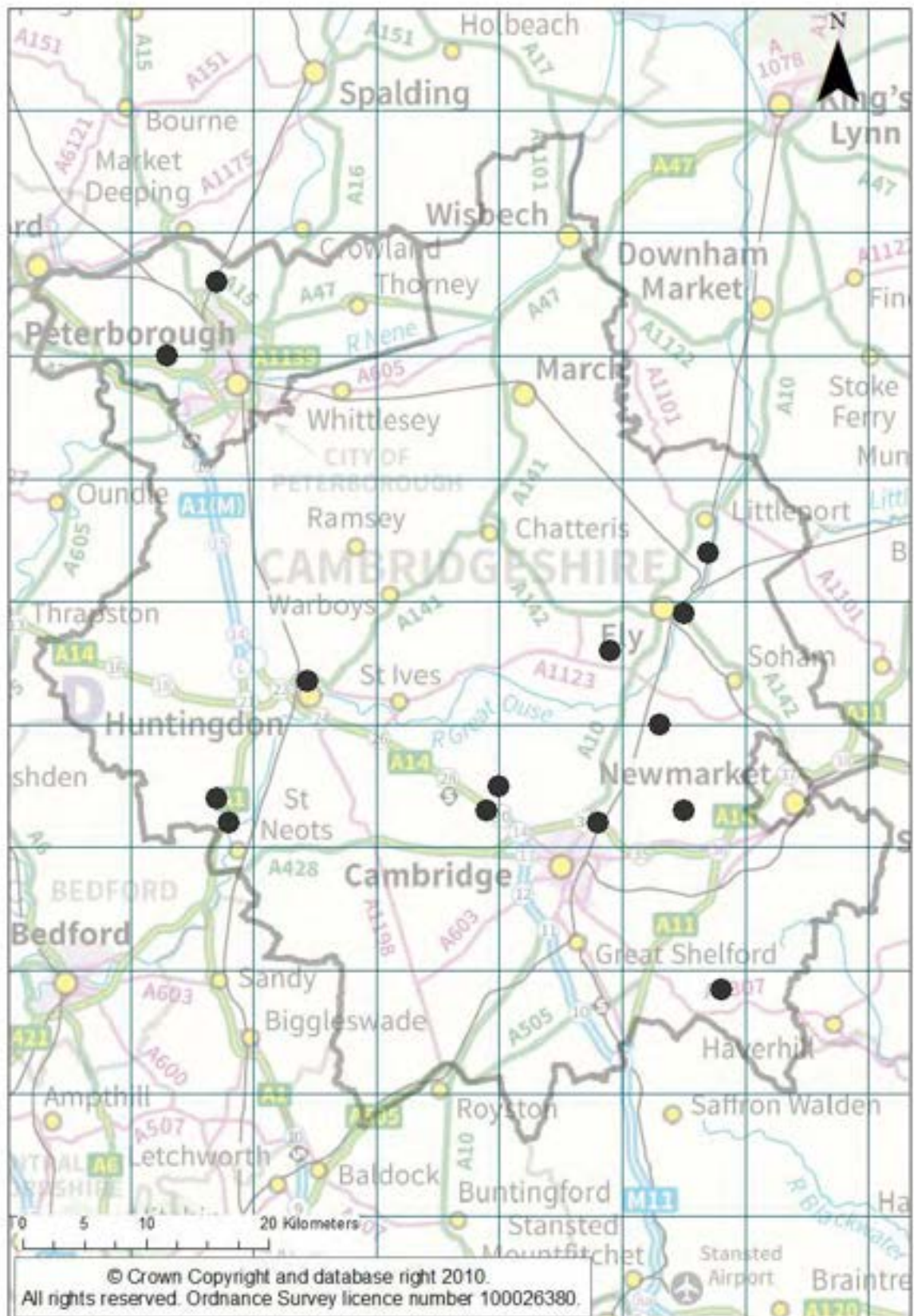
Identification: A very small bat but the largest of the UK pipistrelles with longer broader wings. The upper fur is reddish-brown and shaggy in appearance and the underparts are paler. The face and ears are dark and the nose is more prominent than other pipistrelles.

General: A native species which likes to forage over freshwater or in woodland and farmland adjacent to water bodies. They feed mostly on very small insects such as mosquitoes and small moths. Mating takes place in the autumn and one or two pups are born in late spring in large maternal roosts and weaned after 6 weeks. Roosts are in tree hollows or old buildings and hibernacula are usually in tree holes or cracks in walls.

Distribution - UK: The population has not been determined but thought to be a few thousand in England but significantly more in Northern Ireland. There are small populations in Wales and eastern Scotland and they are restricted to south and east England.



Nathusius' Pipistrelle distribution – Cambridgeshire: There are only a handful of records, all associated with freshwater bodies.



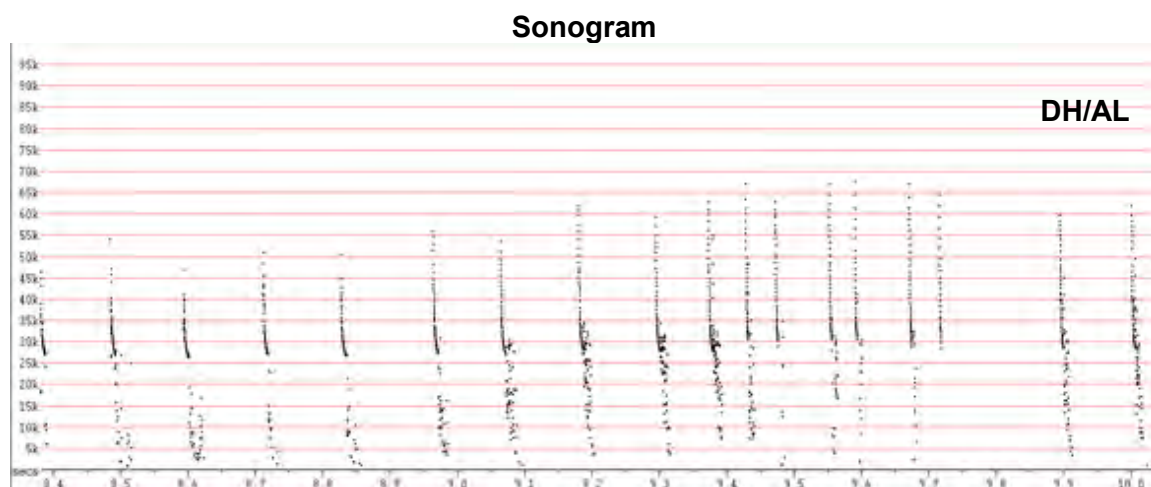
Serotine (*Eptesicus serotinus*)



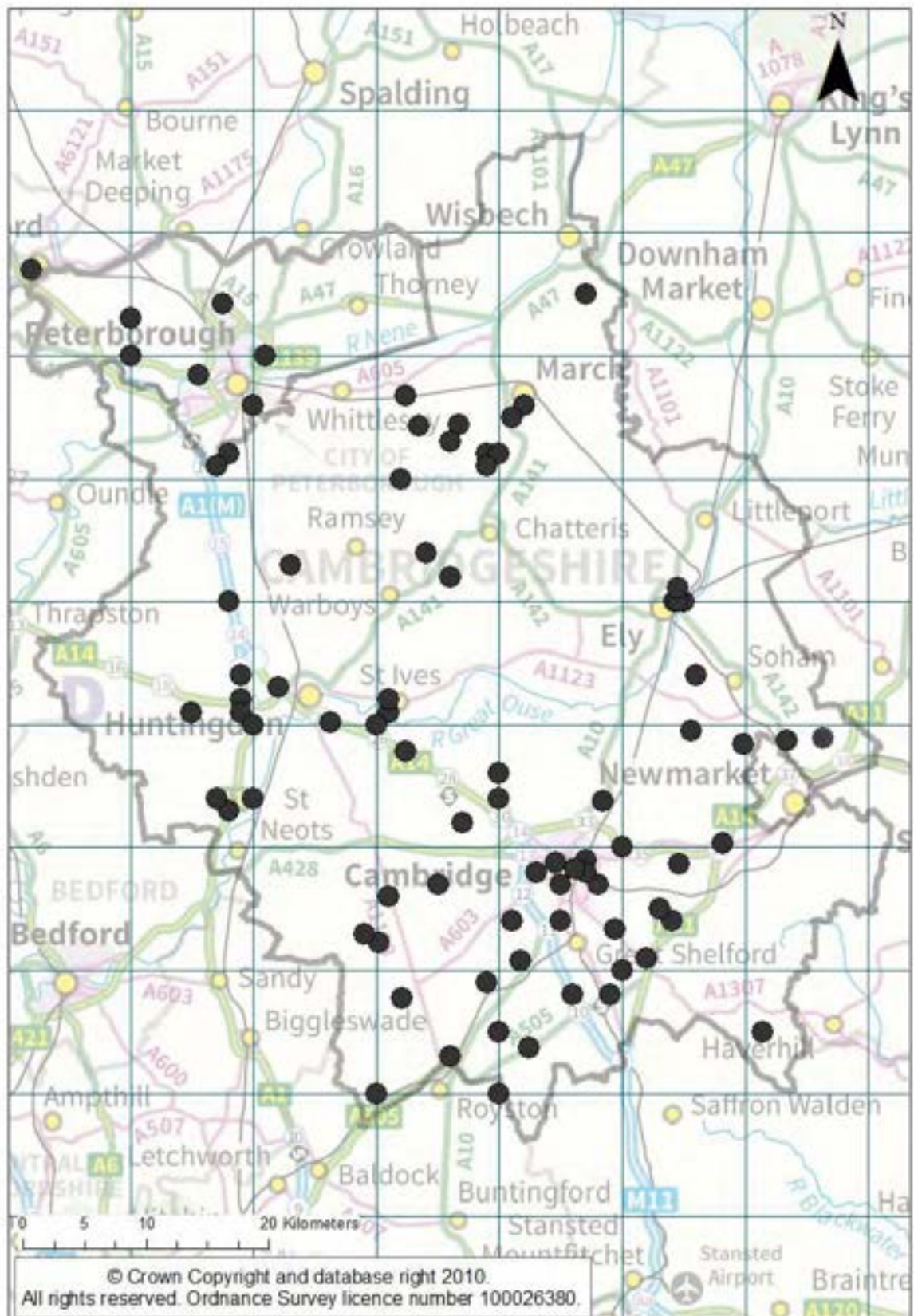
Identification: A large bat with dark brown fur - paler on the face and underparts. They have dark ears and a dog-like face with exceptionally large teeth. They have very large broad wings but their large ears are diagnostic.

General: A native species which likes to forage in woodland and farmland. They are agile flyers feeding mostly on very large beetles and large moths. They regularly take food from the ground and can eat large prey on the wing. Mating takes place in the autumn and a single pup is born in late spring in small communal maternal roosts and weaned after 6 weeks. Roosts and hibernacula are usually in old buildings.

Distribution - UK: There are approx. 15,000 distributed widely throughout the south of England - mostly south of a line from the Wash to the Severn. The population is stable.



Serotine distribution – Cambridgeshire: Serotines are thinly distributed in Cambridgeshire - at the northern limit of their UK range.



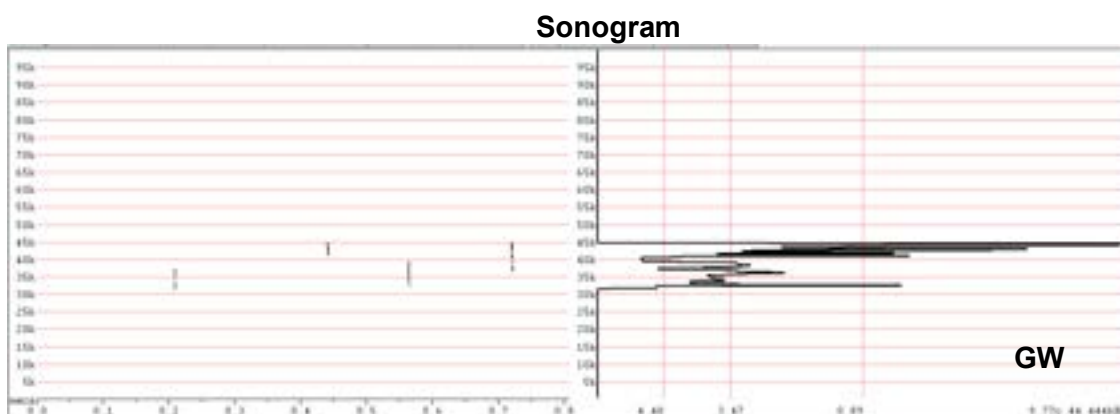
Barbastelle (*Barbastella barbastellus*)



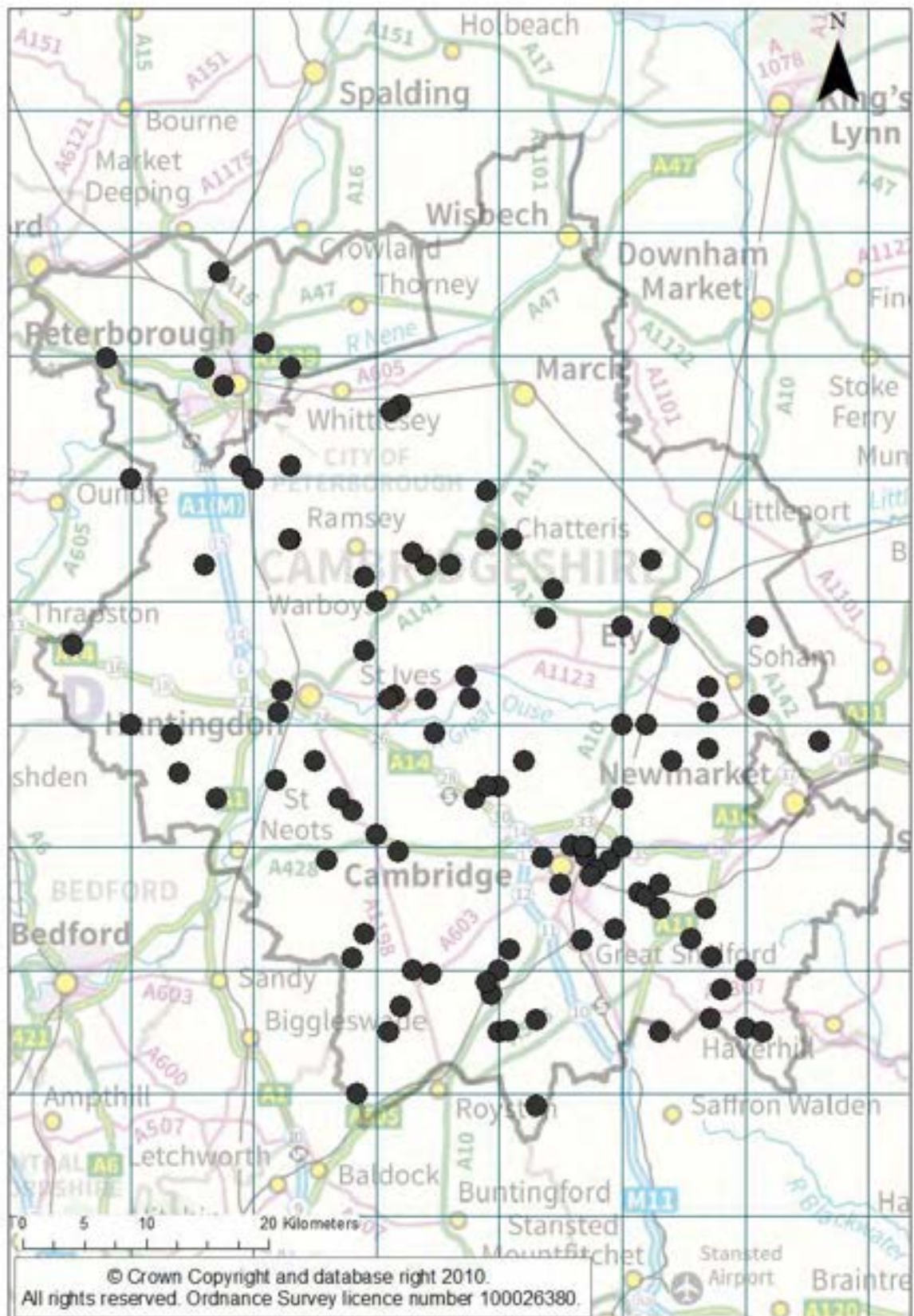
Identification: A medium sized bat with very dark brown fur with pale tips giving a frosted look. The dark face is very distinctive in shape and the bat cannot be confused with any other species.

General: A native species which likes to forage in woodland, wet meadows, along rivers and farmland. They are agile slow skilful flyers feeding mostly on small insects caught in the air or gleaned from foliage. Mating takes place in the autumn and a single pup or occasionally twins are born in early summer in small communal maternal roosts and weaned after 6 weeks. They are migratory and may travel large distances. Roosts and hibernacula are usually in trees or underground. They may forage in mild weather during the winter.

Distribution - UK: It is a rare bat with a population of approx. 5,000 distributed thinly throughout the south of England and south Wales. The population is stable.



Barbastelle distribution – Cambridgeshire: Barbastelle's are a rare bat restricted to the wooded parts of the county. They breed and hibernate in the county.



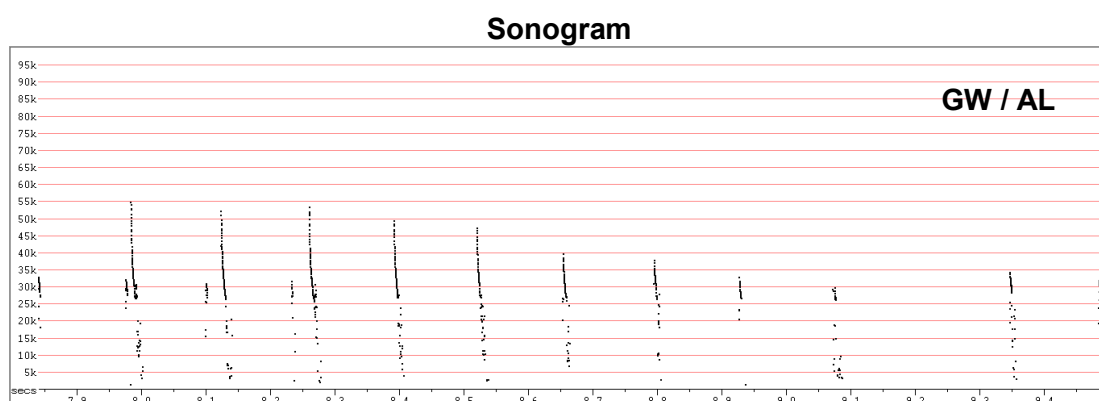
Brown Long-eared Bat (*Plecotus auritus*)



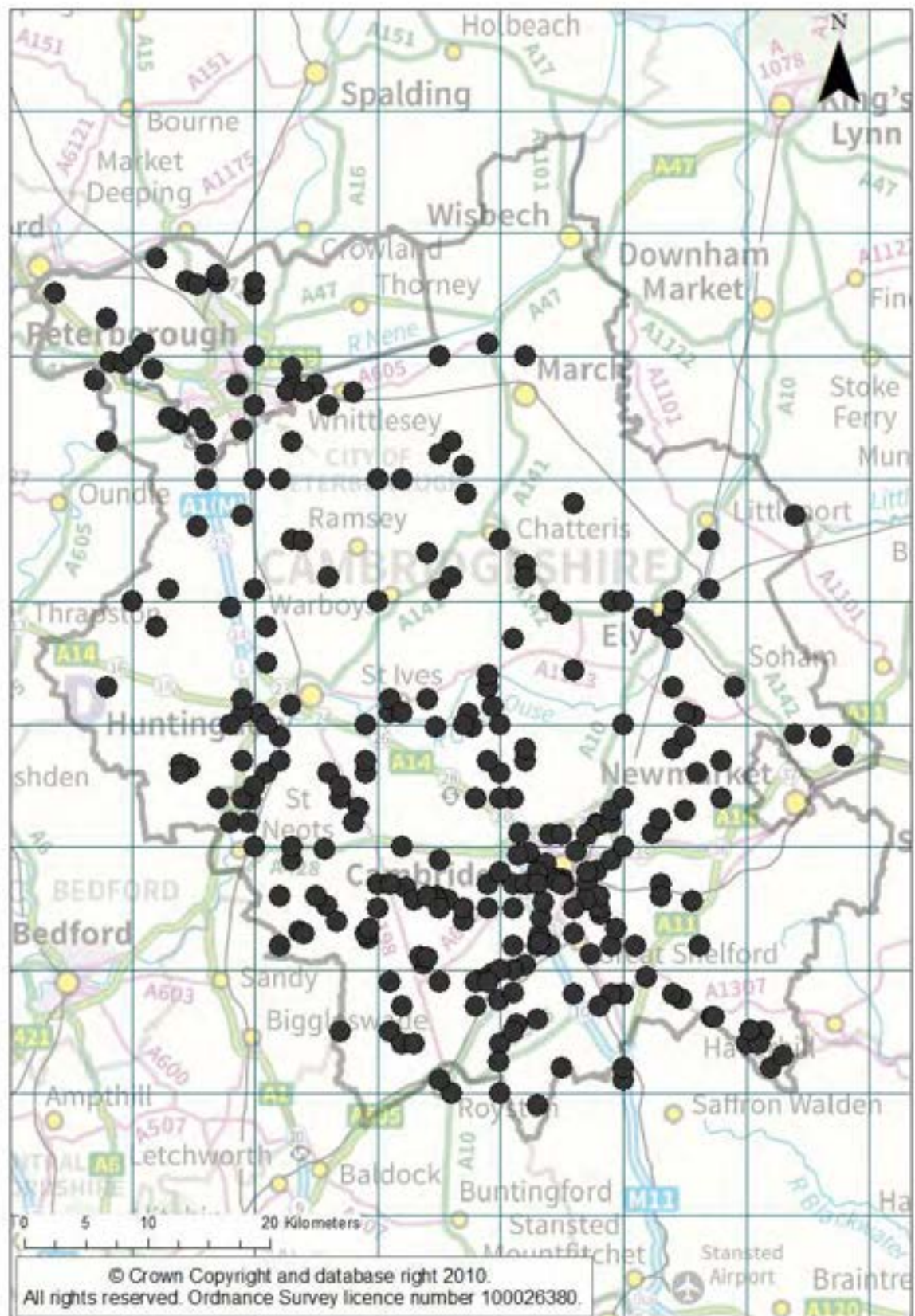
Identification: A medium-sized bat with long grey brown fur with white fur underneath. They have incredibly large ears to hear their very quiet echo location calls. The ears are tucked under the wings when at rest.

General: A native species which likes to forage in woodland, hedgerows and farmland usually following linear routes. They are slow flyers but are very agile and can even hover. They can catch prey on the wing or glean from foliage and they often roost to eat large prey. Mating takes place in the autumn and a single pup is born in late spring in small communal maternal roosts that frequently contain males. Pups are weaned after 6 weeks. Roosts are typically in trees and buildings. Unlike most other bat species which are found in hibernaculum in the warmest available temperature, this species choose to hibernate in areas with the lowest available temperature in tunnels and caves. They can withstand temperatures around freezing.

Distribution - UK: There are approx. 250,000 distributed widely throughout the UK apart from the far north-east of Scotland and some Scottish islands. The population is stable.



Brown Long-Eared Bat distribution – Cambridgeshire: A common bat in Cambridgeshire found in most suitable habitat.



Fox (*Vulpes vulpes*)



Identification: Unmistakable - there are no confusion species.

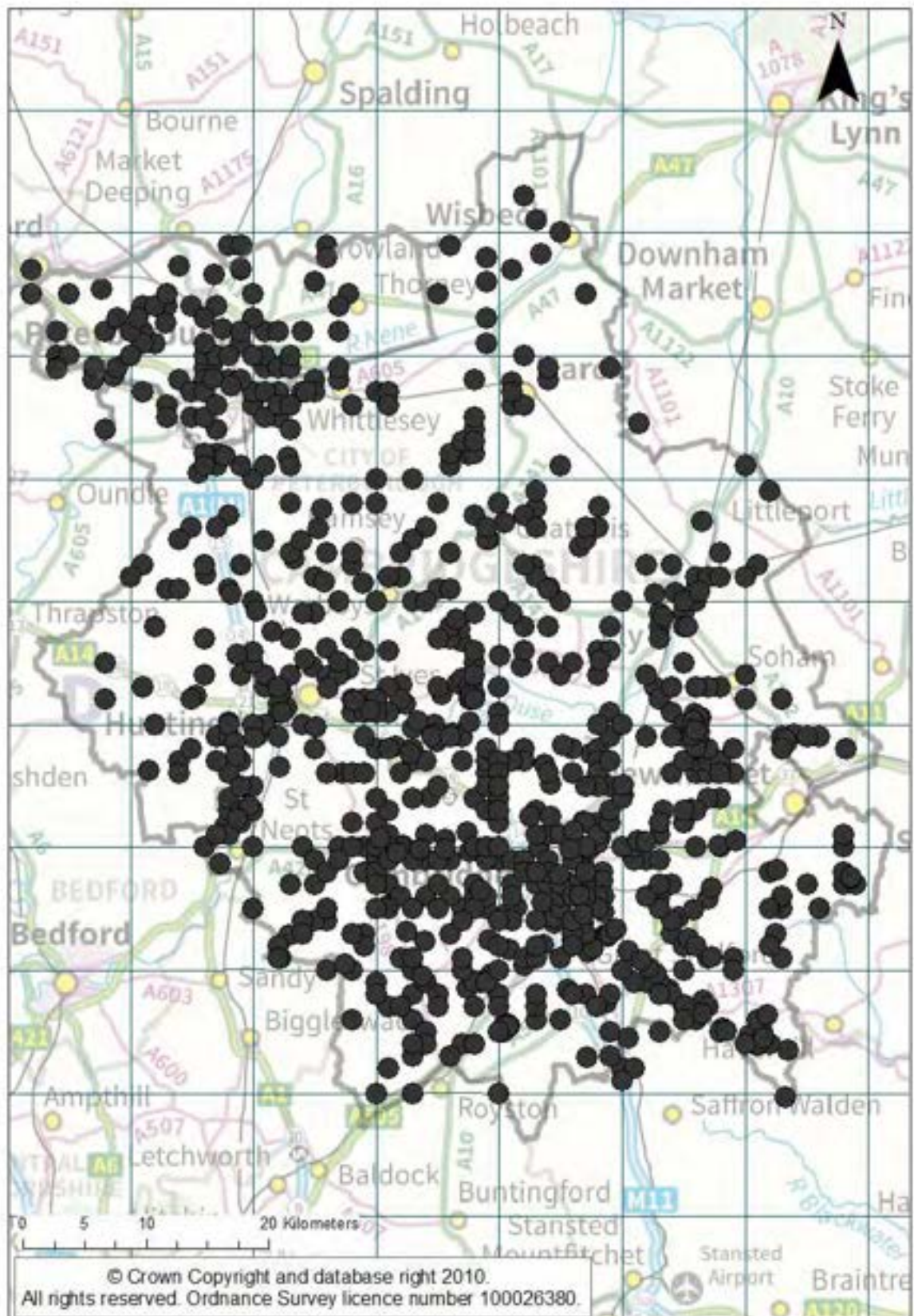
General: A native species common in the countryside and increasingly in urban areas. Mating takes place during the winter months and the courtship can be very noisy! Foxes usually live in a breeding pair and raise cubs in a den called an earth. They have a territory which they may share with other adults, particularly previous years' cubs. Up to five cubs are born in the spring and they can reproduce the following year. Foxes are intelligent and opportunistic, and have readily adapted to urban environments in the last 50 years or so. Their traditional habitat is woodland and farmland but they also occupy marshes, mountains and moorlands. They are primarily carnivorous with rabbits, mice, voles and ground-nesting birds the main prey. They also take carrion and in the urban environment rely heavily on human food waste. Man is the only threat to foxes with road traffic collisions being the major cause of death, but they are also shot and snared.

Distribution - UK: There are approx. 250,000 foxes distributed widely throughout the UK in all parts except for some Scottish islands. The population is stable.

Footprint



Fox distribution – Cambridgeshire: Foxes are widely distributed in Cambridgeshire particularly in the western and southern areas



Badger (*Meles meles*)



Identification: Unmistakable - there are no confusion species.

General: Most common in areas containing deciduous woodland and pasture. They generally live in social groups based within a burrow system called a sett. The group maintains a territory, usually patrolling the boundary regularly and marking it with scent and latrines. Mating occurs in spring but implantation is delayed until December with cubs born in February, usually 1-3 per litter.

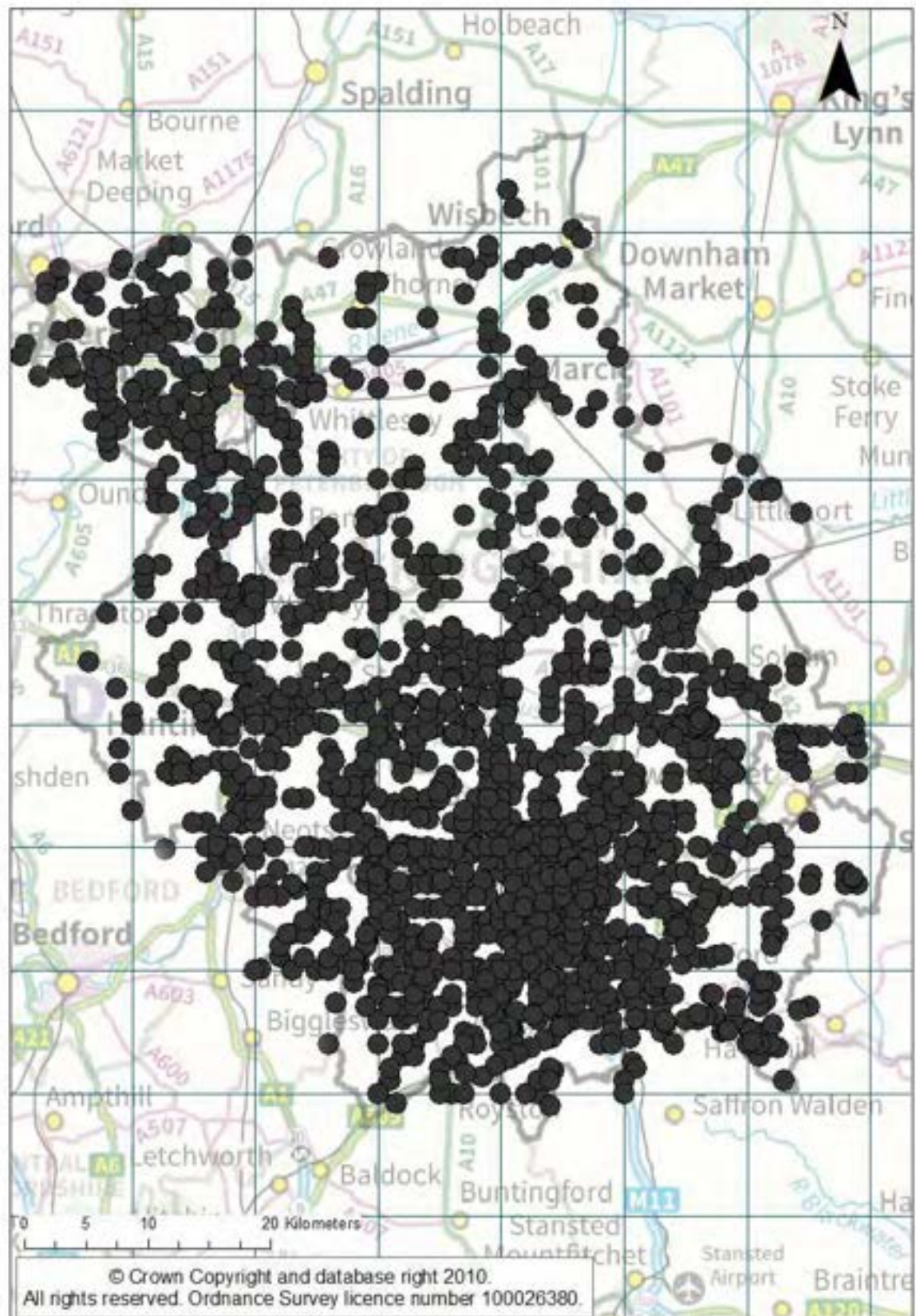
Badgers are omnivorous taking a wide range of animal and plant food. Their main food item is earthworms but they will also dig out nests of small mammals and rabbits, as well as those of wasps and bumblebees, and eat the contents. Plant food includes fruit, acorns and cereals, especially sweetcorn.

Man is the only threat to badgers with many killed on the roads. In spite of legal protection, some illegal killing occurs by shooting or digging or baiting with dogs.

Distribution - UK: Most common in the west country, but widespread throughout the UK.



Badger distribution - Cambridgeshire: Widely distributed in the county but less common in the fenland.



Otter (*Lutra lutra*)



Identification: Mink is the only confusion species - otters are much larger and the white on the face extends down the chest.

General: The otter is well adapted to the waterside environment it generally inhabits. Its webbed feet and rudder-like tail enable it to move rapidly in the water in pursuit of its main prey of fish. It largely catches sedentary fish, like eels and pike, but also hunts under rocks for bullheads and loaches. It will also take crayfish, amphibians, water birds and mammals when the opportunity arises. The otter is largely nocturnal and will lie up in thick bankside vegetation during the day. Otters are territorial with females holding territories of around 12 km of river, with male territories covering 2-3 female territories. Breeding normally takes place in an underground burrow called a holt and litters of 1-3 cubs are usual, these remaining with their mother for up to a year.

After a dramatic decline in population in the 1950s-1970s due to pollution with organochlorine insecticides and hunting, the otter is now increasing in numbers again.

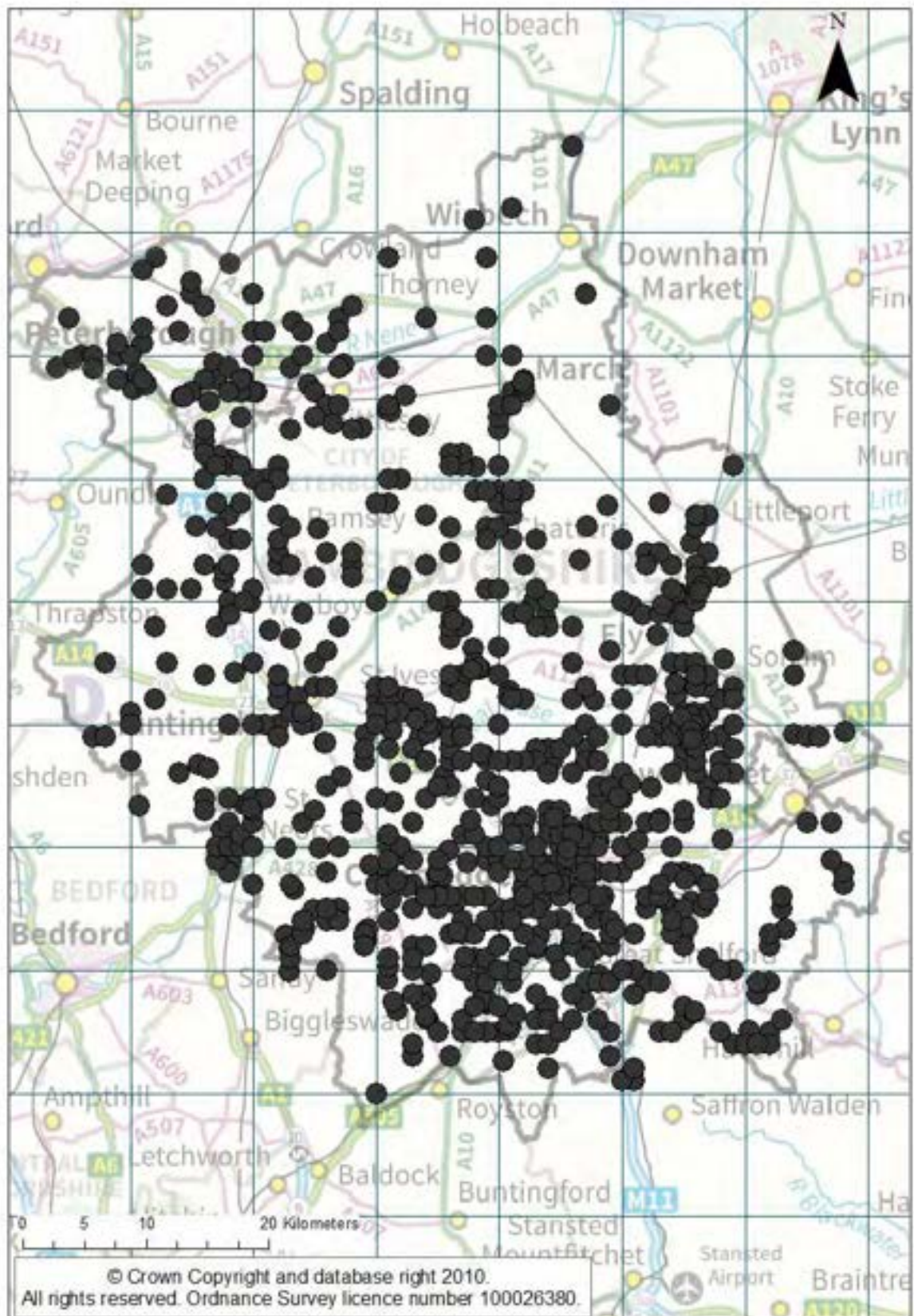
Distribution - UK

More common in Wales and the west and particularly in Scotland, especially along the west coast and islands.

Footprint



Otter distribution – Cambridgeshire: Surveys show a steady increase from a low point in the 1970s – otters are now found in most watercourses in the county.



Stoat (*Mustela erminea*)



Identification: The stoat is a small, long-bodied member of the weasel family, brown above and white below with clear straight-line demarcation between the two and a long tail with a very obvious black tip. In Britain it is very unusual for stoats to turn completely white (to become 'ermine') in winter although this does happen in more northerly latitudes.

General: Although the stoat will prey on voles and mice, being larger than the weasel it is also able to tackle larger prey such as rabbits, rats and ground-nesting birds and their eggs and nestlings.

Mating takes place in the summer and a single large litter of kits is produced. These develop quickly and can become independent within 3 months.

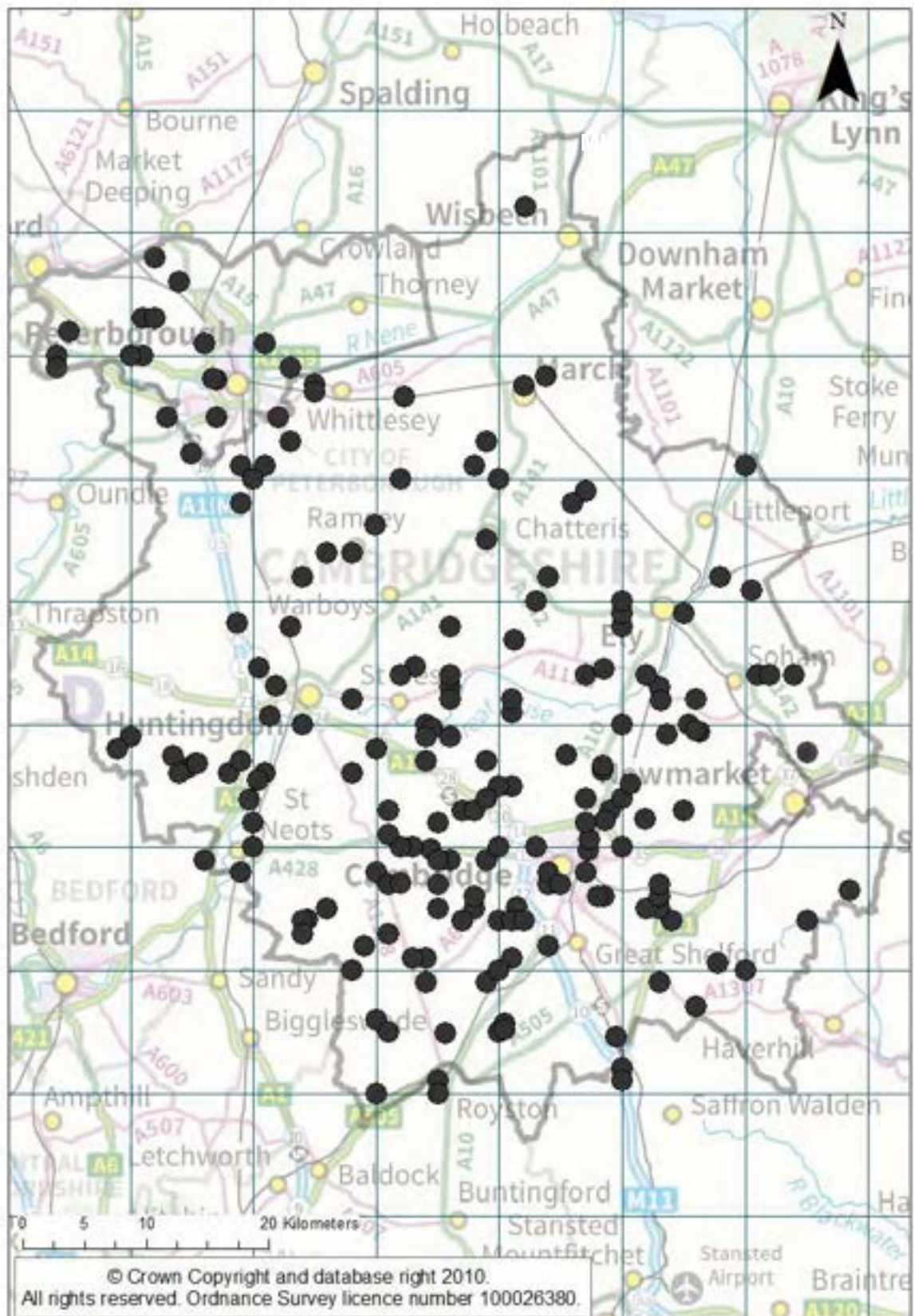
The stoat may occasionally be taken by larger predators such as foxes, cats or eagles and is heavily targeted by gamekeepers as it is perceived as a predator of game birds.

Distribution - UK: Widespread, including upland areas, but thought to be declining in numbers.

In ermine



Stoat distribution - Cambridgeshire: Stoats are widely distributed in Cambridgeshire and found in most habitat types.



Weasel (*Mustela nivalis*)



Size: 17-25cm –4cm tail
Weight: 50-100g
Lifespan: max.3 years

Identification: The weasel is Britain's smallest carnivore with a long narrow body and short legs, brown fur above and white below with an irregular line parting the two. It could be confused with the stoat. However, stoats are larger with a longer black-tipped tail.

General: The weasel is a predator specialising in voles and mice and due to its small size it can hunt these within their burrows. Field voles are their favourite prey. They will also take young rabbits, eggs and nestling birds, particularly if rodents are sparse.

Mating takes place in April-July and females produce litters of 4-5 kits which become independent within 3 months.

Weasels can fall prey to foxes, cats and owls, and are subject to shooting and trapping by gamekeepers.

Distribution - UK: Widespread but thought to be declining in numbers.

With prey



Polecat (*Mustela putorius*)



Identification: These can easily be confused with feral polecat-ferrets, although true wild polecats will have a darker mask and blunter muzzle.

General: A native species now making a recovery from heavy persecution by gamekeepers in the 19th/early 20th century. They tend to show white underfur partly covered by dark guard hairs, which distinguishes it from the similarly-sized but uniformly black mink. Polecats and ferrets can interbreed and the resultant hybrids can be particularly difficult to distinguish from polecats in the field. Mating takes place in March/April and litters of 5-10 kits are born in May/June. These become independent at 2-3 months old. The polecat's main prey animals are rabbits and rats which are often killed within their burrows by a neck bite. Other prey items include small mammals, amphibians and ground-nesting birds. Polecats have no natural predators in the UK but, in spite of having legal protection now, they are still shot or trapped and many are killed on the roads.

Distribution - UK: Main stronghold is Wales but they are spreading eastwards.

Ferret



American Mink (*Mustela vison*)



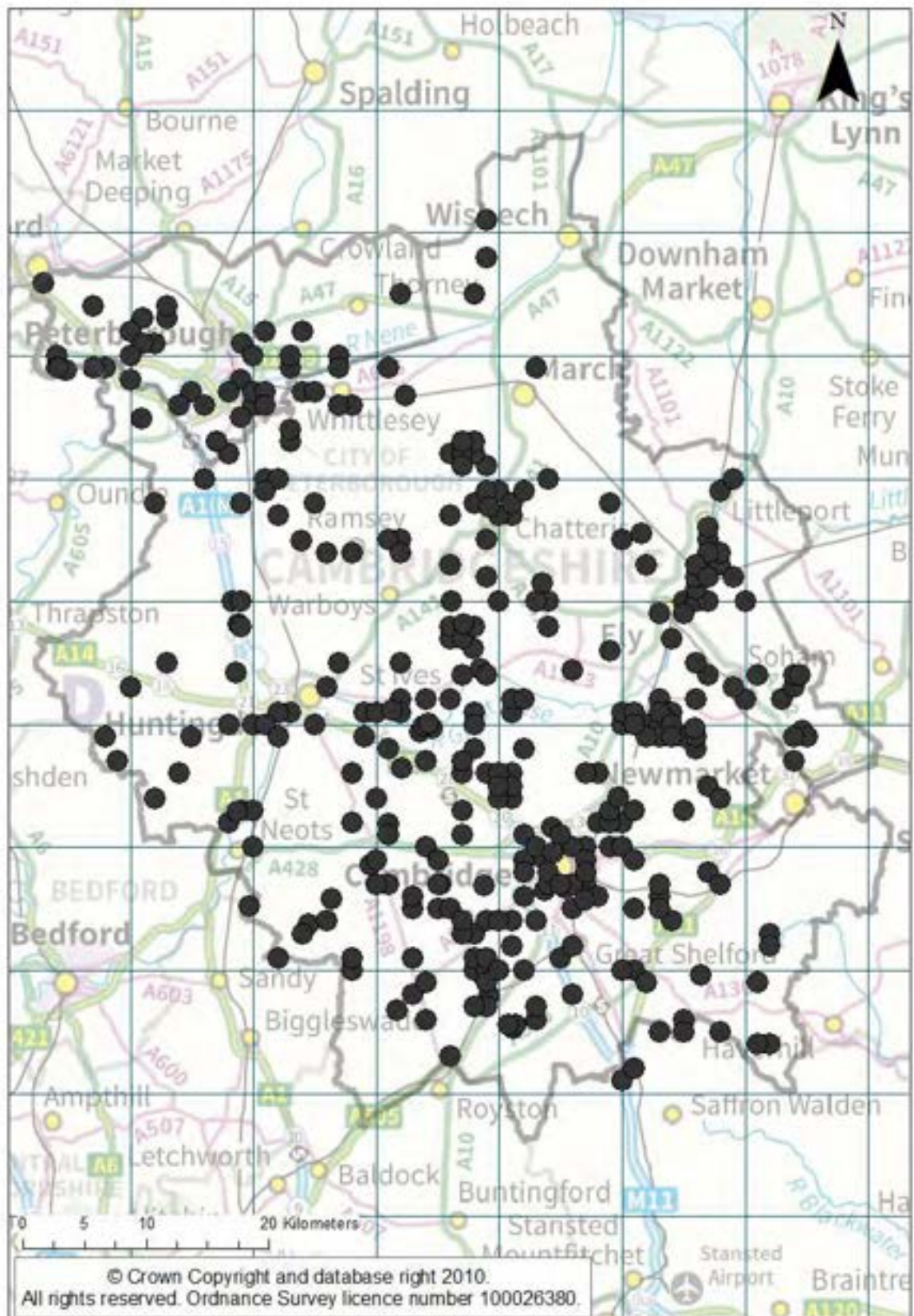
Identification: Otter is the only confusion species - mink are smaller and darker and have a tiny white chin.

General: The American mink now in the wild are the progeny of those which have escaped or been released from fur farms. Mink can no longer be legally farmed in the UK. Like the otter, the much smaller mink usually frequents the waterside environment. It is less well adapted to fishing however and, although fish constitute an important part of its diet, so do amphibians, birds and mammals. It has been largely instrumental in the severe decline of the water vole. It also hunts in the wider environment where rabbits and rats are important prey. The mink is territorial with male and female territories overlapping. It may have several dens within the territory often in or under waterside trees or in vacant rabbit burrows. Mating takes place in March-April time with 4-6 kits produced in May. Although it has been suggested that larger predators such as otters or foxes could kill mink, there is limited evidence for this. Although some have always been shot or trapped, recent efforts to aid water vole survival by mink control using the Game and Wildlife Conservation Trust raft system have been particularly successful.

Distribution - UK: There are approximately 100,000 mink distributed widely throughout the UK in all parts except for some Scottish islands. The population is declining.



American Mink distribution - Cambridgeshire: Mink are widely distributed in Cambridgeshire particularly in the eastern fens area.



Common Seal (*Phoca vitulina*)



Identification: These have a variable coat colour with small numerous dark spots. The head has a concave profile and nostrils form a V-shape.

General: They are opportunistic feeders which is possibly why they sometimes appear inland in Cambridgeshire. They eat 3 – 4kg of fish per day and are able to dive for up to 10 minutes. Common seals are smaller than the grey seal. Although there is a small difference in size and weight between the sexes, their similarity makes it difficult to tell them apart. Common seal pups are born in late June/early July and are able to swim immediately. They suckle for approximately 4 weeks both in and out of the water. The female will mate again once her pup is born.

Swimming



Distribution - UK : On the east coast, occurring in estuaries and sandbanks, in small groups - widespread along the west coast of Scotland.

Common Seal distribution - Cambridgeshire: Sightings of the common seal in Cambridgeshire cause a stir in the press but regular sightings indicate that individuals are using the tidal rivers Ouse and Nene to travel inland and occasionally they breed.



Reeve's Muntjac (*Muntiacus reevesi*)



Identification: They are the smallest deer in Britain, approximately the size of a large dog and with a distinctive hunched back appearance. Both males and females have dark face markings which distinguish them from Chinese water deer. Females have a diamond-shaped marking whereas males have a dark V-shape starting at the nose. The coat of both sexes is reddish-brown. Males have short straight backward pointing antlers and protruding upper canines.

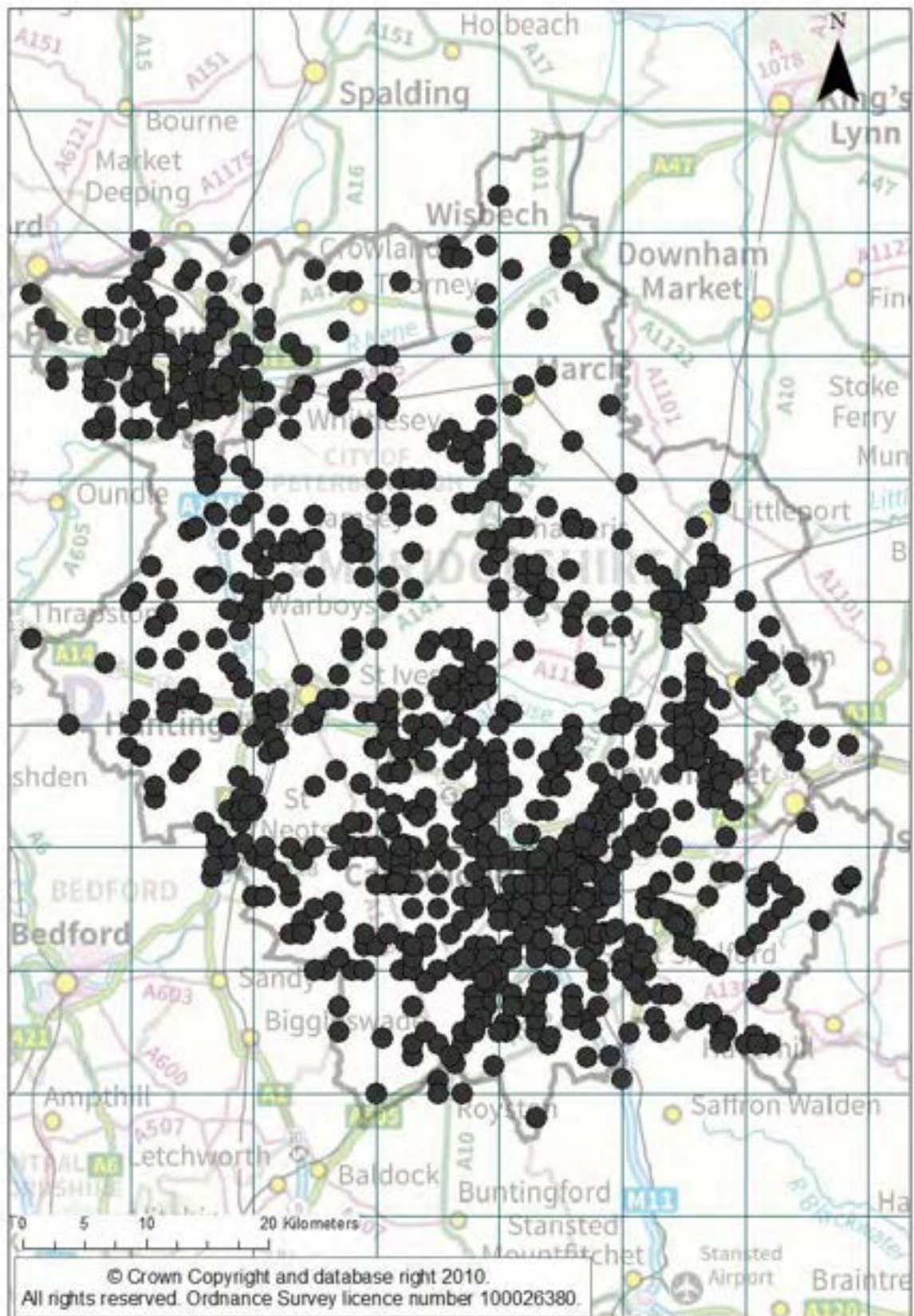
General: Breeding occurs throughout the year with the male mating with any female in oestrus. Due to postpartum oestrus, the female may have continuous pregnancies for many years. As browsers they have a wide varied diet and are able to adapt to living in close proximity to humans. They can often be seen in gardens and city parks.

Distribution - UK: They are widespread across East Anglia, the Midlands and north-east England, with increasing populations seen in south Wales and the south-west of England.

Footprints



Reeve's Muntjac distribution – Cambridgeshire: Very common in all habitat types and very widespread.



Red Deer (*Cervus elaphus*)



Identification: This is the largest UK land mammal. The coat is reddish-brown changing to grey in winter while the rump is buff coloured with a dark tail. As an adult it does not have spots. Males grow branched antlers which they shed in February.

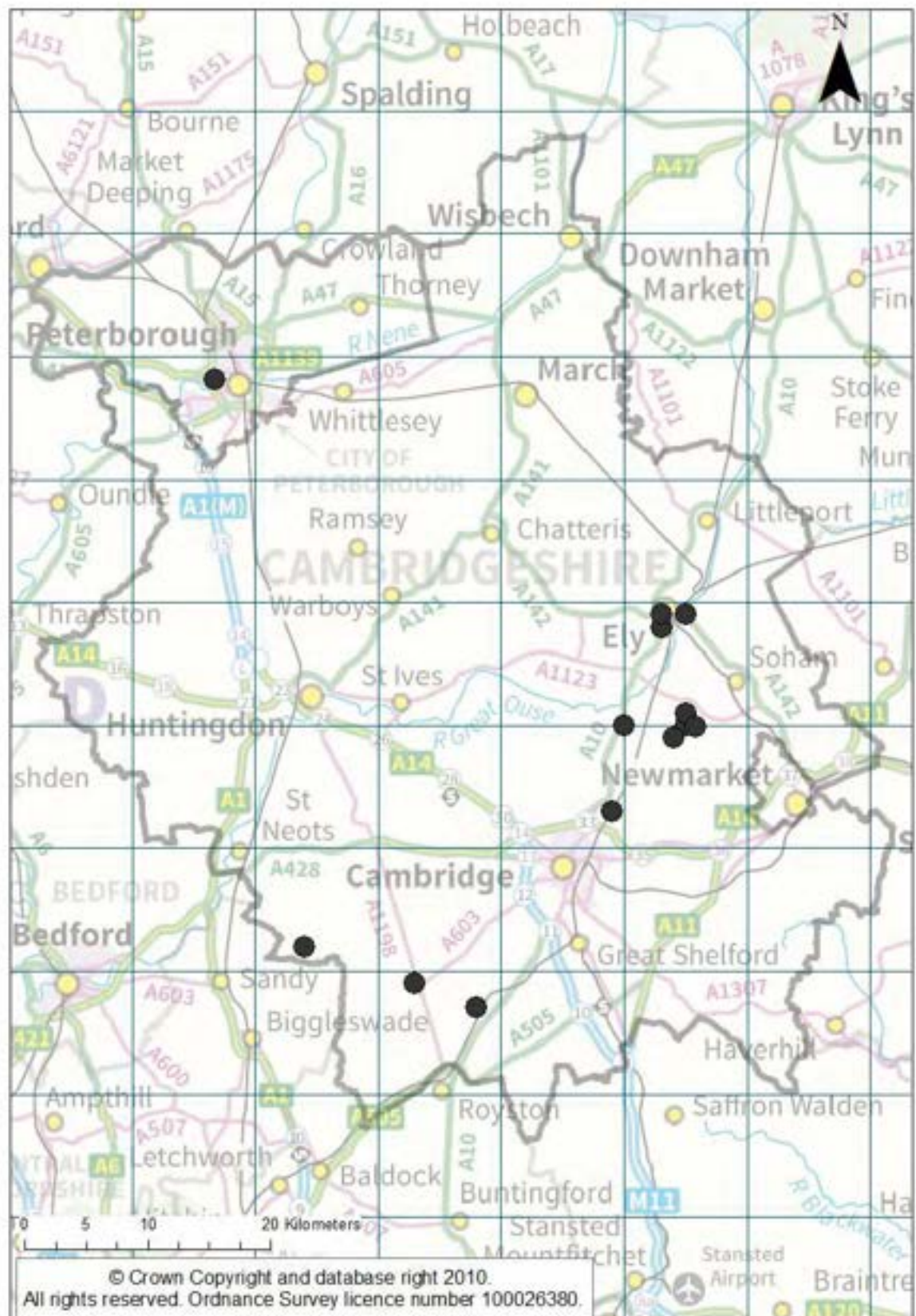
General: Red deer live in separate sex herds throughout the year. Females tend to stay with the maternal herd until they are mature and produce young at 3 to 4 years of age. In the autumnal rut the males are solitary and attempt to hold a group of females within their area. They respond to challenges from other males by roaring, gathering vegetation in their antlers and parallel walking with occasional head to head clashes.

They prefer mature woodland, browsing on shoots and bark but will occasionally be seen in agricultural land. They are most active at dawn and dusk. Damage to trees occurs when the males rid their antlers of velvet.

Distribution - UK: It is believed that there are more than 360,000 red deer across the UK (particularly in Scotland) as numbers have increased dramatically in the last 50 years.



Red Deer distribution – Cambridgeshire: A very scarce species, with very few records mainly in the east of the county probably from larger populations in adjacent counties.



Sika (*Cervus nippon*)



Identification: There is considerable variation in the size and appearance of Sika. The summer coat is chestnut to fawn with distinct white spots. In winter the dense coat is grey to black without the spotting. The white caudal patch outlined in black may be confused with fallow deer but can be distinguished by the black striped tail only extending halfway down the patch. Stags have no more than 5 points on their antlers.

General: Sika were introduced to Britain in 1860. A number of feral populations have established from escapees. Where red deer are present, hybrid populations have formed. These deer are solitary or a hind with calf until the rut when aggregations of both sexes occur. However it is unusual to see more than 5-6 deer together. During the rut the stags produce a high pitched whistle which is audible up to 1km away or a deep moan which does not carry far. The rut begins at the end of September and females will leave over wintering aggregations in March to give birth.

Distribution - UK: They have strong populations in north-west and southern Scotland, north-west England and Dorset, along with a small isolated population in East Anglia.



Sika distribution – Cambridgeshire: Sika are very rarely recorded in Cambridgeshire with all records coming from the south and east of the county.



Fallow Deer (*Dama dama*)



Identification: The coat colour is variable. In summer it is chestnut with spots that are generally white but may be fawn to black. The winter coat is grey brown with fewer spots. The white rump is outlined by a black horseshoe with a black stripe running centrally down the tail. Only the males grow antlers which are broad and palmate.

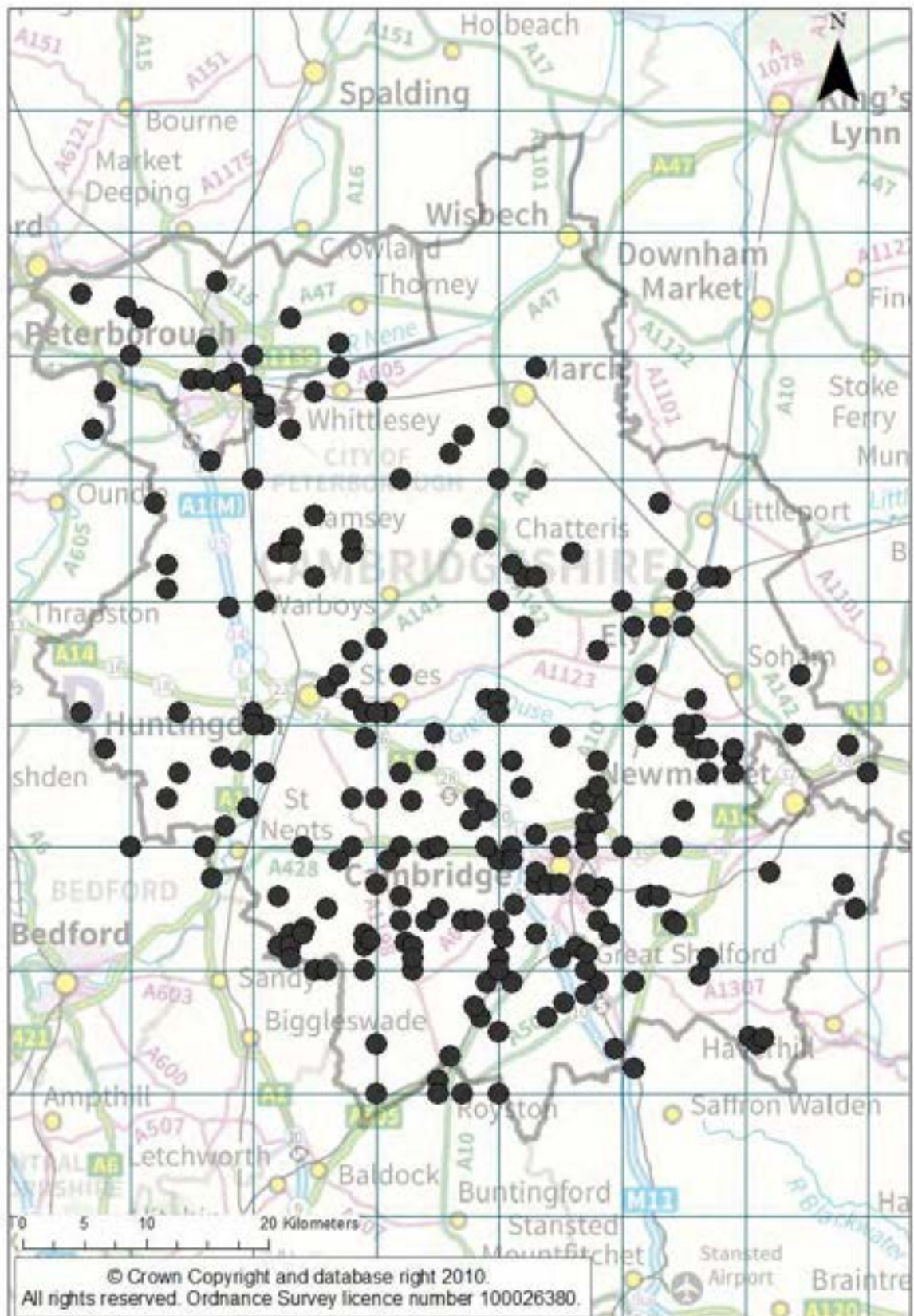
General: They live in medium-sized mixed herds grazing on a wide variety of plants in both young plantations and deciduous woodland. Where the density of the deer is high they may be seen in single sex herds. Rutting is accompanied by barking coughs and concentrated in specific leks. The young are born in May and mature at 2 years old. Fallow deer were introduced by the Normans and are still associated with parklands.

Distribution - UK: The scattered nature of the distribution reflects the association with parkland. Predominantly they are in the south and east of England, across central Wales and in a few small areas of Scotland.

Footprints



Fallow Deer distribution – Cambridgeshire: Fairly widespread in the county but scarce in the fens.



European Roe Deer (*Capreolus capreolus*)



Identification: Roe deer are goat-size with sandy/brown coats in the summer turning to grey/brown in winter. They have a white inverted heart-shaped rump and a short white tail, black nose and white chin patch. Male antlers, which are shed in November, are small, fringed and branched.

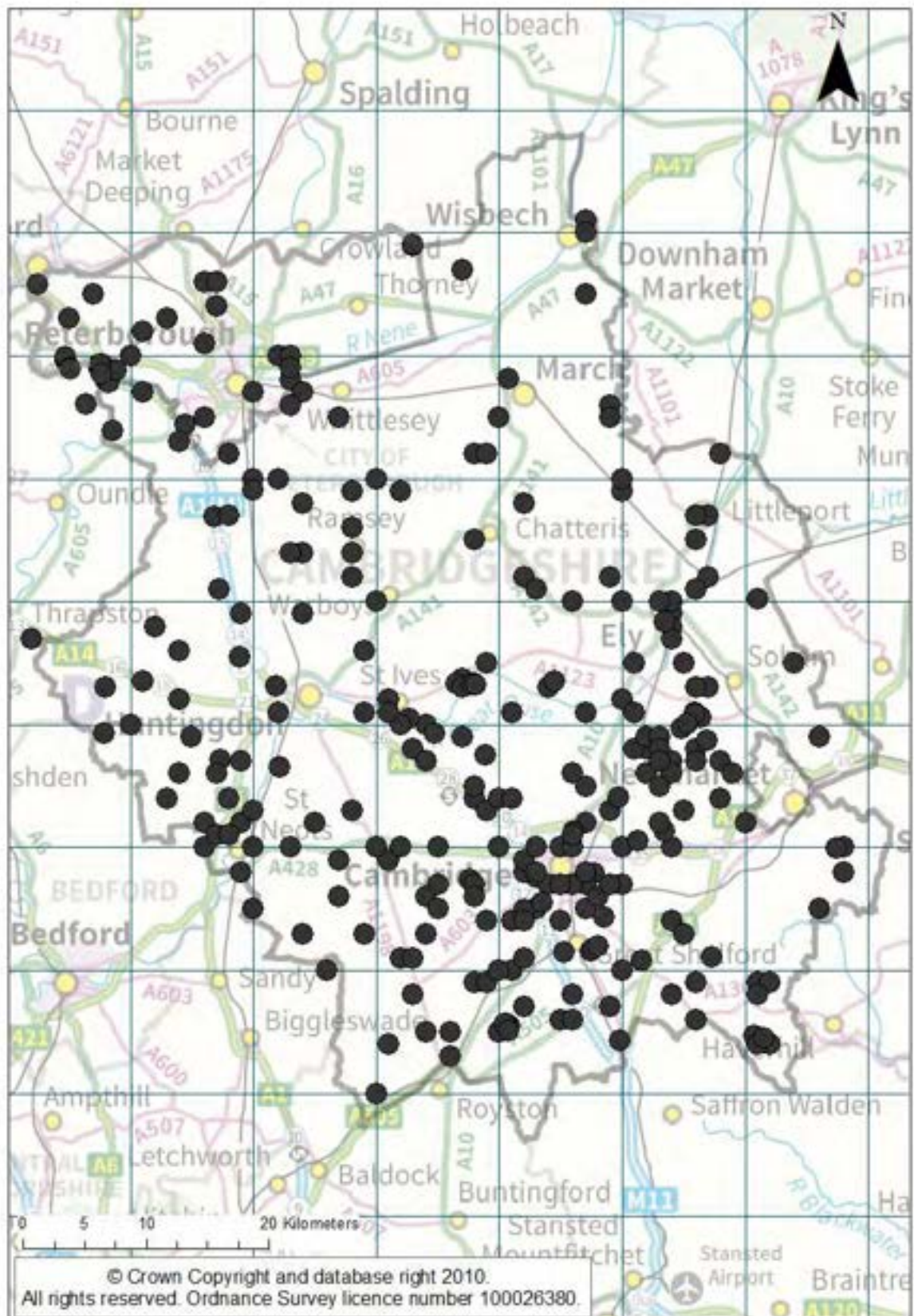
General: They may be seen singly or in twos or threes in areas of scrub and open woodland with dense undergrowth. If alarmed they will bark loudly as they leap away. The males establish breeding territories in late spring and will mate in July/August. It is common for the female to give birth to twins in May/June - she hides them in undergrowth for the first week.

Distribution - UK: Widespread across Scotland and northern England, East Anglia and the south-west. The population is spreading into the Midlands.

Footprints



European Roe Deer distribution – Cambridgeshire: Very common in most of the county.



Chinese Water Deer (*Hydropotes inermis*)



Identification: These are small deer with large ears and they do not produce antlers. The adult males can be recognised by their long curved upper canines.

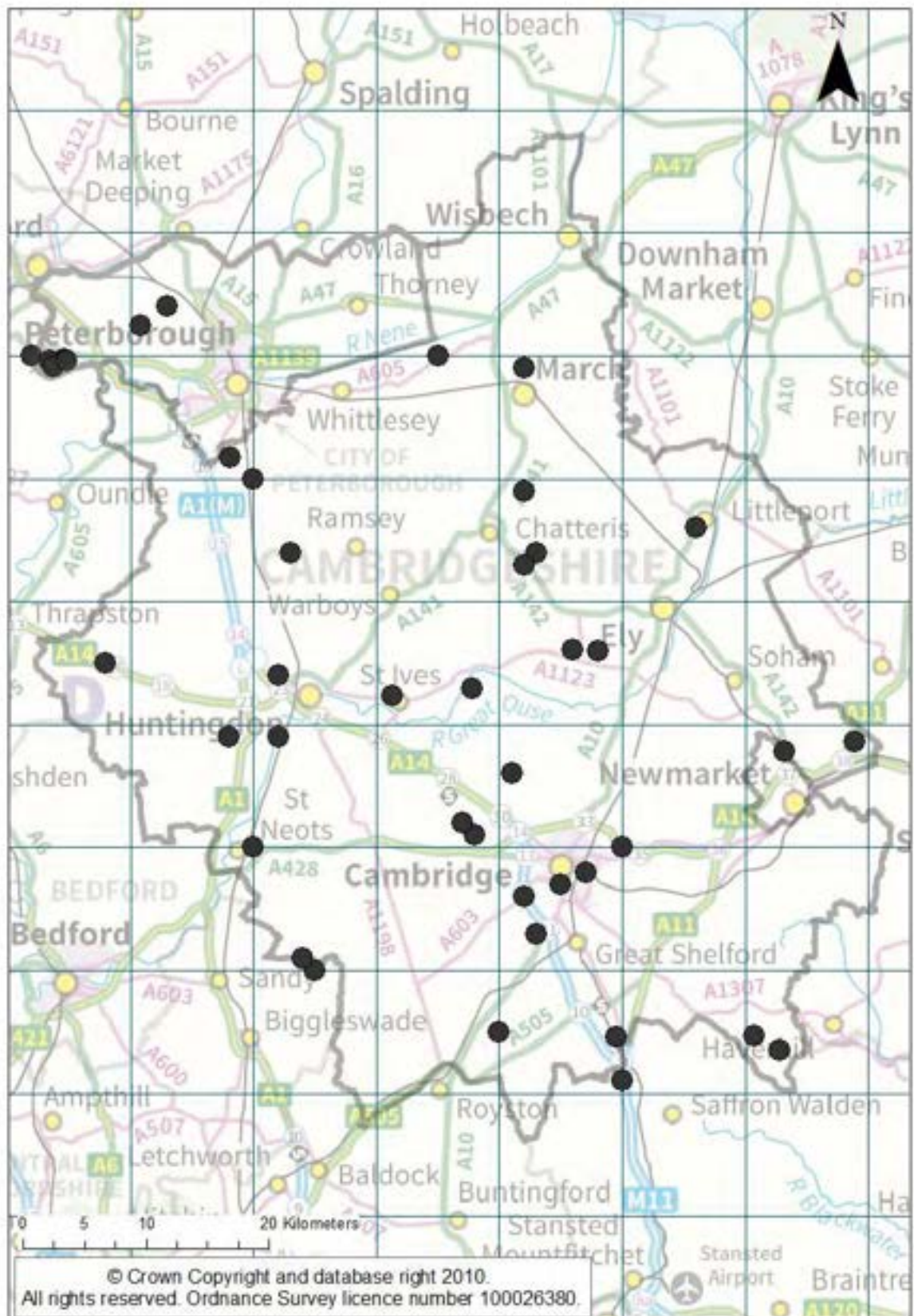
General: They were brought to Britain in 1873 and first wild sightings were in 1945. They occur in low densities in arable land but mostly in reed beds, fenlands and woodlands. They are efficient swimmers. While running away they kick their heels up. They are solitary animals – the rut occurs in December with the males holding the females within their territory. Rival males may fight with stabbing and tearing actions of their tusks and damage to ears is common. They are a chestnut-brown in summer turning to pale grey in winter.

Distribution - UK:
Concentrated in East Anglia, the strongholds being Woodwalton Fen, the Norfolk Broads and the woodland around Woburn. The population is about 1,500 and slowly increasing.

Footprints



Chinese Water Deer distribution – Cambridgeshire: Not restricted to wet habitats but very thinly distributed - found in very few locations but increasing in number.





Rat



Hedgehog



Weasel



Stoat



Polecat



Squirrel



Rabbit



Hare



Pine marten



Otter



Badger



Fox



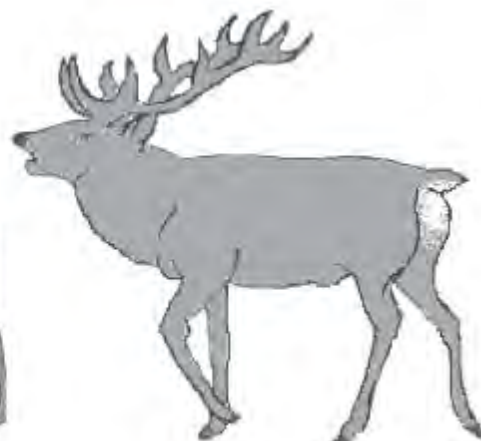
Muntjac deer



Roe deer



Fallow deer



Red deer

Drawings show the relative sizes

Cambridgeshire Mammal Atlas

Glossary

Arboreal – tree-dwelling.

Carnivorous – eating or feeding on flesh.

Caudal patch – patch on the rump.

Crepuscular – active primarily during twilight (i.e. at dawn and dusk).

Diurnal – normally only active during the day.

Dorsal – back (of an animal).

Herbivorous – animals that feed on plants.

Hibernaculum – the wintering place of hibernating animals (especially bats).

Hibernation – dormant condition over winter.

Insectivorous – feeding on insects.

Leks – patches of ground used as a setting for males' display.

Melanistic – showing excessive development of the dark-coloured pigment melanin in the skin or fur.

Nocturnal – normally only active at night.

Omnivorous – having a diet of plant and animal origin/eating food of all kinds.

Opportunistic – non-specialist (re. food, new habitats, etc.).

Palmate – having a broad flat surface – in an antler it describes the area between the tines.

Post-partum oestrus – coming into season immediately after giving birth.

Rut – annually recurring period of sexual activity in deer.

Torpid – very drowsy/in suspended animation.

Tragus – a fleshy projection which partly covers the entrance to the ear.

Velvet – the soft downy highly vascular skin that covers a deer's antlers while growing.

Ventral – relating to the front or lower surface (the ventral surfaces of the body include the chest, shins and palms).



Cambridgeshire Mammal Atlas

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