

Cumbrian mammals

a distribution atlas

Stephen Hewitt

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Cover illustration: Red Deer

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Introduction

There are 40 or so mammals recorded in Cumbria, excluding the whales and dolphins off our coast. Some are common and even increasing in numbers, whilst others are extremely rare and a few are now extinct in the county. A few non-native species have been introduced or have escaped and become established, with serious consequences in some cases. Predatory mammals were ruthlessly persecuted in the past. The Brown Bear, Wolf, Wild Boar, Beaver and Wildcat were all hunted to extinction hundreds of years ago. By 1900 many more were on the verge of extinction in the county. Fortunately, with some relaxation of keeping pressure in the 20th century, some of these species have made a come back or been reintroduced, others however remain rare and elusive.

Mammals are often rather secretive and difficult to see. Many of the records of the database are of tracks and signs left by different species, or are reports of road casualties. Reports of road casualties, especially when conducted systematically on a regularly used route, can give valuable information on the changing status of some of our species.

An account of the mammal database at Tullie House was published in the *Carlisle Naturalist* (Lurz *et al* 2005).

Acknowledgements

The records on the database have been collated from many different sources. Most have been reported by local naturalists and members of the public whilst significant numbers of records have been provided by organised groups such as the Cumberland and Westmorland & Furness Bat Groups, Red Alert North West and the Environment Agency. We are very grateful to the many people who have sent in their mammal records.

The distribution maps are produced from records entered onto the RECORDER database developed by JNCC and mapped using DMAP software developed by Dr. Alan Morton.

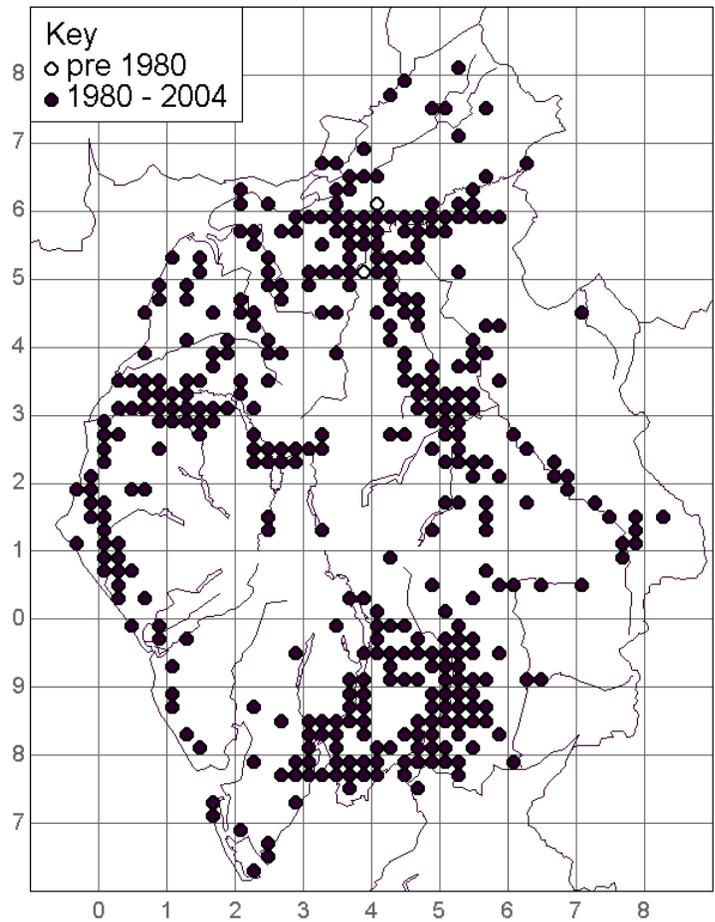
Hedgehog

Erinaceus europaeus

The Hedgehog is a common and widespread species in Cumbria, living in urban parks and gardens, woods and hedgerows across the county. They need fallen leaves to build their hibernation nests and so are not generally found in very open areas or on the moorland and high ground of the Lakeland and Pennine fells.

Hedgehogs are active at night, feeding on worms, slugs and beetles, as well as bird's eggs when the opportunity presents. They hibernate from October through to March, but there are a few records of active individuals from all the winter months.

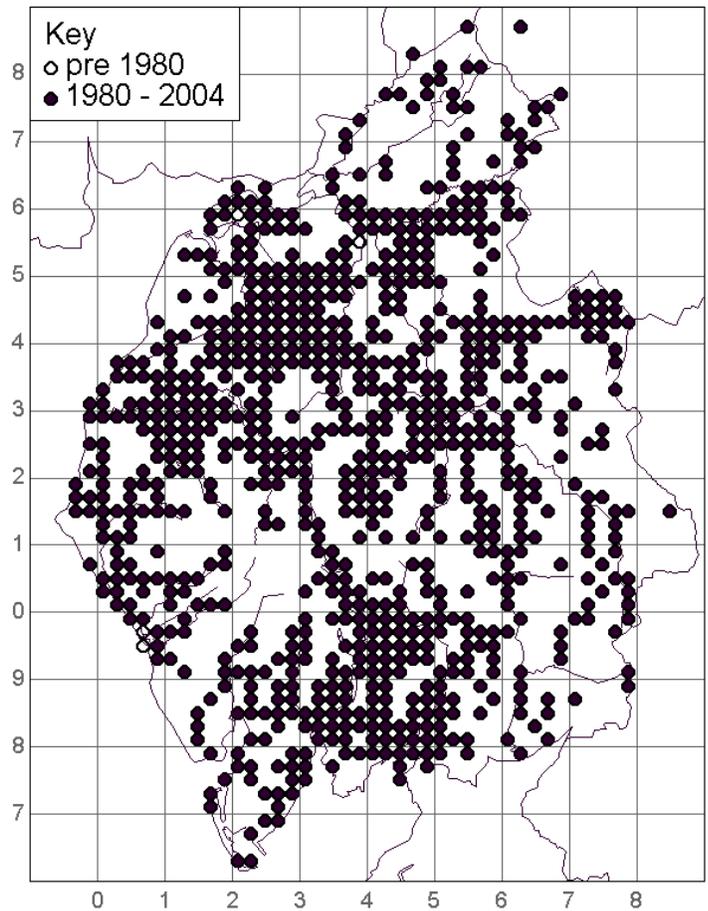
Sadly, the Hedgehog's defensive habit of curling up into a ball makes it very susceptible to being run over on our roads. Over two thirds of reports in Cumbria are of animals dead on the road.



Mole

Talpa europaea

Moles are very widespread and common in Cumbria. Their underground habits mean that they are seldom seen in the flesh, but the signs of their presence in the form of molehills are very obvious and familiar. Moles feed on worms and insect larvae, which they catch in their underground tunnels. They occur wherever the soil is deep enough to construct their tunnels and even occur up to 600m up on the Pennine hills where suitable soils conditions are found in the limestone grassland. Moles tunnelling habits mean that they are considered a pest by some farmers and gardeners and the sight of Mole corpses hung on fences is still familiar. Moles are reported throughout the year with a peak of records in the early spring when molehills are most noticeable.

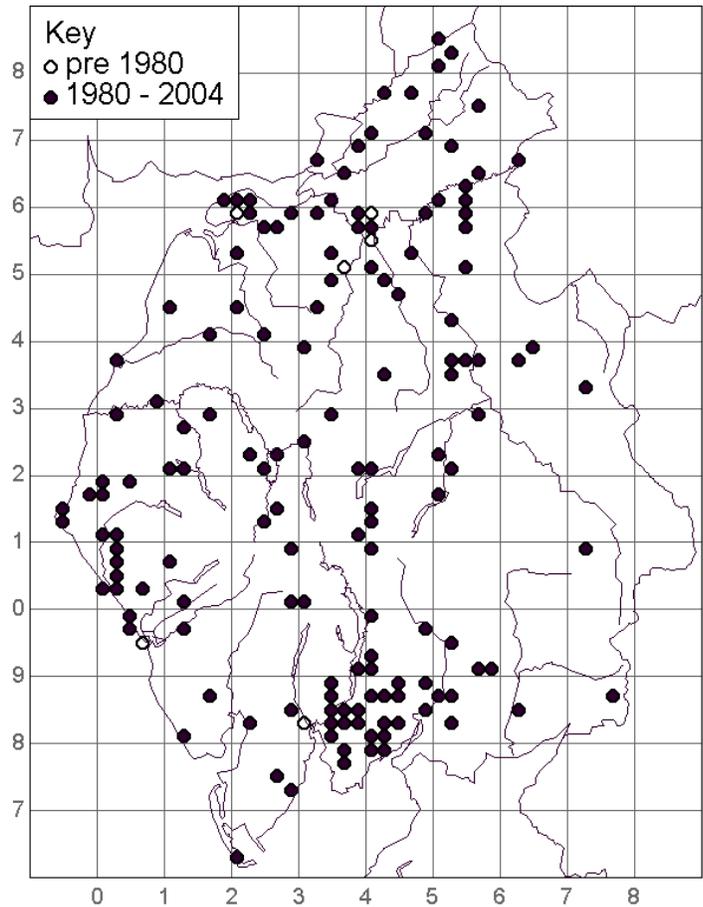


Common Shrew

Sorex araneus

The Common Shrew is a common and widespread species in Cumbria, although its small size and secretive habits mean that it is not frequently reported. It has the distinctive long, pointed snout of all shrews and is smaller and less black and white than the Water Shrew. It is difficult to separate from the Pygmy Shrew, which is similar in size and colour. However the flanks of the Common Shrew are usually distinctly paler than the dark brown fur of the back, unlike the Pygmy Shrew.

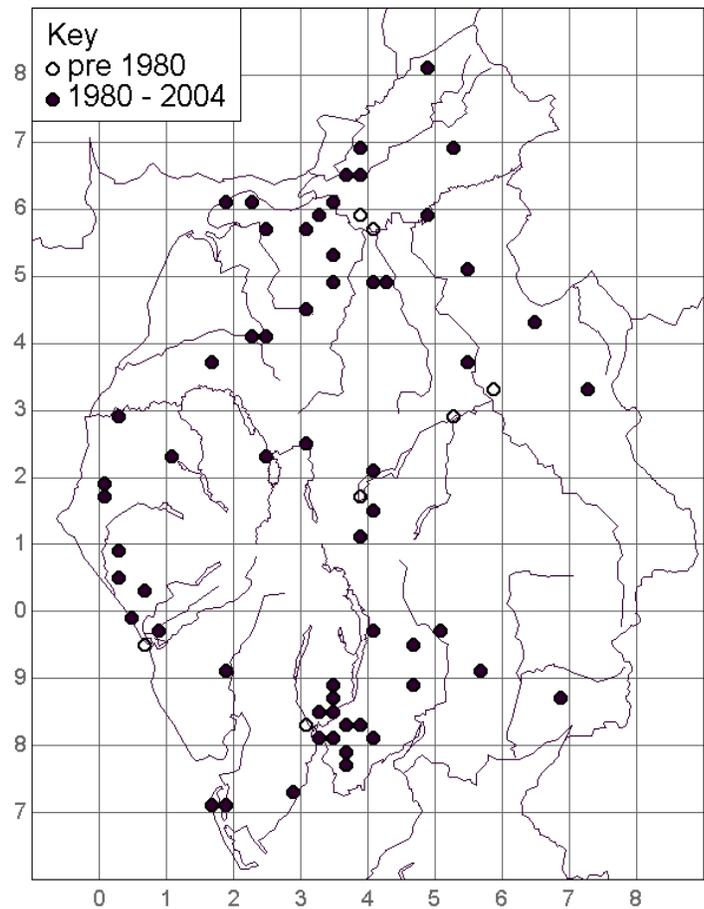
Many of our records come from analysis of prey remains in owl pellets and from reports of animals found dead or killed by domestic cats. Common Shrews are active throughout the year, day and night and are constantly searching for the beetles, worms and other invertebrates on which they feed., They are found in a very wide range of habitats, including the high fells.



Pigmy Shrew

Sorex minutus

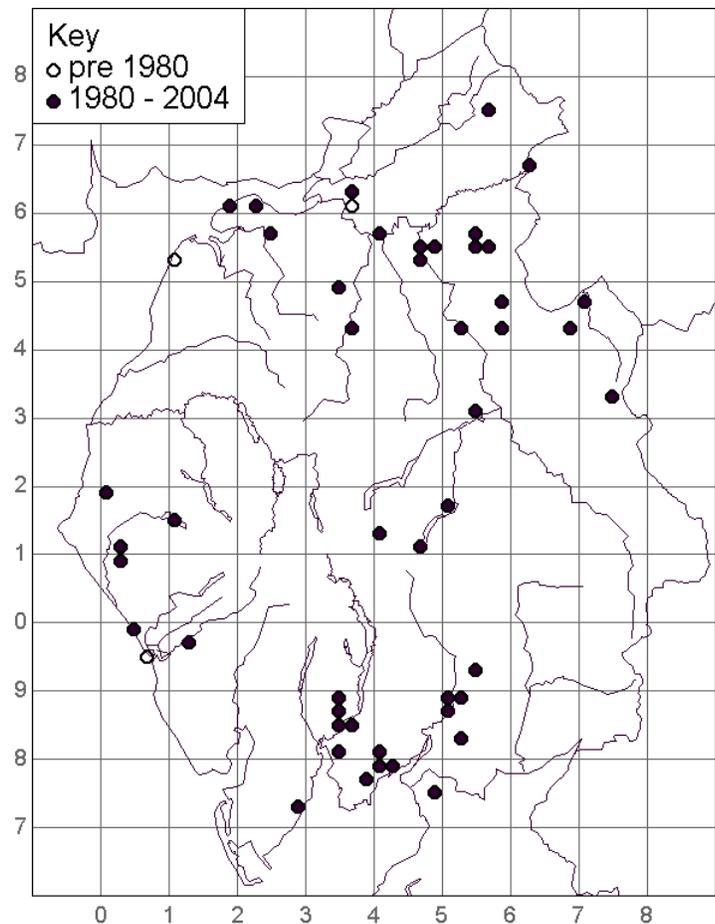
The Pygmy Shrew is common and widespread in Cumbria, although we have rather fewer records of this species than the Common Shrew. It is very similar in appearance to the Common Shrew, being dark brown above and paler underneath. Although it is smaller than the Common Shrew this is difficult to judge in the field and the best character is the lack of distinctive pale flanks in the Pygmy Shrew. It has a similar lifestyle and feeding habits to the Common Shrew. Many of our records are of dead or live-trapped animals, which could then be positively identified.



Water Shrew

Neomys fodiens

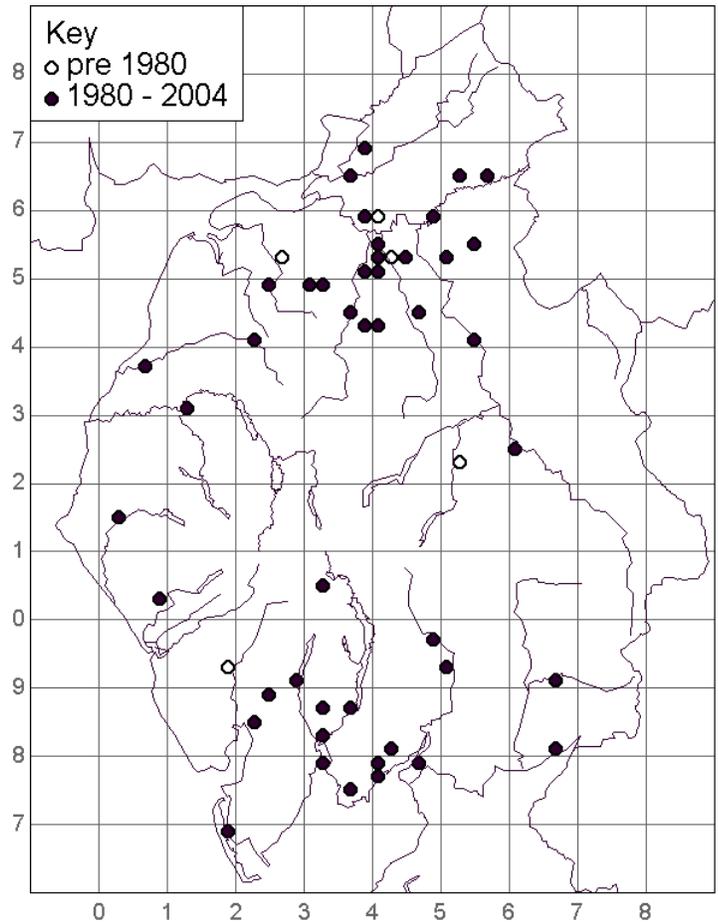
The Water Shrew is larger than the other two species of shrew in Cumbria. It is distinctly black above, contrasting strongly with the pale underside. It has a fringe of stiff silvery hairs on the underside of its tail and hind feet, to help it swim. It is usually found by clear streams and ponds, often occurring by upland becks. It frequently swims and dives and feeds on invertebrates, small fish and amphibians. Widespread but local in Cumbria, this species is probably frequently overlooked. Records include sightings in garden ponds and by upland streams, remains in owl pellets and cat kills.



Whiskered Bat

Myotis mystacinus

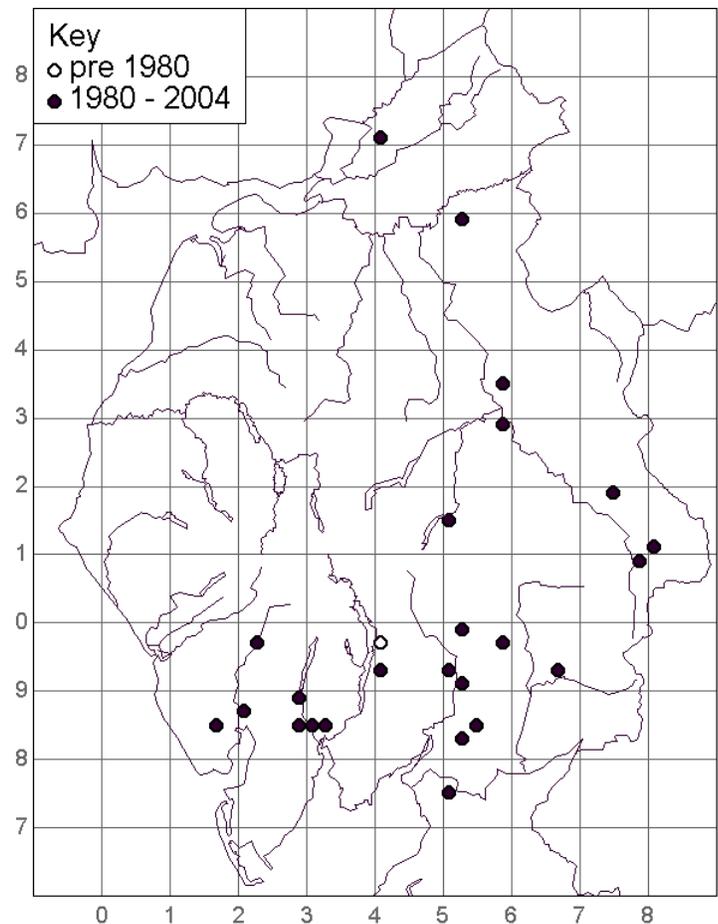
A medium sized bat which is very similar to the Brandt's Bat and from which it can only be distinguished by careful examination in the hand. The Whiskered Bat inhabits similar open wooded country to the Brandt's Bat but is more common in Cumbria and individuals are not infrequently found in Carlisle and other urban areas. They feed on insects that they catch on the wing at night. They roost in trees and buildings and have been identified in bat boxes. Nursery colonies are often found in the space above the ridge beam and beneath the ridge tiles, in the apex of pitched roofs typical of older houses.



Brandt's Bat

Myotis brandtii

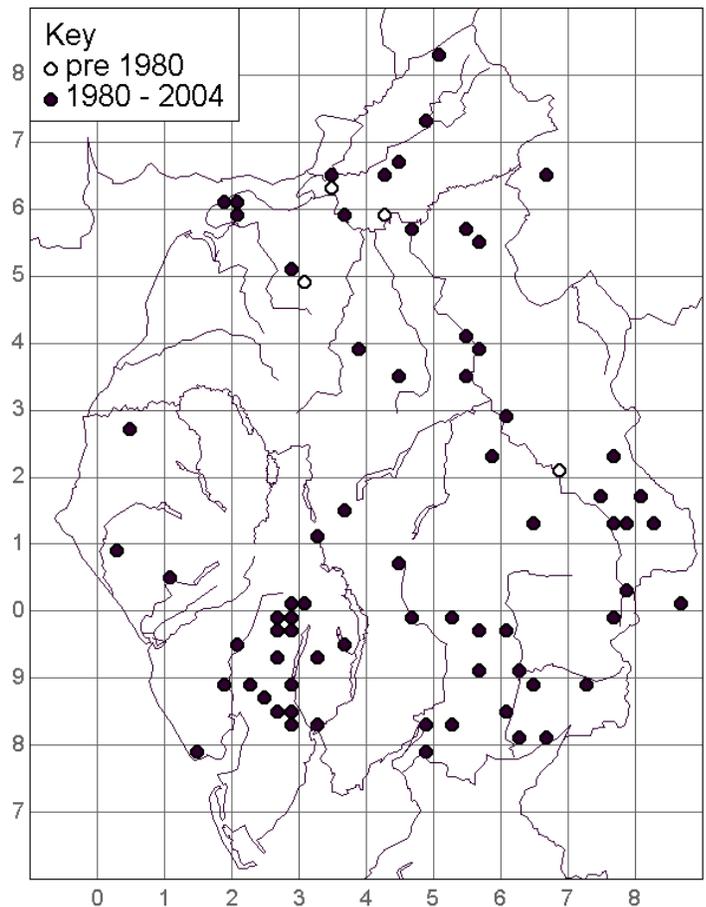
Brandt's Bats are widespread but not common in Cumbria. They inhabit open, wooded areas where they feed on flying insects at night and roost in holes in trees and in the roofs of buildings. The single baby bats are born in nursery colonies in the summer. Once the young bats are independent, the colony disperses and the bats roost in ones and twos before going into hibernation for the winter. Several of our records are from individuals found using bat boxes.



Natterer's Bat

Myotis nattereri

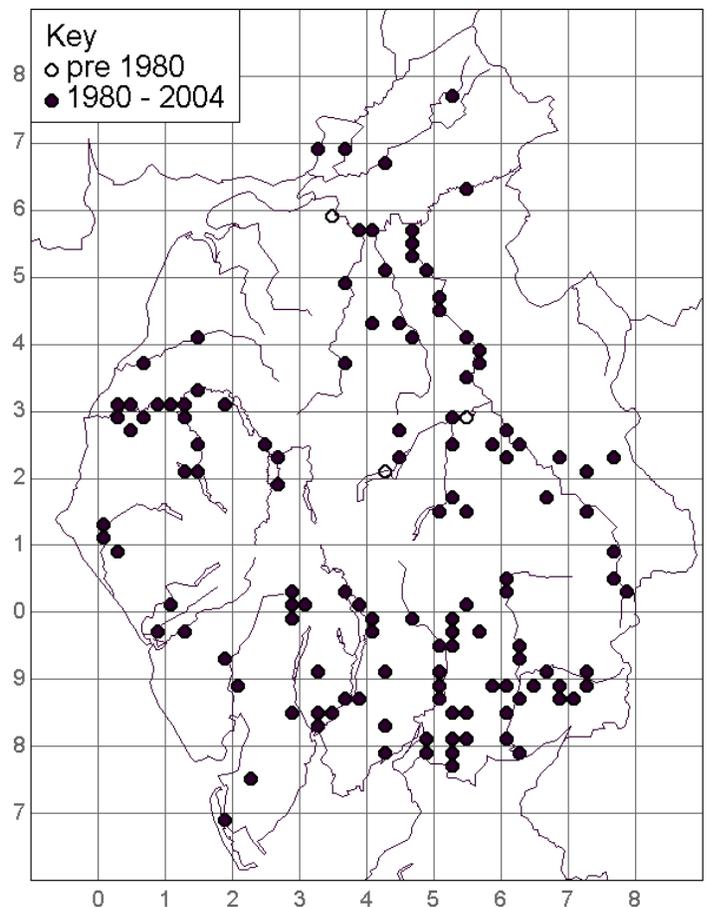
A medium-sized bat which is distinctly pale below, the Natterer's Bat has relatively big ears (but nothing like as large as those of the Long-eared Bat) and in the hand can be identified by a fringe of short stiff bristles along the hind edge of the tail membrane. Natterer's Bats are strongly associated with woodland habitats, particularly in river valleys. They have broad wings and a rather slow flight among the trees where they hunt insects. They roost in tree holes, bat-boxes, in the roofs of buildings and also in crevices in the masonry of old buildings and under bridges and culverts. Hibernation sites include old mine levels.



Daubenton's Bat

Myotis daubentonii

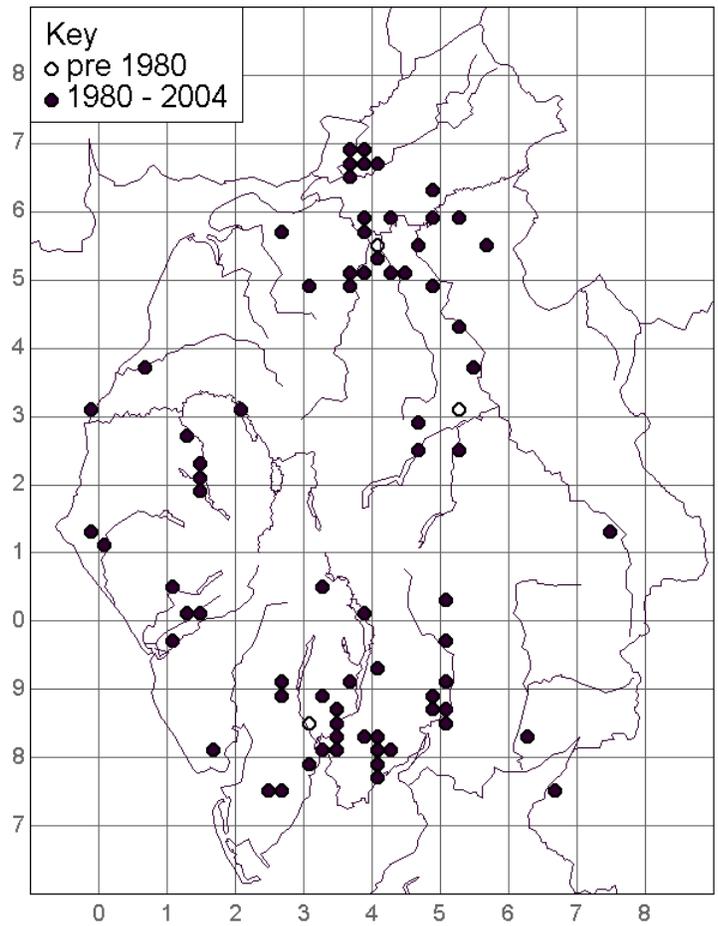
A medium-sized bat which is strongly associated with water. It has a characteristic low, steady flight over still or slow-moving water. Its pale underside shows clearly in torchlight. Daubenton's Bats have large hind feet which they use to hook insects off the water surface to eat. They prefer to roost near water and generally choose crevices in masonry under bridges and in the cellars and walls of buildings. A survey of road bridges in Cumbria showed this and the preceding species to be widespread and relatively common in the county.



Noctule

Nyctalus noctula

The largest bat in Cumbria, the Noctule is as big as a Swift, with a 35 cm wingspan. Noctules are readily identifiable as they fly above tree-top level at dusk. The flight is straight and fast with occasional dips as the bat dives after an insect. Noctules feed on larger insects such as moths and flying beetles, which they catch on the wing. They hunt over open woodland, unimproved grassland and lakes and rivers, where large flying insects are most common. They roost in holes in trees and show a strong preference for old woodpecker holes in Beech trees on the edge of woods or in the open. One roost in west Cumbria had 18 Noctules in an old woodpecker hole in a telegraph pole. Noctules are widespread but local in Cumbria.



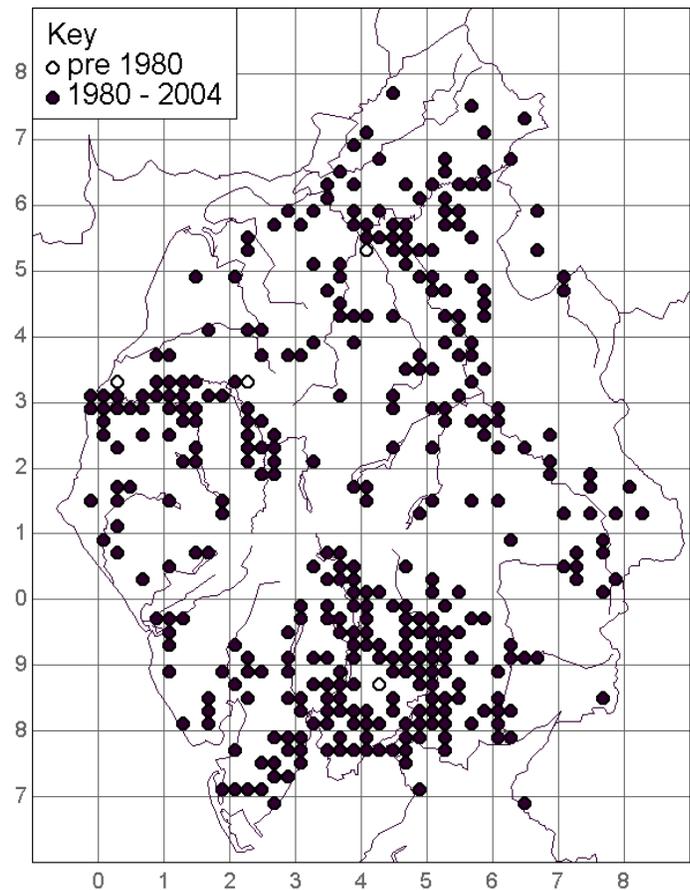
Pipistrelles

Pipistrellus spp.

Pipistrelles are our smallest and commonest bats. Two separate species have recently been recognised, which emit their ultrasonic echo-location call at different frequencies.

The Common Pipistrelle (*Pipistrellus pipistrellus*) echo-locates at 45KHz. This bat has a dark face with a pointed muzzle. The Soprano Pipistrelle (*Pipistrellus pygmaeus*) echo-locates at a higher frequency of around 55KHz. and has a brown face with a broad, almost bulbous nose.

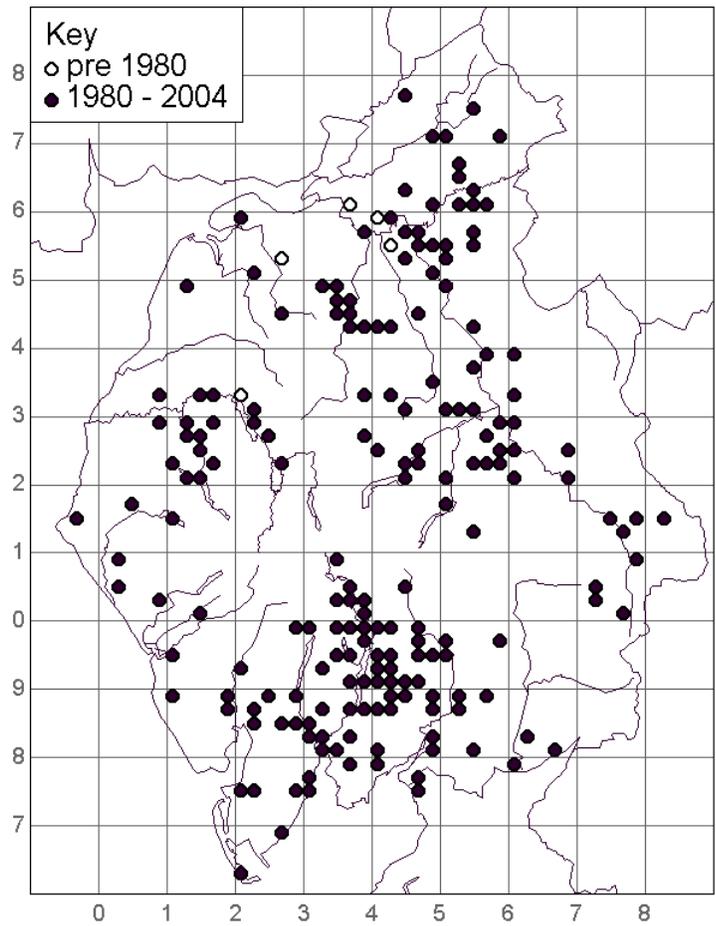
Both species are relatively common and widespread in Cumbria and can occur in colonies of up to 1,000 bats in the areas of particularly good habitat, such as the wooded valleys round Keswick. Pipistrelles feed on small flies and midges and one bat can eat up to 3,000 insects in one night. Pipistrelles like to hunt along woodland edges, tree lines and hedgerows. They frequently roost in buildings and prefer confined spaces such as boxed eaves or between roof tiles and the underfelt. Consequently they find modern housing estates very suitable as roost sites and feeding areas and are commonly seen hawking for flies over gardens at dusk. As Pipistrelles are so small and like to roost in confined spaces (200 pipistrelles will fit in a shoe box) they often go unnoticed in the eaves of a house and rarely come into the roof space or enter the building itself. Bats do not do any damage and generally do not cause any problems when roosting in buildings.



Brown Long-eared Bat

Plecotus auritus

This bat is unmistakable with its extremely long ears, which can sometimes be clearly seen in flight against a pale sky. Brown Long-eared Bats are widespread and locally common in the wooded parts of Cumbria. A truly woodland species they are able to fly slowly and even hover among the foliage and pick insects off the leaves of the trees. They roost in tree holes and in the apex of large pitched roofs typical of older buildings. Nursery clusters of 30 or more bats can sometimes be seen hanging from the rafters in a summer roost. This bat regularly uses bat boxes erected in woodlands. A scattering of moth wings on the floor of a porch or out-building is typical of a feeding perch where a Long-eared Bat has carried its prey to eat, discarding the insects wings to fall to the ground.



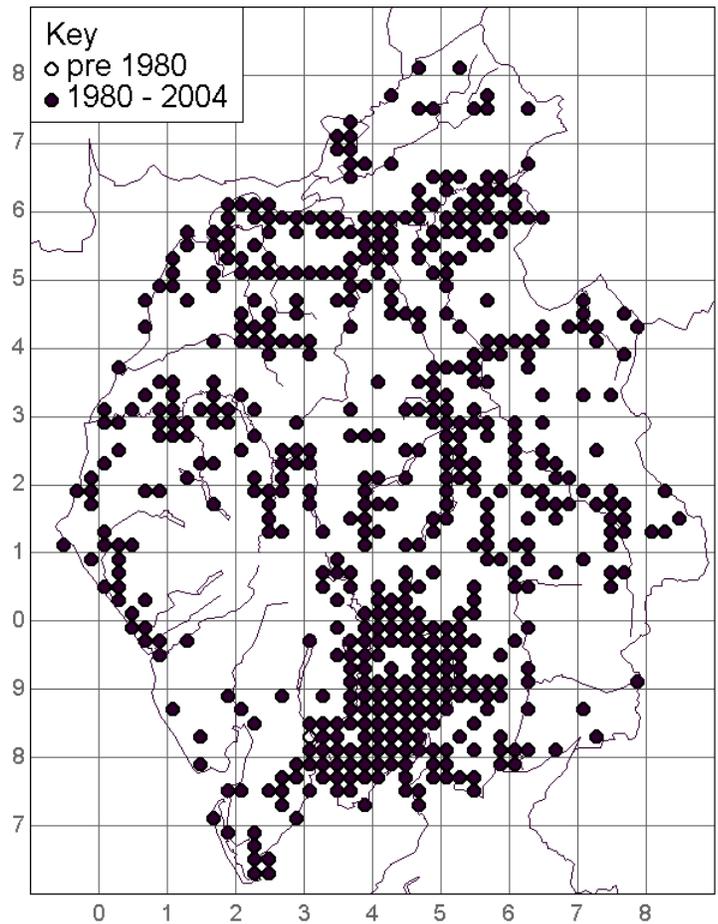
Rabbit

Oryctolagus cuniculus

Rabbits are very common and widespread in Cumbria, although not extending up into the high fells. Rabbits were introduced to Britain by the Normans as a prized food item and their warrens were carefully managed to supply meat to the tables of the nobles. The monks of Furness Abbey and Holme Cultram maintained valued rabbit warrens in the 16th century. In the 17th century estates ‘warriners’ to manage their Rabbit warrens and, using Ferrets and traps, to supply Rabbits for the table. From these managed warrens the Rabbit established itself in the wild and became very common, particularly on the lighter soils of the coastal plain and Eden Valley. Heysham (1796) notes that Cumberland had once boasted numerous and extensive warrens but that these had latterly been “destroyed and the ground more usefully occupied in the cultivation of grain.”

Macpherson (1892) reported the Rabbit to be numerous in many parts of Cumberland. In the 1930s Rabbits were so common that commercial Rabbit catchers would pay farmers for the right to trap Rabbits on their land. A small farm near Skelton had some 300 gin traps set on its ground under this system and of course not only Rabbits, but any predators such as Stoats and Weasels using the Rabbit runs would be also trapped and killed.

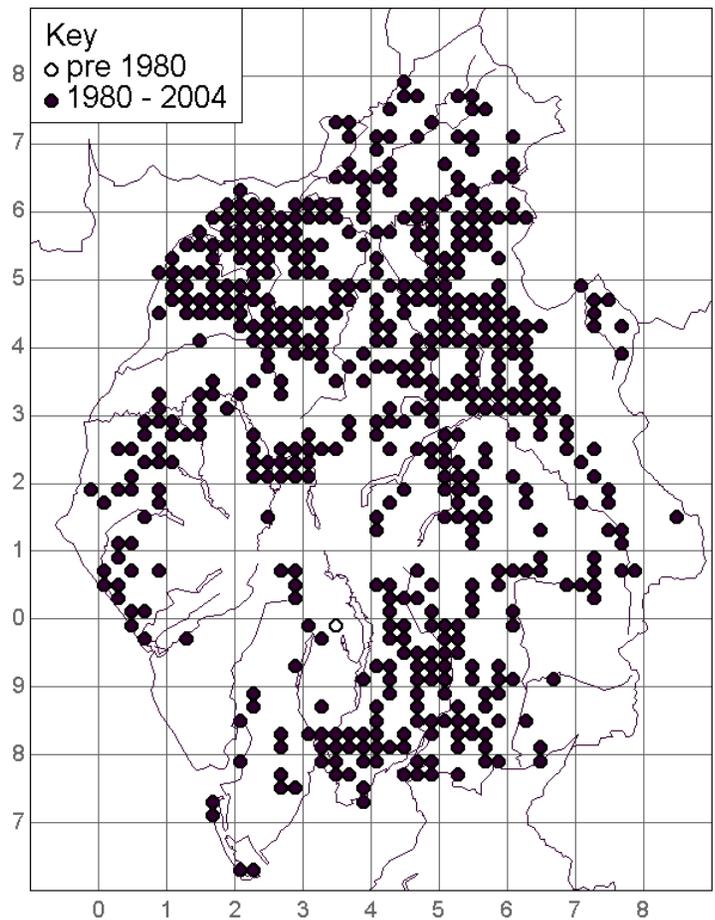
With the introduction of Myxomatosis to Britain in 1953 the Rabbit population in Cumbria collapsed and small farmers were also deprived of an additional source of income. However Rabbits have now attained some resistance and population levels have recovered, although outbreaks of the disease still occur. The recovery in the Rabbit population is mirrored by the increasing numbers of predators such as Polecats and Buzzards across the county.



Brown Hare

Lepus europaeus

Although active mostly at night, hares are frequently seen in daylight, particularly early in the morning. The Brown Hare is readily distinguished from the Rabbit by its larger size and longer legs as well as its much longer, black-tipped, ears. Hares prefer open farmland, preferably with both cereal crops and grassland to provide a wider choice of food. They also use woods and hedges as resting places during the day. The Brown Hare may have been introduced to Britain by the Romans and then become more widespread as woodland was replaced by farmland.



Mating occurs in spring and summer. Their courtship behaviour gives rise to the description of ‘Mad March Hares’ when they are often seen to ‘box’ one another. Boxing normally occurs when a female is not receptive to the male’s advances.

Heysham (1796) reported the Brown Hare to be “everywhere plentiful” in Cumberland. 100 years later Macpherson (1892) considered it to be rather scarce and declining in Cumbria. Today it is widely, but patchily, distributed in the county, although nationally recent population decline causes concern. It appears to be most frequent in the north and east of Cumbria with good numbers present on the Solway Plain and in parts of the Eden Valley.

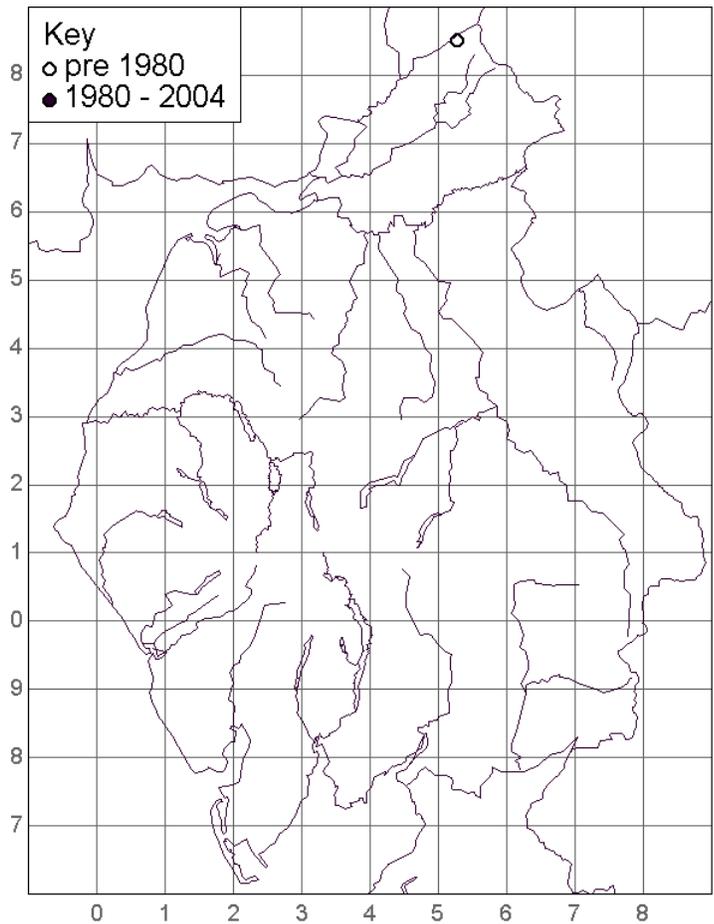
Mountain Hare

Lepus timidus

The Mountain Hare is smaller than the Brown Hare and has shorter ears. It is sometimes known as the Blue Hare because of its blue-grey summer coat in contrast to the rich-brown fur of the Brown Hare. In winter the Mountain Hare moults into a white coat for camouflage in the snowy hills. Mountain Hares generally prefer upland moors, where they feed primarily on heather as well as grasses. In the British Isles, this northern and arctic species is native in the Scottish Highlands and in Ireland.

Mountain Hares were introduced to southern Scotland in the 19th century and spread from there into north Cumbria. In a letter to Ernest Blezard at Tullie House Museum in 1954, Matthew Philipson of Haltwhistle stated that there were “still a few Mountain Hare on the wild hills of north east Cumberland and up the western boundary of Northumberland. These are all descendants of the number brought from Inverness 50 years ago and released ... by Mr Munsay. Naturally they flourished on this mighty expanse of white moorland.”

Mountain Hares were known on the Bewcastle Fells in the north east of Cumbria until the 1970s, when they probably succumbed to habitat loss from the widespread coniferisation of the area, coupled with heather loss due to heavy sheep-grazing on the remaining open moorland. Mitchell & Delap (1974) refer to a separate introduction in the Coniston area in 1903, but state that this population did not survive beyond 1918.



Red Squirrel

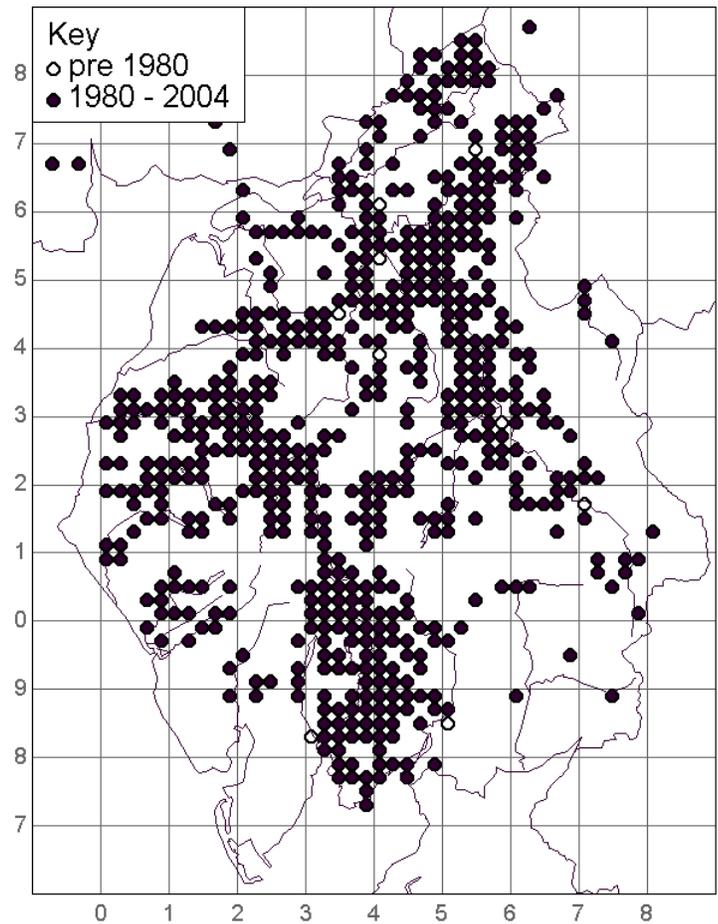
Sciurus vulgaris

Beatrix Potter immortalised the Red Squirrels of Borrowdale in her “Tale of Squirrel Nutkin”, which she wrote whilst on holiday at Lingholm on the shores of Derwent Water in 1901. Rather smaller and more lightly built than the Grey Squirrel, the Red Squirrel also has distinctive ear tufts in autumn and winter. Although the Grey Squirrel can sometimes have a gingery tinge to its fur, its back is never uniformly chestnut-orange or dark red-brown like that of the Red Squirrel.

The Red Squirrel is the native squirrel in Britain having arrived here from the European mainland after the Ice Age and before Britain was cut off from the continent by rising sea levels. A woodland animal, the Red Squirrel would have spread throughout most of Britain when the land was largely covered in forest, before humans cleared it for agriculture. Although primarily adapted to life in the conifer forests of northern Europe and Asia, the Red Squirrel is perfectly at home in the broad-leaved woods that now form the natural woodland over most of Britain. They feed on tree seeds such as spruce, pine, Beech and Hazel as well as toadstools, although they are not so fond of acorns. Stripped pine & spruce cones and split shells of hazelnuts are characteristic feeding signs of squirrels.

Red Squirrel populations have fluctuated dramatically in the past and several reintroductions have been made to different parts of Britain from continental stock. Recent studies by scientists at Newcastle University have shown that Red Squirrels in Cumbria have come from genetically different sources. Those in the north and east of the county have spread through Kielder Forest from continental Red Squirrels introduced to north east England in the past. Red Squirrels in south Cumbria are related to Lancashire Red Squirrels of a different continental genotype. But most intriguingly, Red Squirrels in the northern Lake District and north west Cumbria are of a unique genetic type which may well be the original British race.

Red Squirrel populations have fluctuated in Cumbria over time and for various reasons. Records of the Carlisle Natural History Society indicate that the Red Squirrel



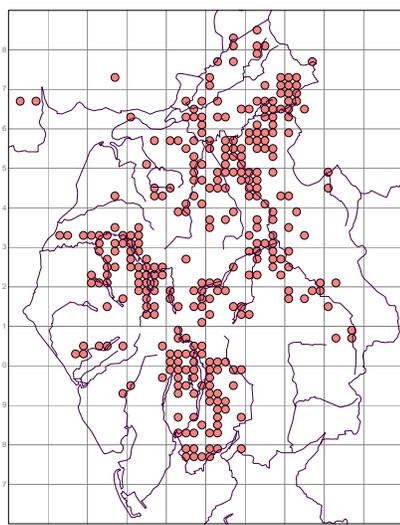
had declined generally in Cumbria from the 1930s. Red Squirrels had declined in the Carlisle area even before the extensive felling of woods in the Second World War, when they also became scarce in the north west of the county and in the Eden Valley. The species reputedly became scarce in the Kirkby Stephen area after the hard winter of 1946-47.

Recently, Red Squirrels have been in serious decline in the face of the advance of the north American Grey Squirrel which began spreading into Cumbria in the 1980s. The reasons for the decline are complex and involve competition for food. The larger Grey Squirrel is better adapted to deciduous forest and does well in the natural broad-leaved woods of Britain. The reduced food supply for the Red Squirrel results in fewer young being born and a gradual reduction in the population. There is however a second, devastating, factor in the Squirrel Pox virus that is carried by Grey Squirrels with apparent immunity but which is generally fatal to Red Squirrels. This has resulted in the rapid local extinction of Red Squirrels as the virus carrying Greys spread into an area. Over the last 15 years Grey Squirrels have been gradually colonising Cumbria from the south leading to a dramatic decline in Red Squirrel numbers in south Cumbria. Although smaller numbers of Grey Squirrels have also made incursions into the county from the north, the source populations in Scotland do not appear to carry Squirrel Pox and Red Squirrel populations in the north have so far held up.

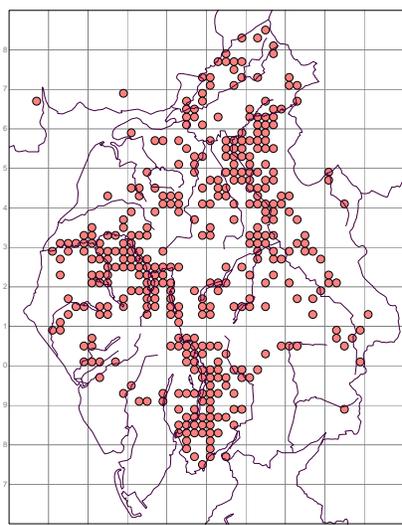
Strenuous efforts are being made to conserve the Red Squirrel in Cumbria through Red Alert North West and local groups which are attempting to stop the advance of Grey Squirrels. Red Squirrel conservation areas have also been established in some large conifer plantations where Red Squirrels have a competitive advantage over Greys. The extensive conifer plantations at Spadeadam in north east Cumbria are chief among these Red Squirrel sanctuaries.

The changing distribution and abundance of the Red Squirrel in Cumbria in recent years is demonstrated by the maps below.

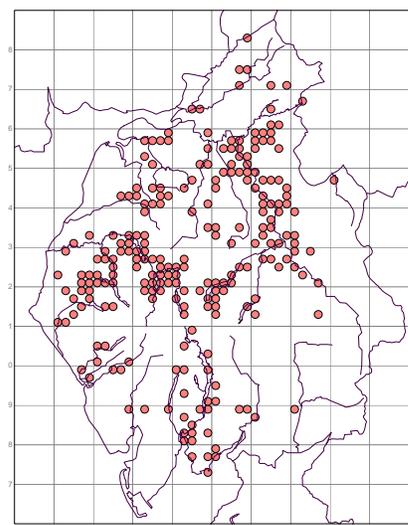
1990-1994



1995-1999



2000-2004



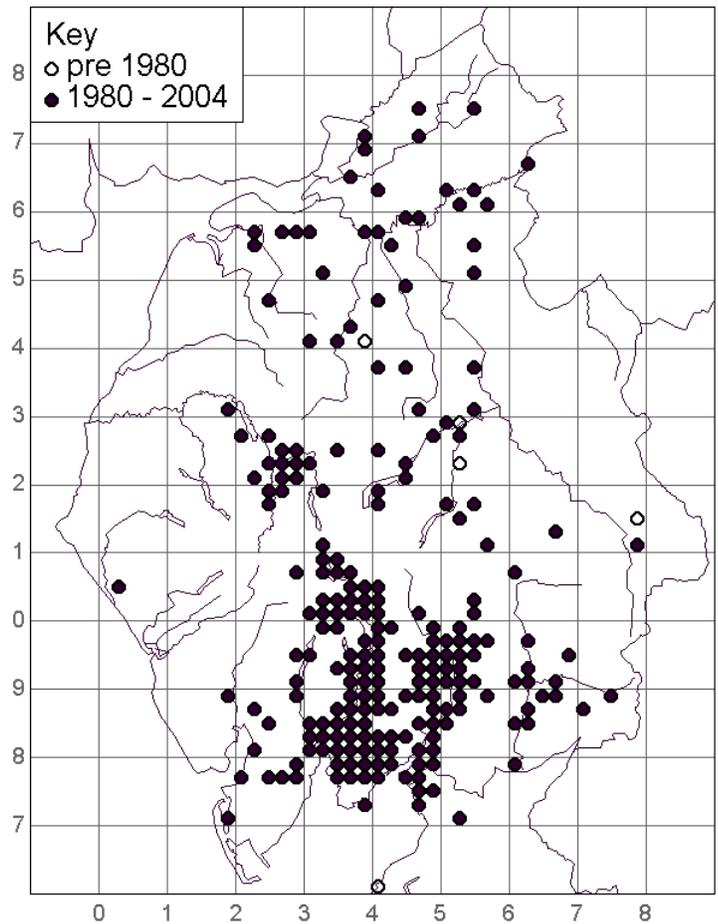
Grey Squirrel

Sciurus carolinensis

The Grey Squirrel is a recent and unwelcome addition to Cumbria's fauna because of its damaging impact on our native Red Squirrel. The Grey Squirrel is generally silver-grey above, sometimes with some gingery-orange fur along its flanks and white below. Its broad grey tail is fringed with white. It is larger and heavier than the Red Squirrel and lacks the ear tufts which are prominent in that species outside the summer months.

Grey Squirrels were introduced to several locations in Britain between 1876 and 1929. The species is well adapted to our native broad-leaved woods, where it feeds on tree seeds including acorns, hazelnuts and beechmast. Grey Squirrels are equally at home in urban parks and gardens, where they supplement their diet with bird-seed and plant bulbs. From the initial introduction sites Grey Squirrels have spread and colonised most of England and Wales as well as much of Scotland.

The Grey Squirrel first reached the south of Cumbria in numbers during the 1980s, although one was trapped at Brough as early as January 1946 and another reported shot at Ambleside in 1953. Since then it has made great inroads into the county, spreading through the woods of south Lakeland and over Dunmail Raise to Threlkeld and Keswick and crossing other passes into the Eden Valley. Grey Squirrels are also spreading into north Cumbria from Scotland. Concerted efforts are being made to stop the spread of Grey Squirrels as they carry the Squirrel Pox virus that is fatal to Red Squirrels, resulting in the increasingly threatened status of that animal in Cumbria and Britain.



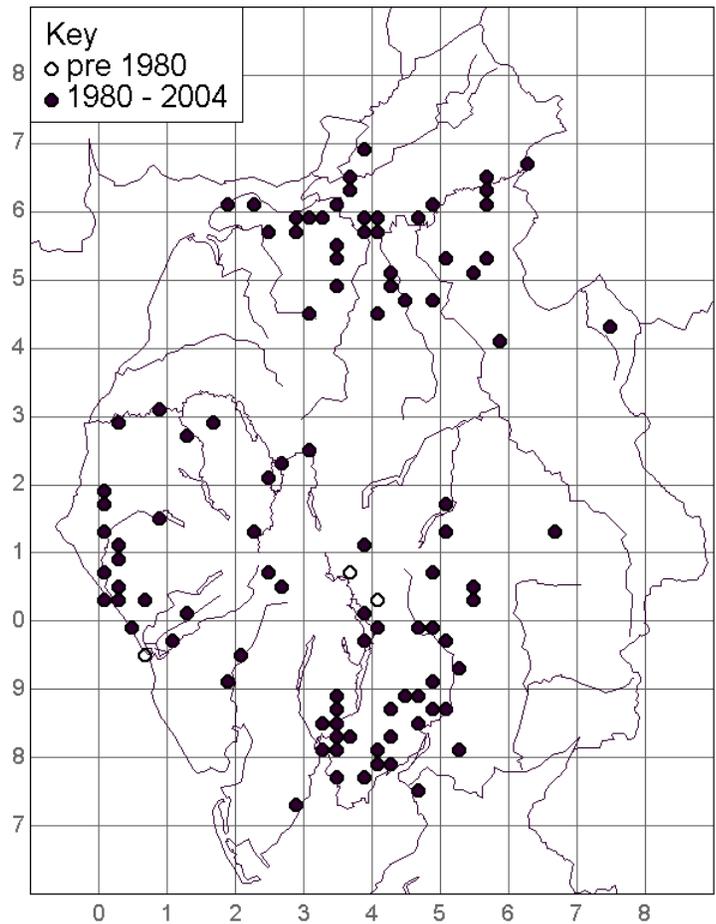
Bank Vole

Clethrionomys glareolus

This small vole is similar to the Field Vole but has more chestnut-brown fur on its back and a longer tail. Like all voles, its blunt nose and small ears distinguish it from mice, which also have much longer tails.

The Bank Vole is primarily a woodland animal, feeding on nuts and seeds as well as leaves, grass, roots, fungi and insects. They leave characteristic teeth marks on hazelnuts that they have eaten and finding the shells of eaten nuts is one way of establishing that Bank Voles are present in a wood or hedge bottom.

Bank Voles are widespread and common in the wooded lowlands of Cumbria but are under recorded because they are seldom seen. Most positive identifications are from the characteristic feeding signs or remains identified in owl pellets.



Field Vole

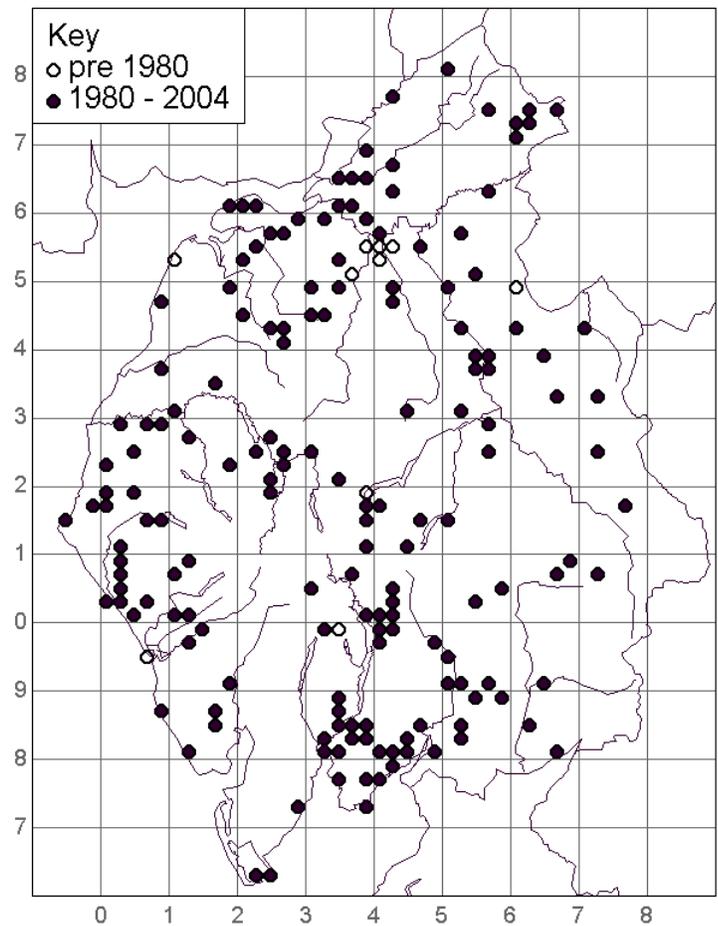
Microtus agrestis

The Field Vole is distinguished from mice by its small ears, blunt nose and short tail and from the Bank Vole by the colour of the coat, which is grey-brown in the Field Vole and red-brown in the Bank Vole. The Bank Vole also has a slightly longer tail.

The Field Vole lives in rough grassland and is very common in Cumbria, although under recorded because the animals themselves are seldom seen and are difficult to identify when glimpsed in the grass. The best way to recognise the presence of Field Voles is to look for their runs under grass tussocks.

Characteristic small, green, oval-shaped droppings are a sure indication of the recent presence of Field Voles. Such signs of Field Voles can be found in rough grassland areas from coastal areas to over 750m on the fells.

The Field Vole is the commonest prey item identified in the pellets of owls in Cumbria.



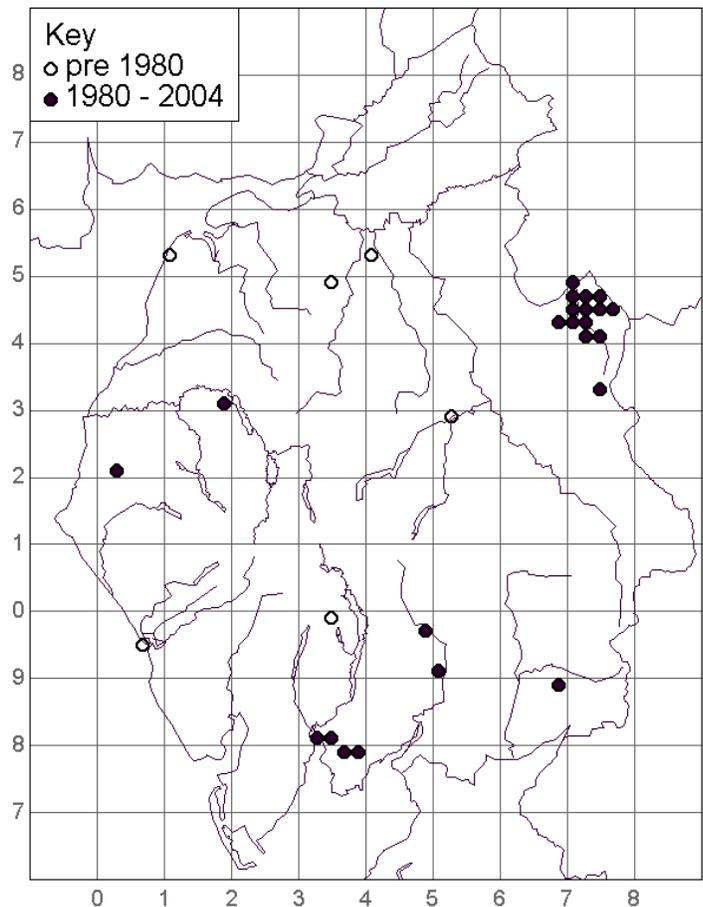
Water Vole

Arvicola terrestris

The Water Vole is as big as a rat and is sometimes called the Water Rat. It can be distinguished from a true rat by its small ears and blunt nose. It also has a more hairy tail.

Water Voles live on the banks of streams, rivers and ditches where they feed on grasses and sedges. They make underground tunnels and nests as well as runs above ground close to the water's edge. The large (8-12mm long) blunt-ended droppings and nibbled grass stems are indicators of the presence of Water Voles. Common Rats are also good swimmers and hence can sometimes be mistaken for Water Voles.

Water Voles were once widespread, although possibly never particularly common in Cumbria. Macpherson (1892) described it as "...common throughout Lakeland from Furness to the Scottish Borders, upon which it is especially numerous." He also noted a population of Water Voles at Ravenglass, which burrowed into the sand dunes there. The abundance of the species in the north of the county was reaffirmed by Ritson Graham in the early decades of the 20th century. As late as 1974 Mitchell and Delap considered the Water Vole "well established in Lakeland where there are low-lying streams and ponds." Sadly, the species declined dramatically in the late 1970s and 80s and Water Voles are now only well established in the Alston area on the headwaters of the South Tyne in the Pennines. The decline of the Water Vole may be partly due to habitat loss and pollution, but is generally considered to be largely a result of predation by North American Mink which became established in the county at this time.



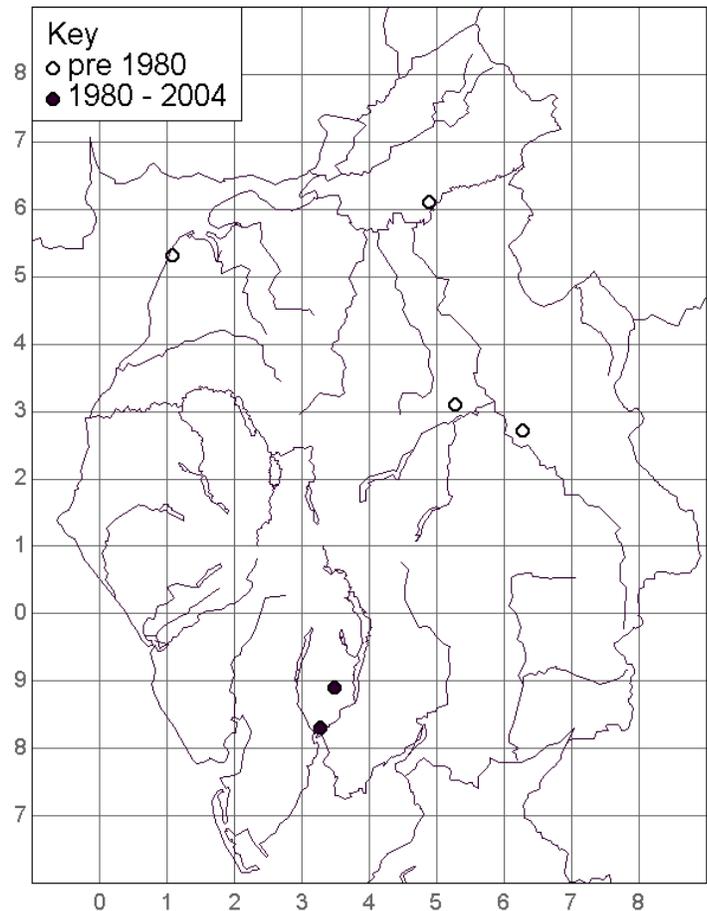
Harvest Mouse

Micromys minutus

This tiny mouse is orange-brown above and white below. It uses its tail to help it climb among the stalks of grasses and other plants. Primarily an animal of tall grassland, cereal crops and reedbeds, the Harvest Mouse is largely restricted to southern Britain and reports from Cumbria are few and far between.

The most obvious sign of this secretive animal are the nests of woven grass that it builds among the stems of grasses and reeds.

Macpherson (1892) considered the Harvest Mouse very rare and only doubtfully native in Cumbria, as the two reports he knew of – from Carlisle and Silloth - could have arisen from accidental introductions. There are credible reports of nests found in the Eden Valley around Temple Sowerby and Langwathby and near Carlisle Airport in the 1970s, and also more anecdotal accounts of Harvest Mice in the Rockcliffe area north of Carlisle into the 1980s. More recently there have been reports of possible Harvest Mouse nests found in the south of the county around Roudsea Wood and Cartmel. One of these nests, from Roudsea Wood, is in the collection of Tullie House Museum and in the opinion of various experts may be that of a Harvest Mouse.

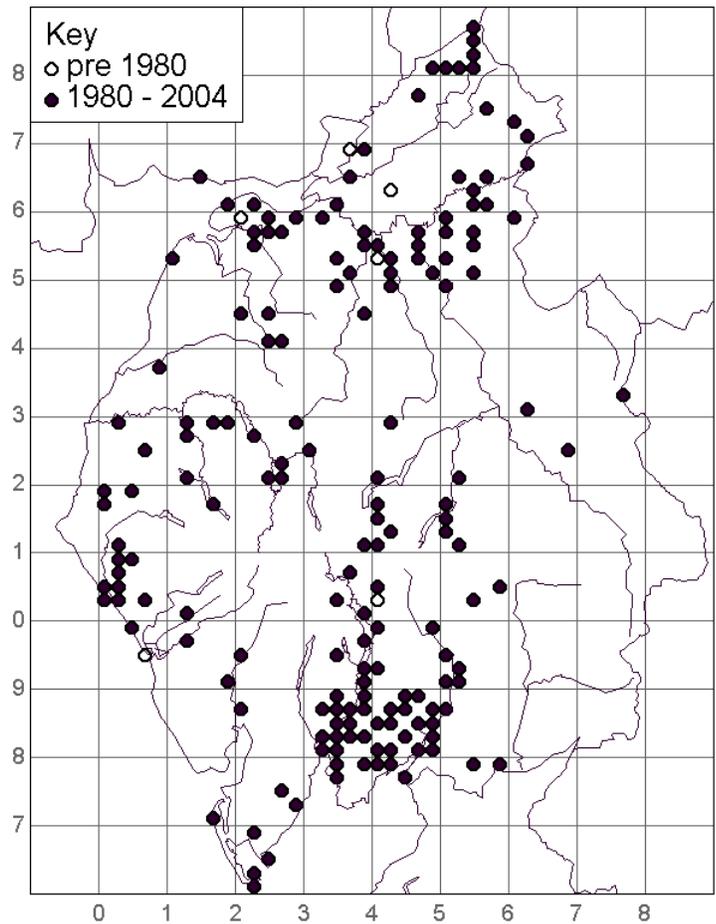


Wood Mouse

Apodemus sylvaticus

The Wood Mouse or Field Mouse is has relatively large ears, big eyes and a long tail. It is most easily confused with the House Mouse, which has smaller eyes, ears and hind feet, and grey-brown fur rather than the brown back and contrasting white belly of the Wood Mouse.

The Wood Mouse is very common and widespread in woods, grasslands and heathland. It frequently comes into buildings for warmth in the winter months. They feed on seeds, buds and invertebrates. A good sign of Wood Mice are the characteristic teeth marks on the shells of nuts that they have eaten. Mice droppings in house roofs are sometimes mistakenly identified as bat droppings, which look very similar, but mouse droppings dry to a hard pellet whereas bat droppings can be crumbled into dust.

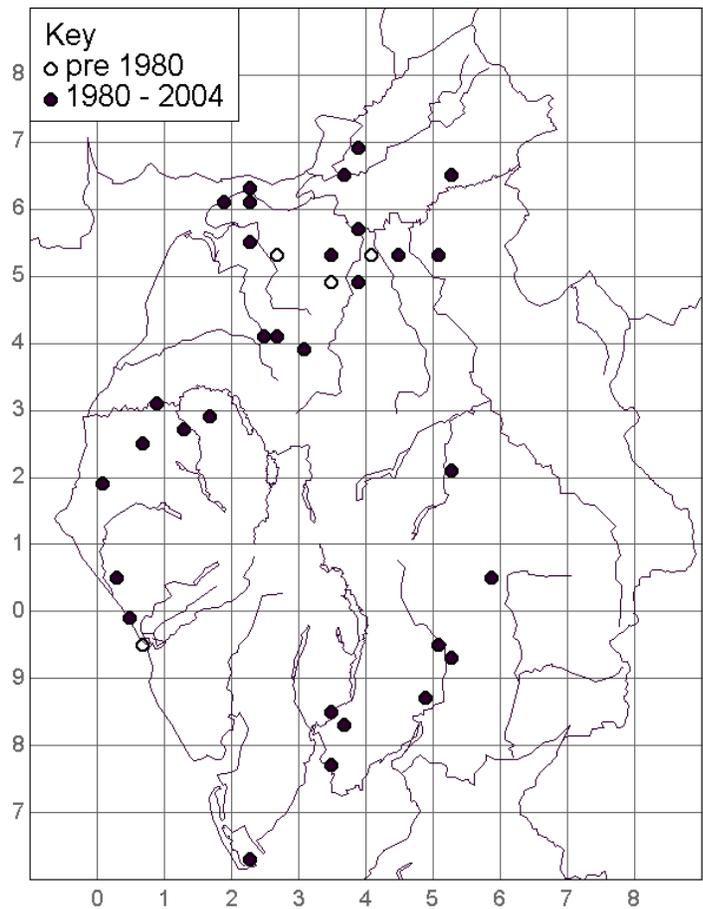


House Mouse

Mus musculus

Similar in appearance to the Wood Mouse but greyer in colour without strongly contrasting white fur beneath. The ears, eyes and hind feet of the Wood Mouse are also bigger.

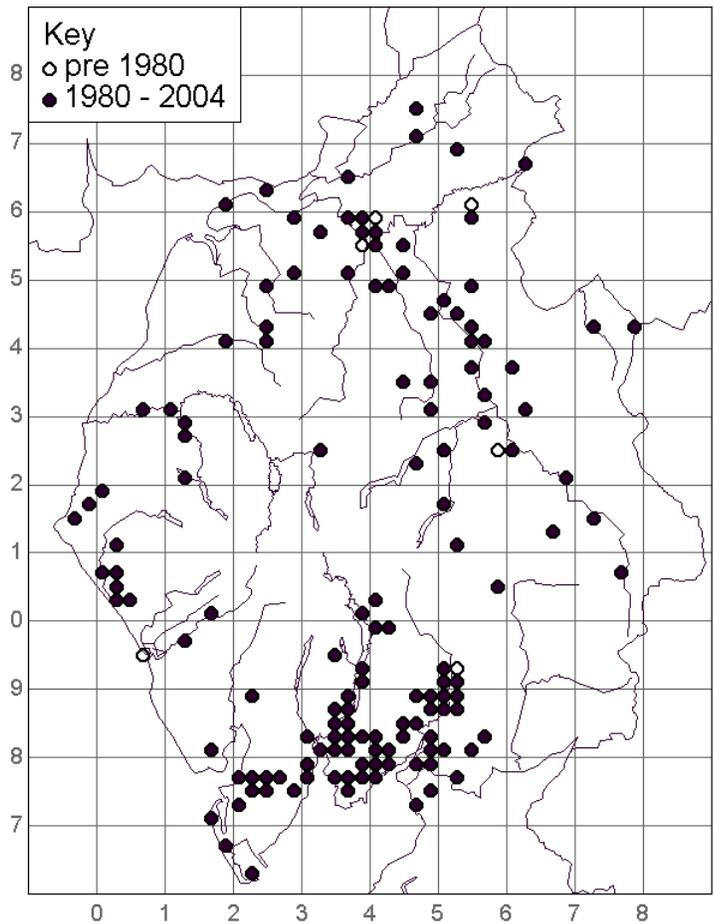
Originally a species of rocky grasslands in Arabia and southern Russia the House Mouse has spread with humans to most areas of the World and has been present in Britain since the Iron Age at least. It frequently occurs around buildings and food stores, but will also live happily in wilder surroundings and farmland. The House Mouse is widely scattered but under-recorded in Cumbria. Although more efficient agricultural and food storage practices have probably led to a decline in House Mice numbers it is certainly commoner than the distribution map suggests.



Common Rat

Rattus norvegicus

Also known as the Brown Rat this species is pretty-well unmistakable with its large ears, pointed nose and long, scaly tail. The only rodent of comparable size is the Water Vole, which has a blunt nose, small ears and a more furry tail. Both species can occur along watercourses but the Water Vole is rarely seen away from water, whilst the Common Rat is very widespread. The Common Rat is typically found around habitation in refuse tips, sewers, farmyards, ditches and watercourses. They feed on whatever food is available from grain to carrion.



The Common Rat has spread around the World with humans and arrived in Britain on ships in the 1700s. Since then it has spread and almost entirely replaced the Black Rat throughout the country. In 1796 Heysham reported the Black Rat had become “very rare having been expelled from this county in great measure by the Brown Rat.”

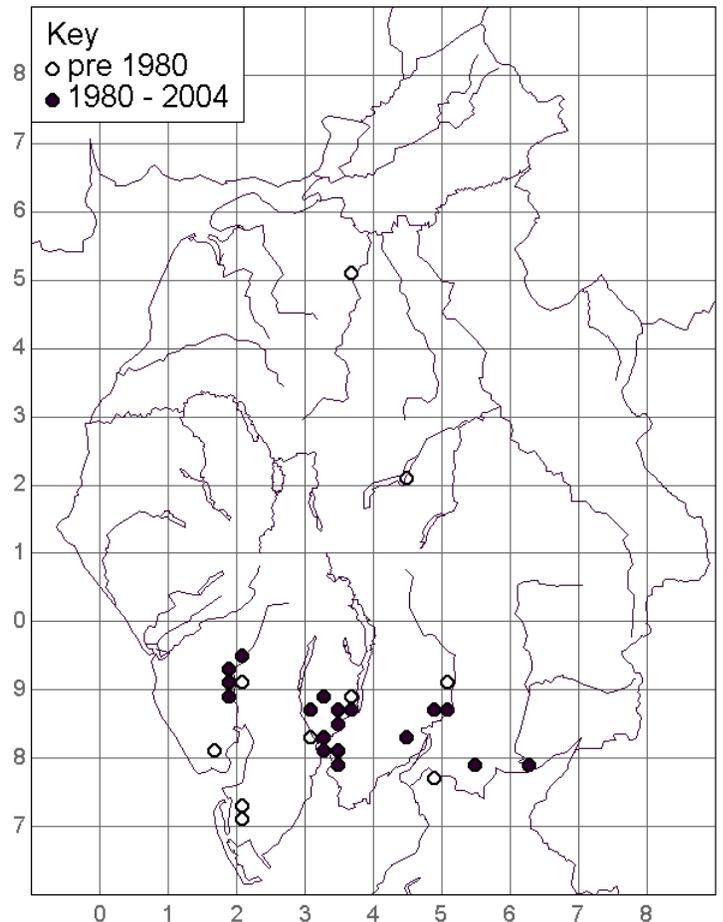
The Common Rat is typically found around habitation, in refuse tips, sewers, farmyards, ditches and watercourses. They feed on whatever food is available from grain to carrion. Common Rats are very widespread in Cumbria, in towns and around farms and also occur away from habitation especially along river banks and ditches. Numbers generally build up to a peak in autumn and drop during the winter. In 1925 on an autumn night at “threshing time” hundreds of rats were seen running along the road from Allonby to Maryport by four men cycling home. Although there is now much less spilt grain in farmland rats have readily adapted to alternative food sources and recent mild winters have boosted populations.

Hazel Dormouse

Muscardinus avellanarius

The Dormouse is very rare in Cumbria, where it reaches the north western limit of its British distribution. It is a woodland species with a preference for Hazel woods with a thick under-storey, but does sometimes occur in other habitats such as scrubland with bramble thickets. It feeds on tree seeds, especially hazelnuts and fruit such as brambles. Macpherson (1892) reported the Dormouse from the more densely wooded areas of the county as far north as Dalston. He particularly mentioned the woods around Ullswater and the southern valleys of Lakeland as having held populations of Dormice. It is in the latter area that the species still occurs in small numbers, having been 'rediscovered' there after a Dormouse skull was identified in an owl pellet in the 1970s.

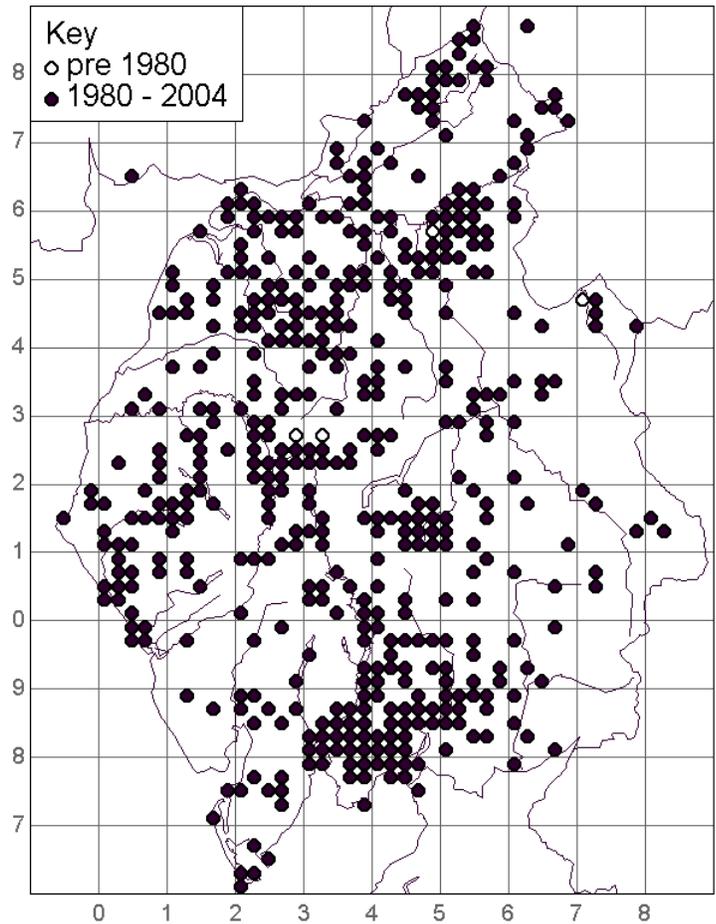
The Dormouse is distinctive among mice in having a thick, furry tail which together with its orange fur make it easily identified. However Dormice hibernate in the winter and are generally active only at night in summer and are consequently very seldom seen. The best signs of their presence are the summer nests of shredded honeysuckle bark that they build above ground in bushes and scrub. They also leave distinctive teeth marks on the shells of hazelnuts that they have eaten. Dormouse nest boxes have been put up in some south Cumbrian woods to provide more nest sites and also to enable the populations to be monitored. Breeding success has been variable in recent years with one site apparently doing well whilst others appear to be in decline. The discovery of a new site for Dormice in south Cumbria, in scrub rather than woodland has provided hope that the Dormouse may be more widespread in the county than we realise.



Fox

Vulpes vulpes

With its red-orange fur, bushy tail, black, pointed ears and pointed muzzle the Fox can not easily be confused with any other animal in Cumbria. However, they are rather shy and, other than as road casualties, Foxes are seldom seen. However, their scats (droppings) and narrow, four-toed tracks are very frequently encountered and their distinctive scent can also often be detected on a walk in the country. Foxes are found on the fells and in the lowlands of Cumbria. They hunt mice and voles, rabbits, birds and their eggs and also feed on berries and beetles. Occasionally individual Foxes become a problem at lambing time. Unlike some other parts of Britain, urban Foxes are not commonly seen in Cumbrian towns as yet.



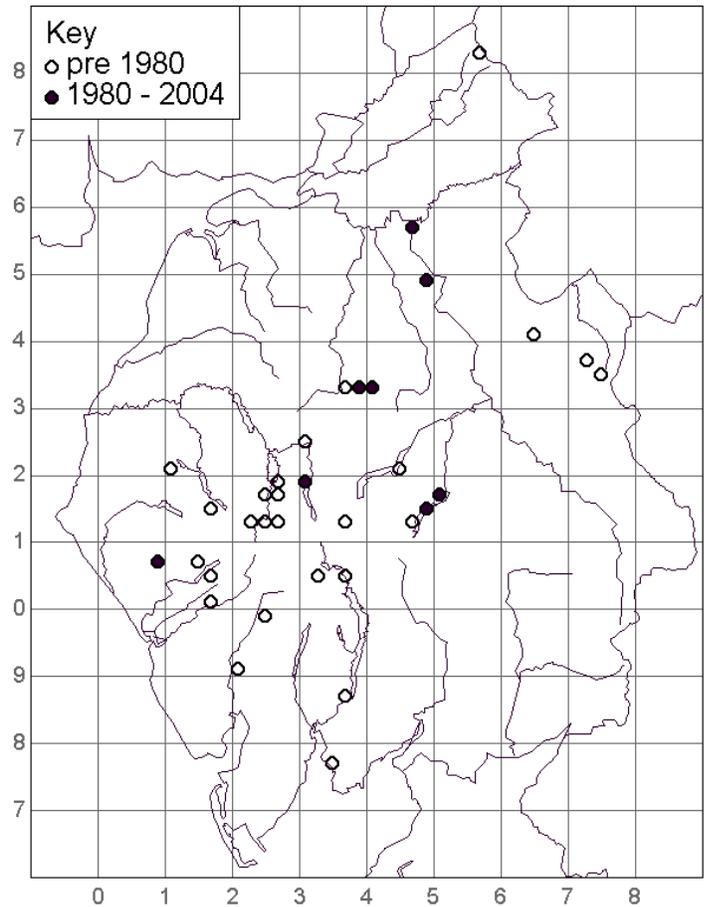
The Fox has been trapped, snared, shot, poisoned, and hunted by generations of Cumbrians and yet remains a common and widespread, if wary, member of Cumbria's fauna. Relentless persecution reduced Fox numbers, but they have never become rare. In the 1830s a huntsman employed at Patterdale killed 56 foxes in two years (Macpherson, 1892). In recent years the Ullswater Hunt has killed in the region of 100 foxes a season. This is some indication of a big increase in Fox numbers in the county during the 20th century. Webster (1986) reported that one shooter alone in the Kendal area expected to kill 300 foxes a year shooting with a lamp at night.

Fox numbers are reputed to have increased substantially in the 1960s, which some have attributed to increased numbers of sheep providing plentiful carrion in the winter and also suggesting that a large beetle population, arising from the abundant sheep droppings, provided an important food source in summer.

Pine Marten

Martes martes

The Pine Marten is a mysterious animal in Cumbria. A large member of the weasel family, it has a rich brown coat, a bushy tail and a small, pointed face making it look a little like a small fox. However, unlike the Fox, the Pine Marten has an obvious creamy-yellow throat and chest and rounded ears with a pale edge to them. Pine Martens also climb trees very well. Their scats are long, thin and twisted and are not easy to tell from Fox scats. They have five-toed footprints. Pine Martens feed mainly on small mammals, berries and insects. They will also eat birds eggs and occasionally catch squirrels.



Pine Martens, along with all other predators, were relentlessly persecuted by farmers and landowners in the past. They were also hunted with dogs for sport. By the late 19th century they had largely gone from the lowlands of Cumbria and only survived in the rocky fells, where they were known as ‘Crag Marts’. Macpherson (1892) reported that a Pine Marten had been killed in Baron Wood near Armathwaite in 1880 and a specimen killed in 1889 was considered by some to be the last of the Westmorland Sweet Marts. Sweet Mart was another name for the Pine Marten – used to distinguish it from the Foul Mart or Polecat.

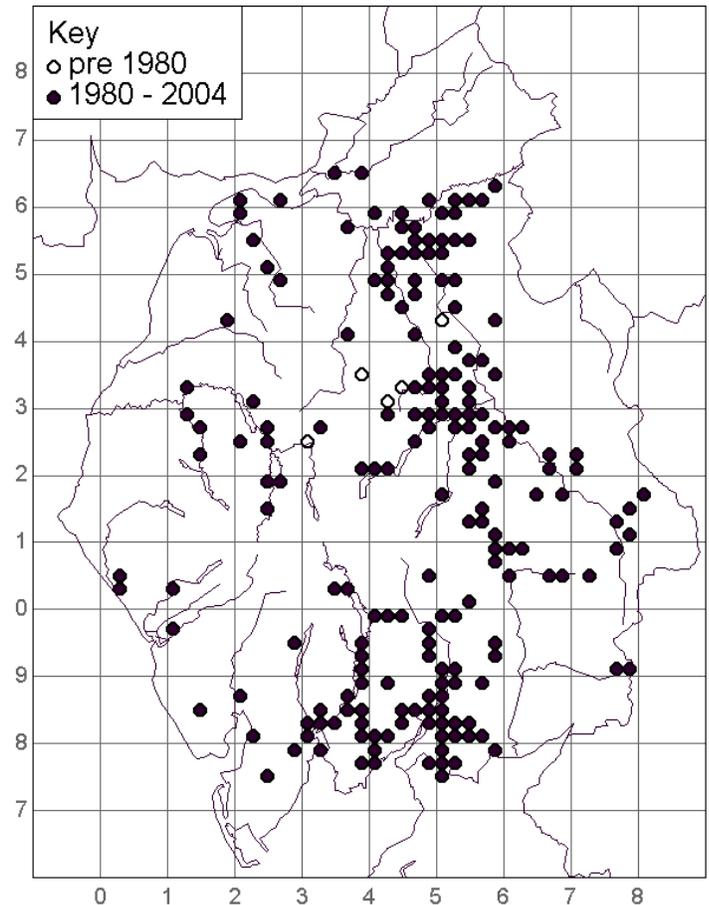
Pine Martens certainly survived in the county up to 1915 and there have been occasional sightings and reports from scattered parts of the county throughout the 20th century. However, no Cumbrian Pine Marten corpse has been brought into Tullie House Museum since 1914 and whether the Pine Marten has survived as a native species in Cumbria remains a subject of debate. Macpherson (1892) also quoted the dales men in stating “When foxes is rank, marts is scarce.” The increased Fox population in the last 100 years may have impacted on any remnant Pine Marten population in Cumbria.

In recent years the number of reported sightings has increased and it seems likely that there is a scattered population in the county, but whether these are reintroduced animals or a surviving native population is not clear and still no physical evidence has been presented to the Museum.

Polecat/Polecat Ferret

Mustela putorius/M. furo

The Polecat is a member of the weasel family. It has a distinctive dark mask across its face and cream-coloured under-fur on the body is partly hidden beneath dark guard hairs. Ferrets were bred from wild Polecats to hunt rabbits. Escaped feral Ferrets are normally paler, with less distinct facial markings and often have pale fur on the throat or legs, which Polecats do not. However some polecat-ferret hybrids can be indistinguishable from a true wild Polecat. Polecats are mainly lowland animals associated with riverbanks and wetlands and frequently visiting farmyards. They prey on Rats, Rabbits, small mammals and amphibians.



The Polecat was trapped and hunted almost to extinction in Britain, surviving only in a small area of Wales. Macpherson (1892) reported that the Polecat had lately become extremely scarce in Lakeland with only a few remaining in the Eden Valley, around the Scottish border and in its last stronghold of the Solway Mosses. It is thought to have disappeared from Cumbria about 1915, although Carlisle Natural History Society records include a report of a Polecat from Orton Moss (NY35) in 1928.

During the 20th century, escaped Ferrets would occasionally go wild and small populations survived for short periods locally in the county. However releases of captive-bred Welsh Polecats at Sunbiggin and south Windermere in the 1980s led to rapid increase in the number of sightings and road kills. At first many of these showed signs of hybridisation between the wild and the domestic form as the true-bred Polecats interbred with existing feral Ferrets. But this injection of wild blood seems to have added vigour to the population which expanded rapidly and increasingly the physical characters of the wild species have come to dominate. From the initial release points Polecats spread into the upper Eden Valley and along the southern coast of the county. From here they have gradually spread throughout the lowlands of the county, although they still appear commoner in the east and south. Polecats are mainly nocturnal and are rarely seen, most records coming in the form of road casualties.

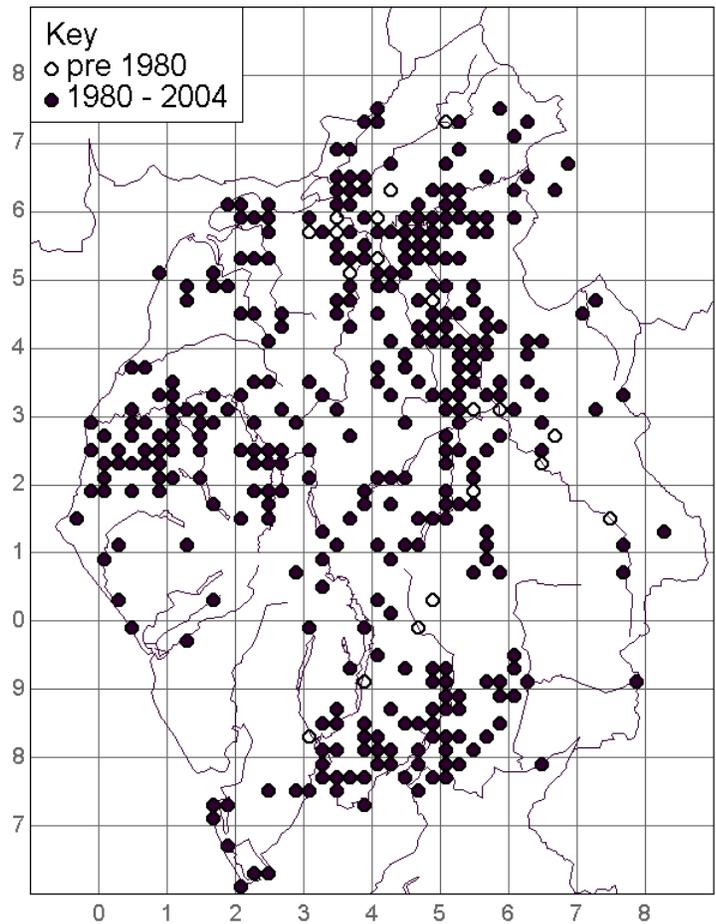
Stoat

Mustela erminea

The Stoat is chestnut-brown above and white below with a long, thin, typical 'weasel' shape. At 20-30cm long, it is distinctly bigger than the Weasel and the black tip to the Stoat's tail is absent in the Weasel. The black, curly droppings and five-toed footprints are similar to other members of the weasel family and are not always easy to distinguish.

Stoats are widespread in all habitats in Cumbria wherever there is suitable cover of walls, hedges, scrub and scree. They prey largely on mice, voles and rabbits. They also take birds and their eggs and eat fruit and invertebrates on occasion.

In winter some Cumbrian Stoats moult into a white winter coat for camouflage in the snow, leaving only the tip of the tail black. These animals are said to be in 'ermine' and the coat of the ermine has been used to decorate the robes of Kings and Queens. Not all Stoats turn white in winter, some only partially change colour and are said to be 'half-ermine' and others do not change colour at all. Low temperature and increased snow-lie, as well as genetics, prompt Stoats to change colour and so a series of harder winters might be expected to produce increased numbers of white Stoats. Ernest Blezard noted increased numbers of Stoats in ermine in the winter of 1951. As we get less and less snow in winter the numbers of Stoats in ermine may well be in decline.

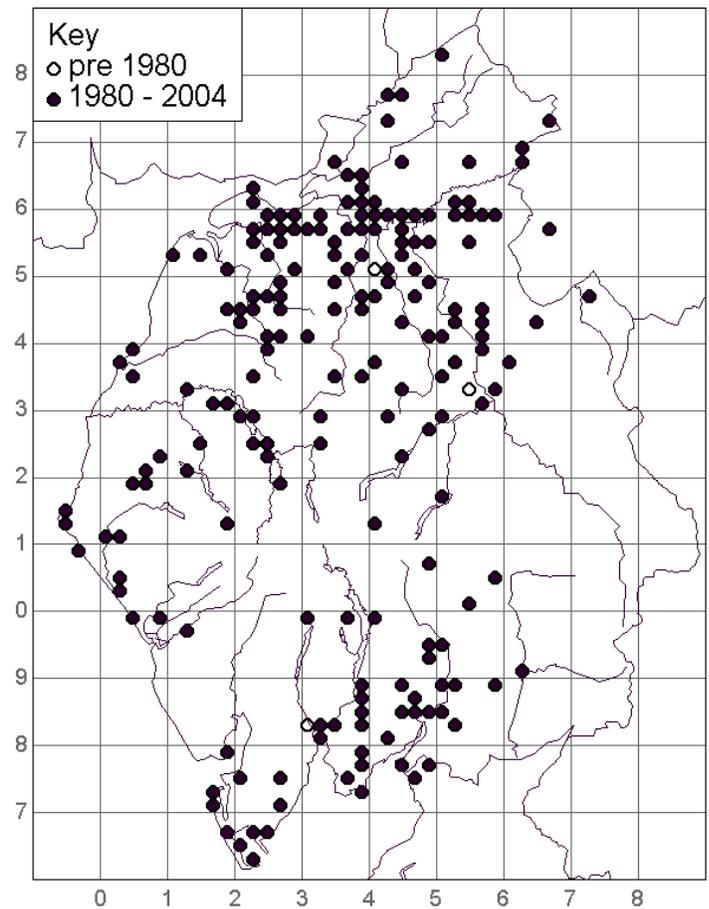


Weasel

Mustela nivalis

The small size, thin body and short legs readily identify the Weasel. At 13-23 cm it is considerably smaller than the Stoat and unlike that animal has no black tip to its tail. Its small size and secretive habits mean that it is less frequently noticed than the Stoat.

The Weasel is widespread in Cumbria in a variety of habitats where there are small mammals to hunt and walls and hedges for cover. Weasels appear to be less frequent in the upland areas of the county.

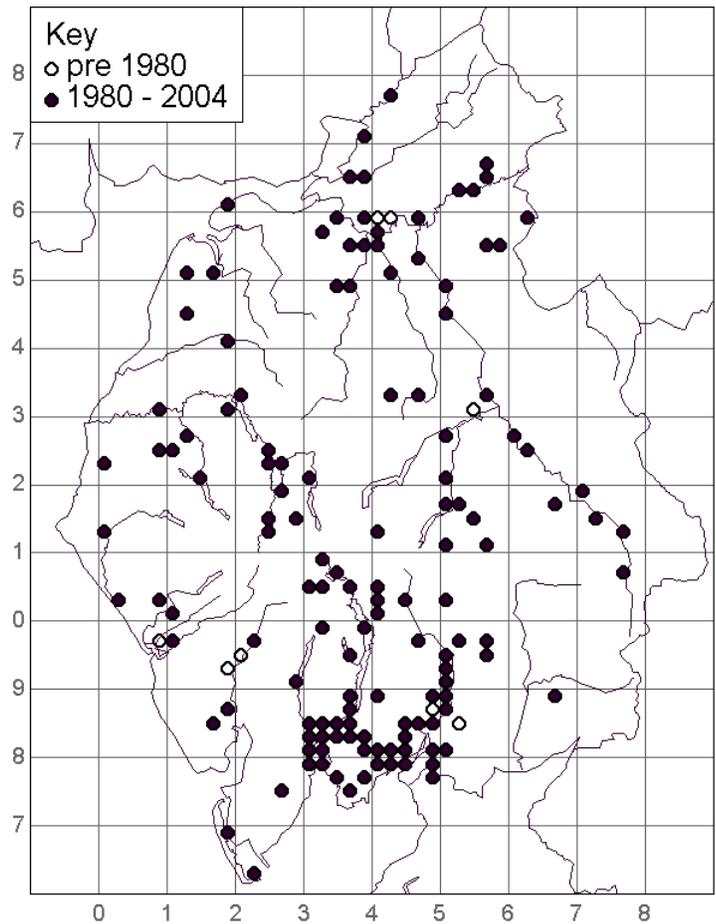


Mink

Mustela vison

Mink are the size of a small cat, with dark brown fur, a bushy tail and a white chin. Although other colour forms are sometimes seen, particularly a silver grey variety. They swim well and hunt small mammals, birds and amphibians along rivers and lakes. Mink tracks and scats along riverbanks are distinctive and as this animal is frequently active in the day sightings are not uncommon.

North American Mink were bred for their fur and in the 1960s escaped animals from a fur farm near Ravenglass began to live wild in Cumbria and others spread into the county from Lancashire. Polecats and Otters were extinct or extremely rare in Cumbria at that time and Mink were able to occupy the niche that these two natural competitors would have filled. Consequently Mink did very well, rapidly increasing in numbers and spreading throughout the county's river systems. By 1980 numbers were at high levels and had a serious impact on the county's water birds and mammals. Mink have been blamed for the demise of the Water Vole in much of the county. Since then Mink numbers have dropped, although they are still widespread. Possibly they have become more naturally spaced as they have become established and set up individual territories or perhaps the welcome increase in Otter and Polecat numbers since 1990 has squeezed the Mink population.



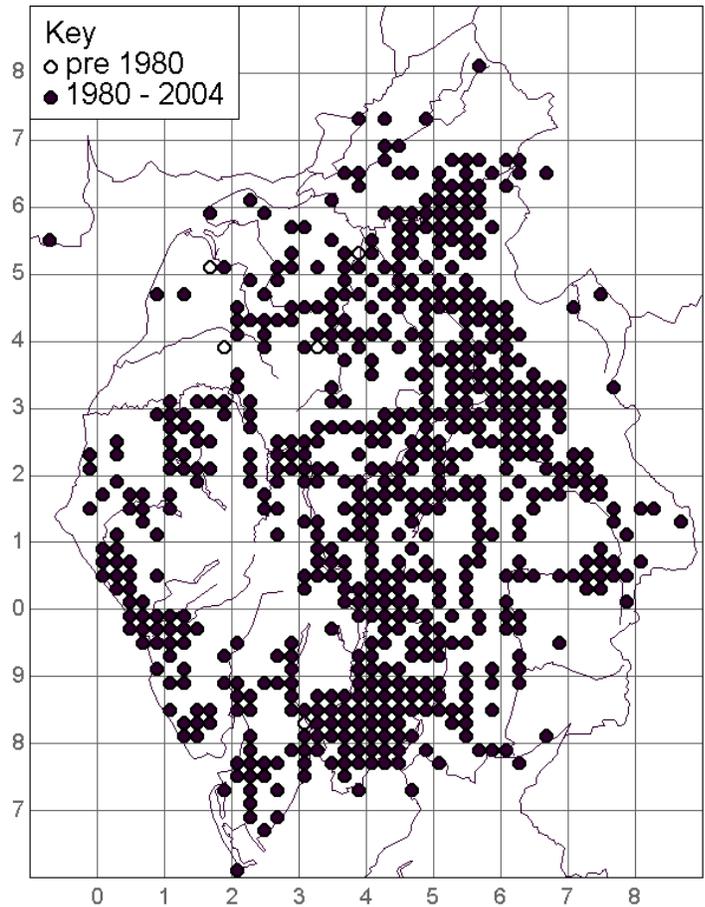
Badger

Meles meles

The Badger is very distinctive with its black and white face, silver-grey coat, large size and shambling run. It is the largest member of the weasel family in the county and leaves the five-toed footprints typical of this group. The large size of the prints and obvious long claw marks of the fore feet clearly identify Badger tracks.

Badgers are found across the county, often digging their setts in woods and hedge banks. They are by no means restricted to woodland and will dig into coastal slopes as well as open fell sides up to 600m, where the large spoil heaps at the entrance holes can be very obvious. They make obvious paths and dig small pits to use as latrines a short distance from the sett and around the edge of their territory. Where Badger paths go under barbed wire fences their hairs often get left snagged on the wire.

Macpherson (1892) considered the Badger to be extinct in Cumbria due to persecution. In fact it probably survived in low numbers and in the early 20th century began to make a come back, although it remained a local species and was heavily controlled in many areas. With legislation protecting the species it has made a strong recovery since the 1970s and is now common across most of the county. Badgers are active at night foraging for worms and insects as well as birds' eggs, small mammals, roots and fruit. Badgers travel some distance in their foraging activities and are frequently killed on the roads.



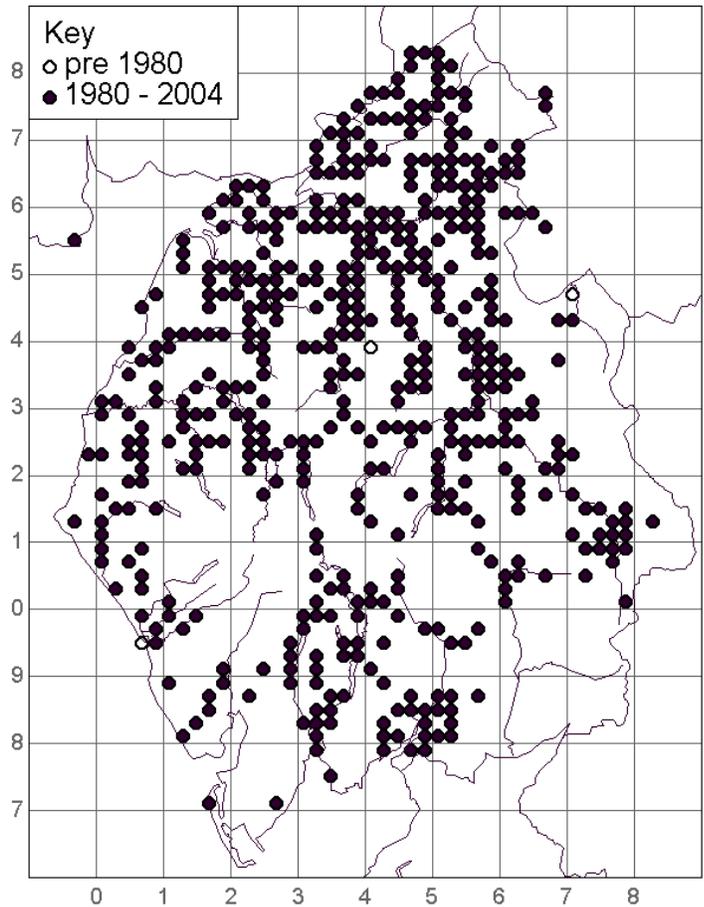
Otter

Lutra lutra

The Otter is almost always found near water and is most likely to be confused with a Mink, which also swims but is much smaller and darker. Mink also lack the long muscular tail and broad, flat head of the Otter.

In Cumbria Otters are mainly found on our rivers and lakes where they are highly nocturnal and seldom seen. Otters feed on a variety of small fish, especially Eels, crayfish, amphibians and other water life. Their presence is more often recognised by their distinctive five-toed footprints on the riverbank, or by their droppings. These droppings (called spraints) are deposited on prominent rocks and tussocks by the water's edge and often appear spikey as they contain fish bones and scales. Otter spraints also have a very distinctive smell.

The Otter was scarce in Cumbria in Macpherson's time (1892) due to persecution, but recovered somewhat in the early 20th century. However from the 1950's numbers crashed across Britain because of the poisoning of rivers from agricultural pesticides. In the 1960s and 70s the Cumbrian Otter population was very low and the species was absent from large parts of the county. Since the 1980s the population has recovered and Cumbrian rivers have been recolonised from adjacent Otter populations to the north and south. This species is now once more relatively common in the county and the increasing number of animals reported killed on the roads is a reflection of this recovery.

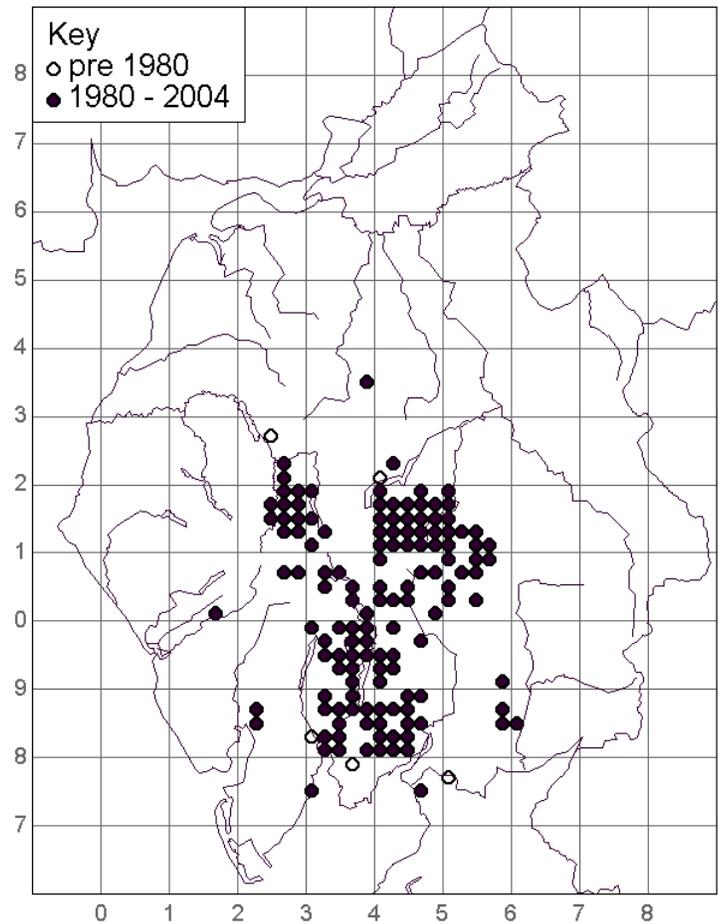


Red Deer

Cervus elaphus

The Red Deer is our largest deer. The red-brown coat lacks pale spots in the adult and the stags' antlers are large and branched.

Red Deer once roamed the forests of Britain and grew to a large size in this rich habitat. As the wildwood was cleared by humans the deer survived only in the hills where poorer nutrition meant they dwindled in size. Sub-fossil Red Deer antlers from deposits in the Solway and Eden Valley in Tullie House Museum are significantly larger than those of their descendants living on the Cumbrian fells. A herd of around 300 Red Deer is still present in the eastern Lakeland fells, centred on Martindale. The deer mate during the rut in October, when dominant stags defend a harem of hinds from all comers. This is a noisy and dramatic event when the hills echo to the roar of the stags. Red Deer are also present through the woods of south Lakeland, where in the past there has been some interbreeding with introduced Sika Deer.



Sika Deer

Cervus nipon

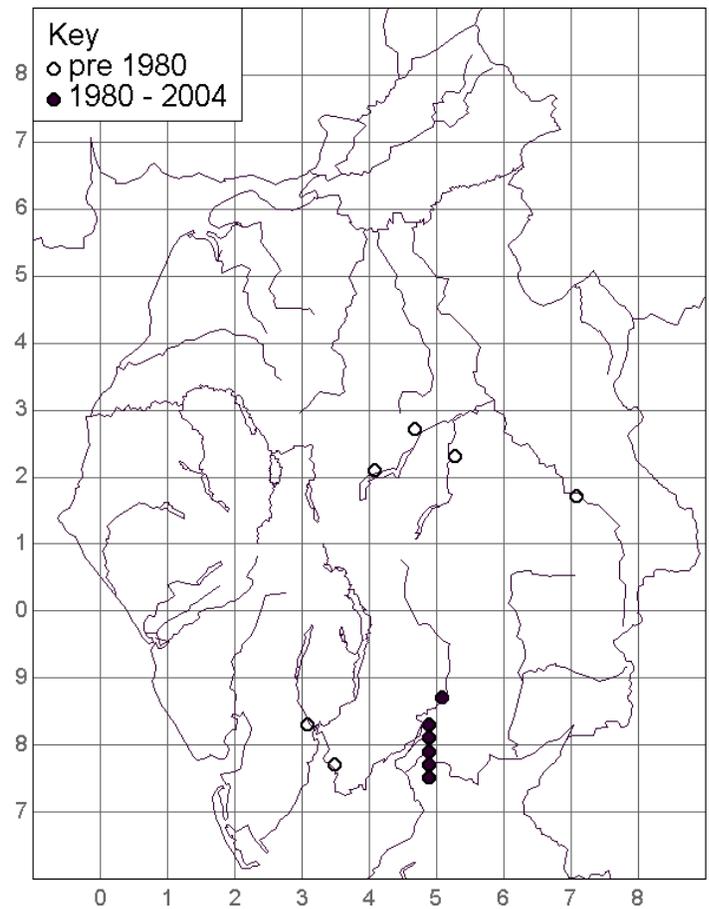
The Sika Deer is a native of Japan. Herds of these deer were emparked in north Lancashire in the early 20th century and some escaped to interbreed with the Red Deer in South Cumbria. From the 1950s, a policy of culling Sika and obvious Sika hybrids was put into operation in order to maintain the genetic type of the wild Red Deer population (McMurdo, 2003). This appeared to have effect and in the late 20th century very few animals with Sika characteristics were reported. However, in recent years occasional Sika-like deer have been reported from around Tebay and Witherslack. These animals are thought to have wandered into south Cumbria from adjacent areas, but may possibly be derived from a hybrid population in south Cumbria in which the physical characters of Sika Deer are normally suppressed.

Fallow Deer

Dama dama

The Fallow Deer was introduced to Britain in Norman times and kept in deer parks. A small population now lives wild around Arnside having escaped from a herd of emparked deer at Dallam Park.

The Fallow Deer is smaller than Red Deer and has pale spots on its back even as an adult. The stags' antlers are broadly flattened rather than branched.

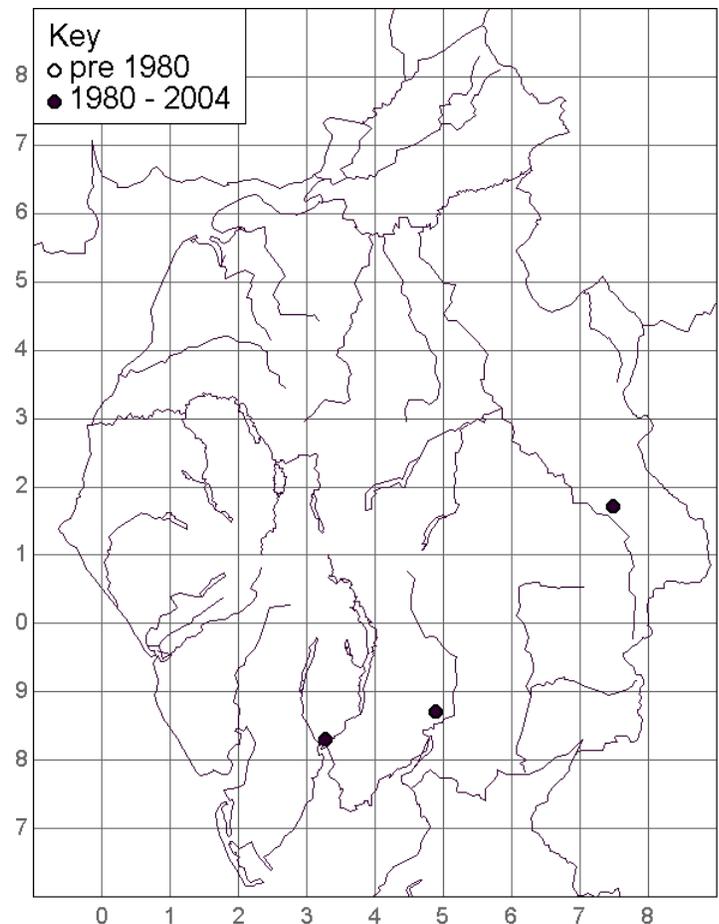


Muntjac Deer

Muntiacus reevesi

Chinese Muntjac are small deer introduced to Britain from Asia. They are animals of dense woodland and thicket, where they browse on the shrub layer. They can be distinguished from Roe Deer in having a tail, which is white beneath and by their typical humped-back stance. They are generally seen in ones or twos.

Muntjac have been reported infrequently from scattered locations in Cumbria in recent decades. Several have been seen in the middle Eden Valley and others have occurred around Kendal, and Witherslack in the south of the county



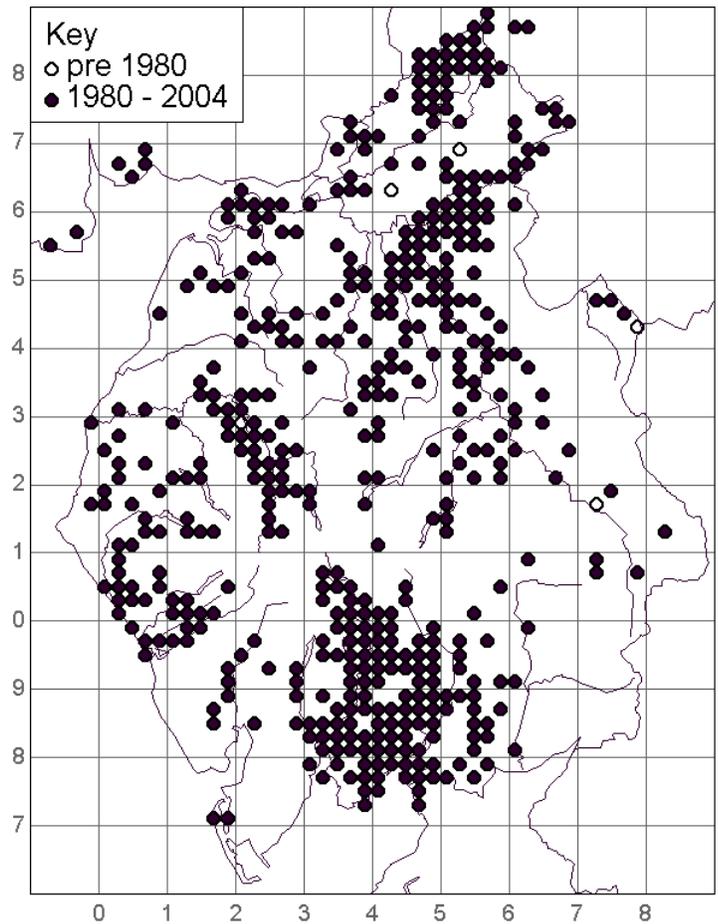
Roe Deer

Capreolus capreolus

The Roe is a small orange-brown to dark-brown deer. The bucks have short antlers and both sexes lack a visible tail but have a large cream patch on the rump. Roe Deer are woodland animals although they frequently feed in adjacent fields, moors and heaths. They are generally solitary or in small family groups, larger numbers may come together in winter. The presence of Roe Deer in a wood can often be established by looking for their footprints and droppings, together with other signs.

The Roe Deer would have been widespread in the natural forests of Cumbria that developed after the Ice Age and remains of their bones have been found in deposits of this age at several sites in the county. Hunting and woodland clearance led to the extinction of the Roe deer across most of the county.

Roe Deer almost became extinct in Britain by 1700 and are said to have survived only in some woods in Scotland. From there they spread south as new woods were planted and had reached the English border by around 1850. Macpherson (1892) provides evidence that Roe Deer certainly survived around Brampton in the 17th century and he suggested that they survived there until, in the late 19th and early 20th century, they began to spread back up the Eden Valley. After 1945 Roe Deer expanded rapidly into Cumbria from the north and it is now a common and widespread Cumbrian species once more.



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The Cumbria Biological Records Database at Tullie House Museum

Tullie House Museum operates a local biological records centre covering the county of Cumbria. Over 300,000 records of various wildlife groups, received from various sources, are stored on computer. The Museum aims to record and monitor the status and distribution of wildlife in Cumbria. The information is used to increase the knowledge of the wildlife of the county and to inform decisions affecting the wildlife and countryside of Cumbria.

The Museum welcomes information and records concerning the flora and fauna of Cumbria.

Please direct all correspondence to The Keeper of Natural Sciences, Tullie House Museum, Castle Street, Carlisle CA3 8TP.

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