

Oxfordshire Mammal Guide

A guide to the identification and distribution of
mammals in Oxfordshire

By Oxfordshire Mammal Group



clara prieto
www.claraprieto.com



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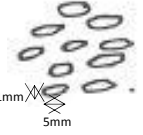

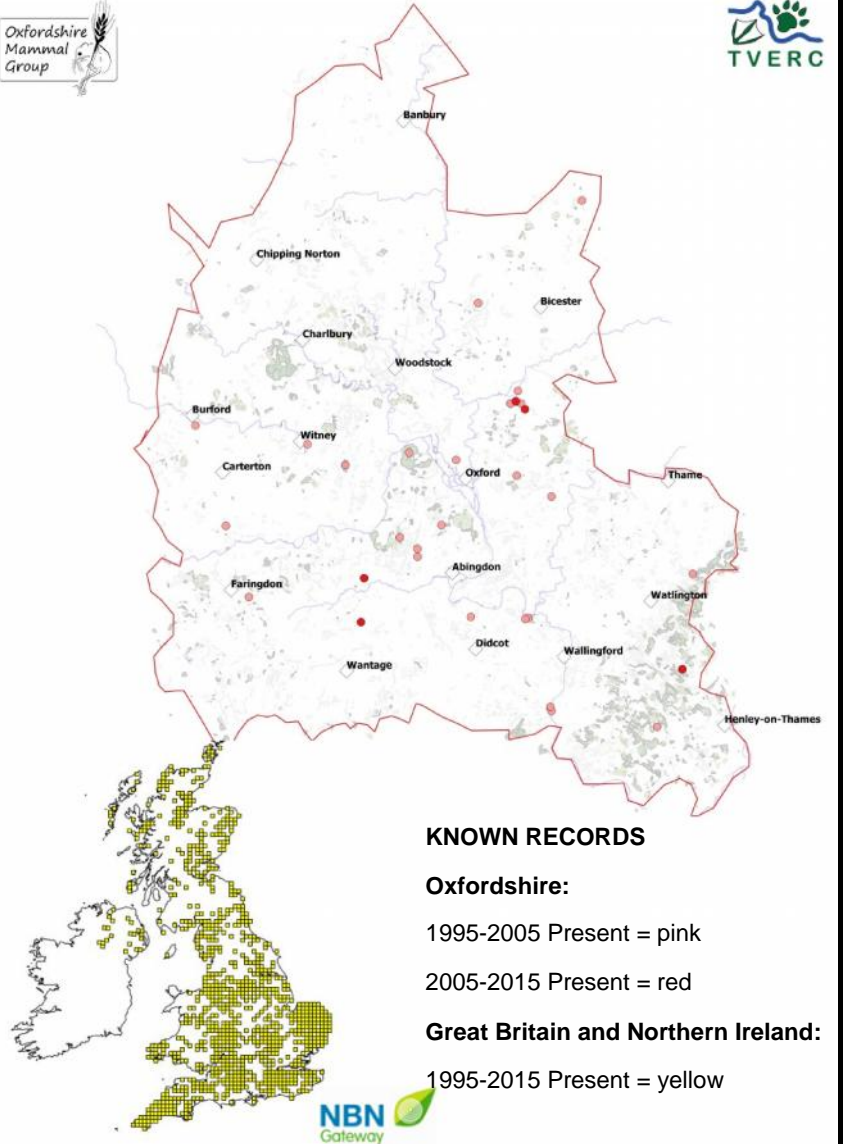
Contributors: Peter Newbold, Merryl Parle-Gelling, Bob Cowley, Laura Grant, Jude Hartley,
Alison Leaf, Amanda Lloyd, Lynda Newbold,
and Maria Walker.


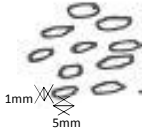
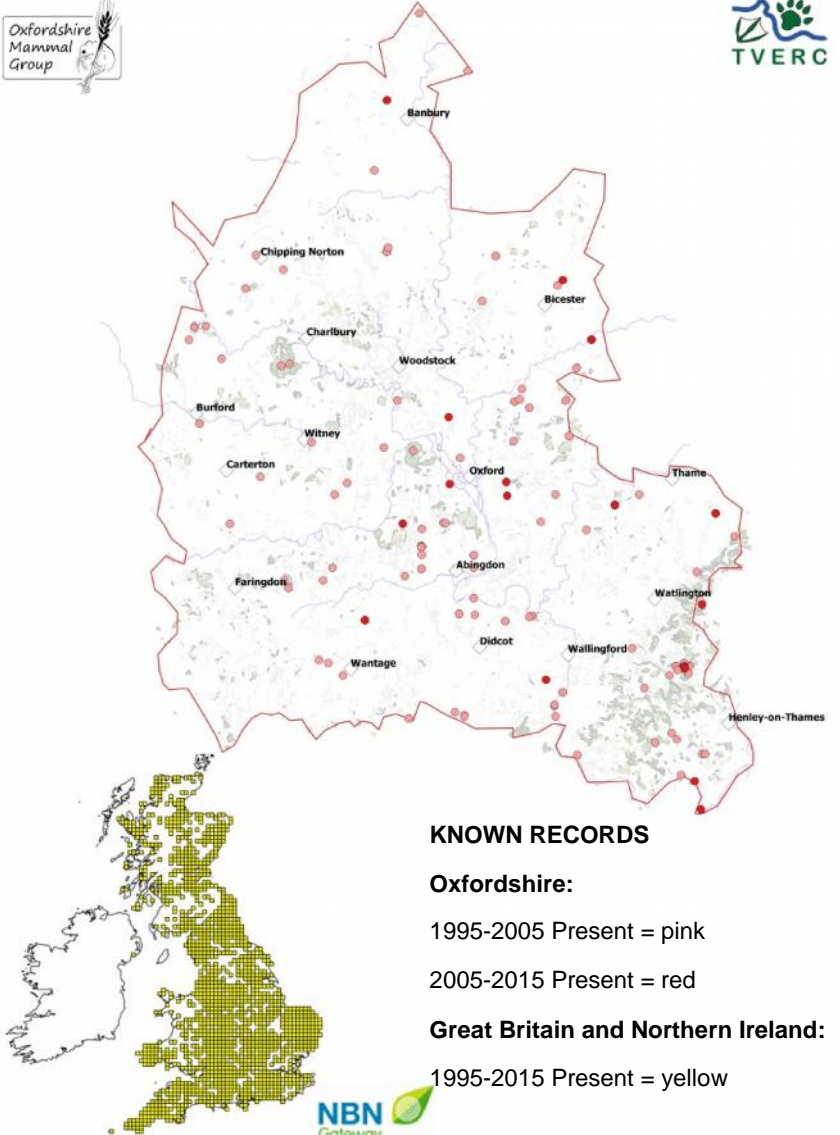
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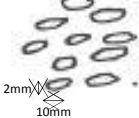

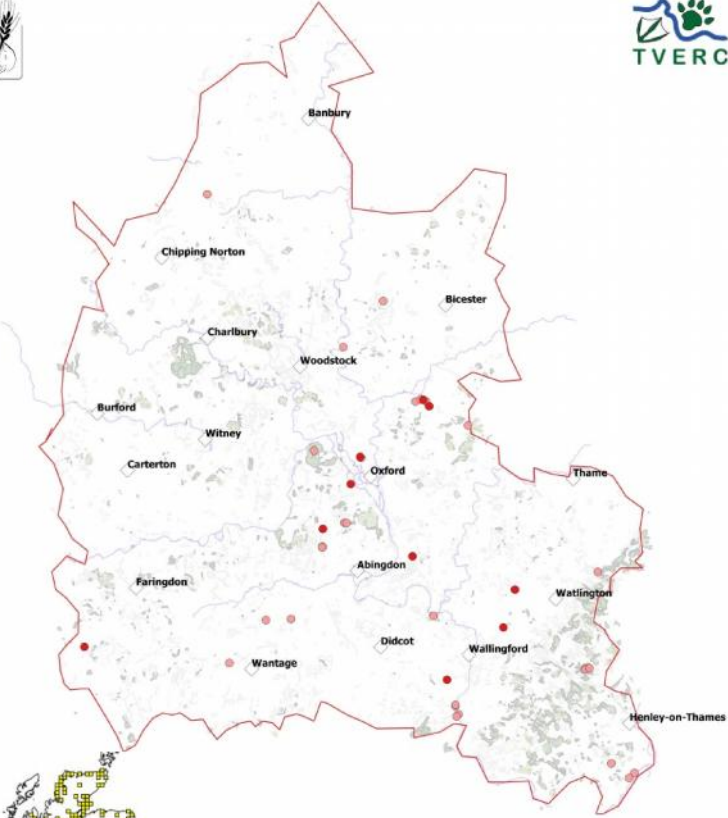
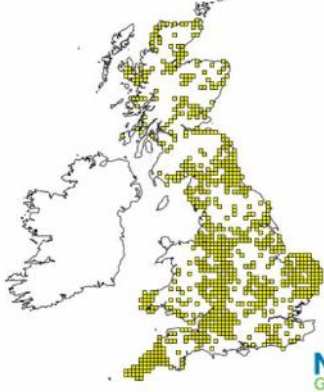

Oxfordshire species records for distribution maps courtesy of Thames Valley Ecological Records Centre.




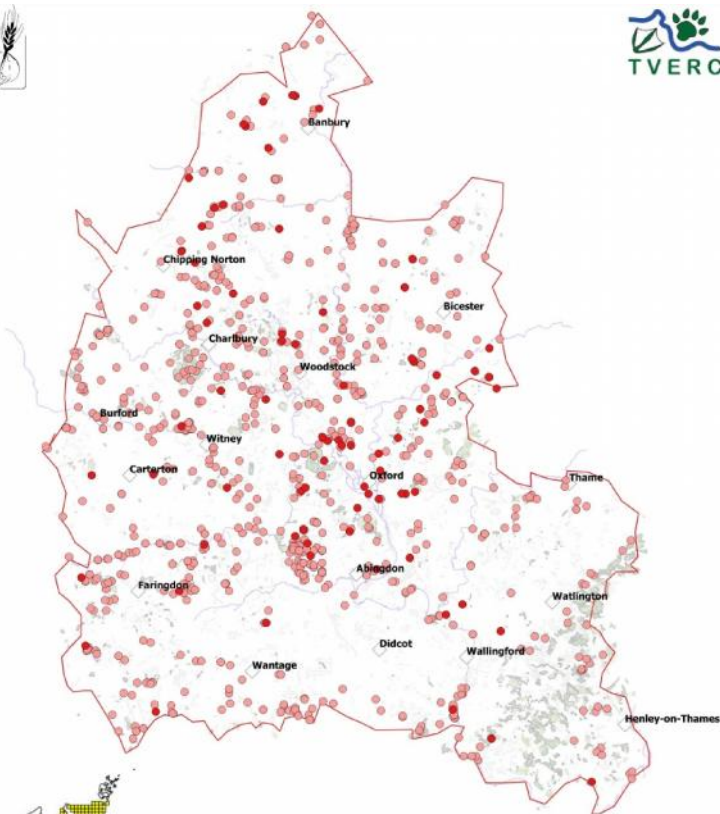



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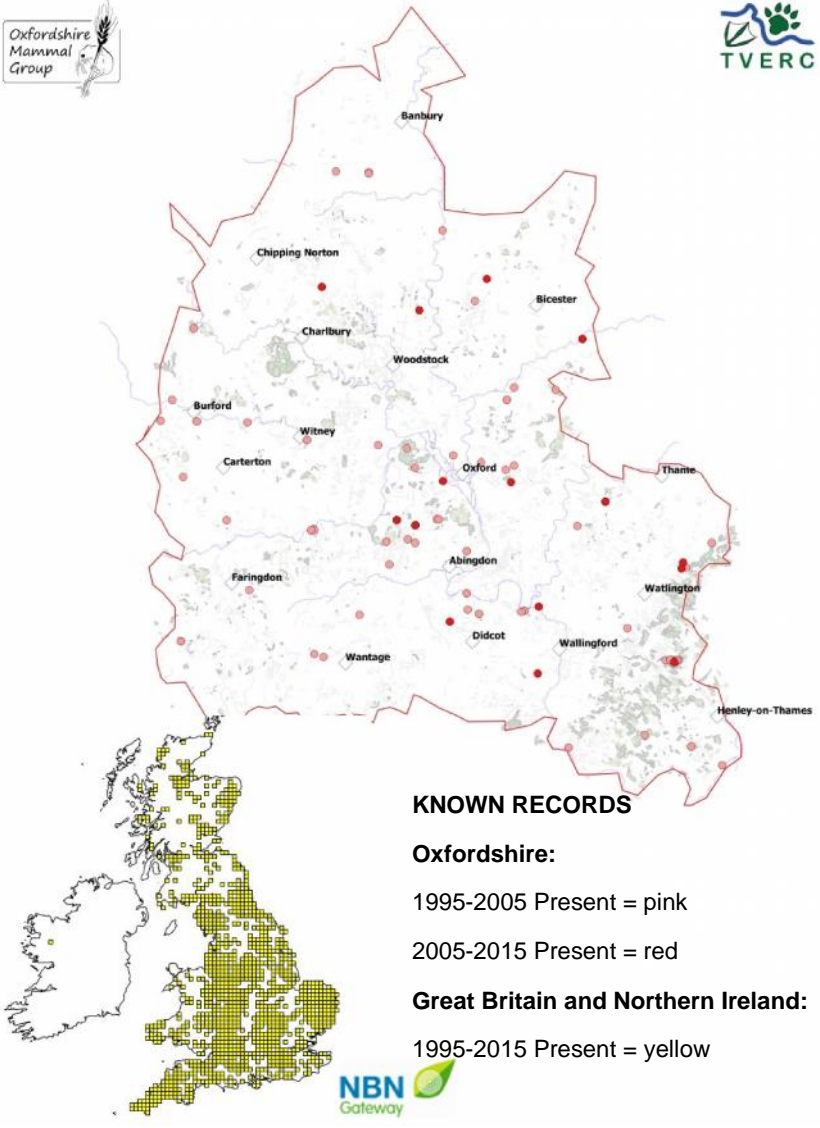
Front cover image: Roe deer, Clara Prieto


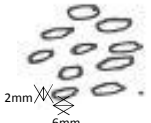

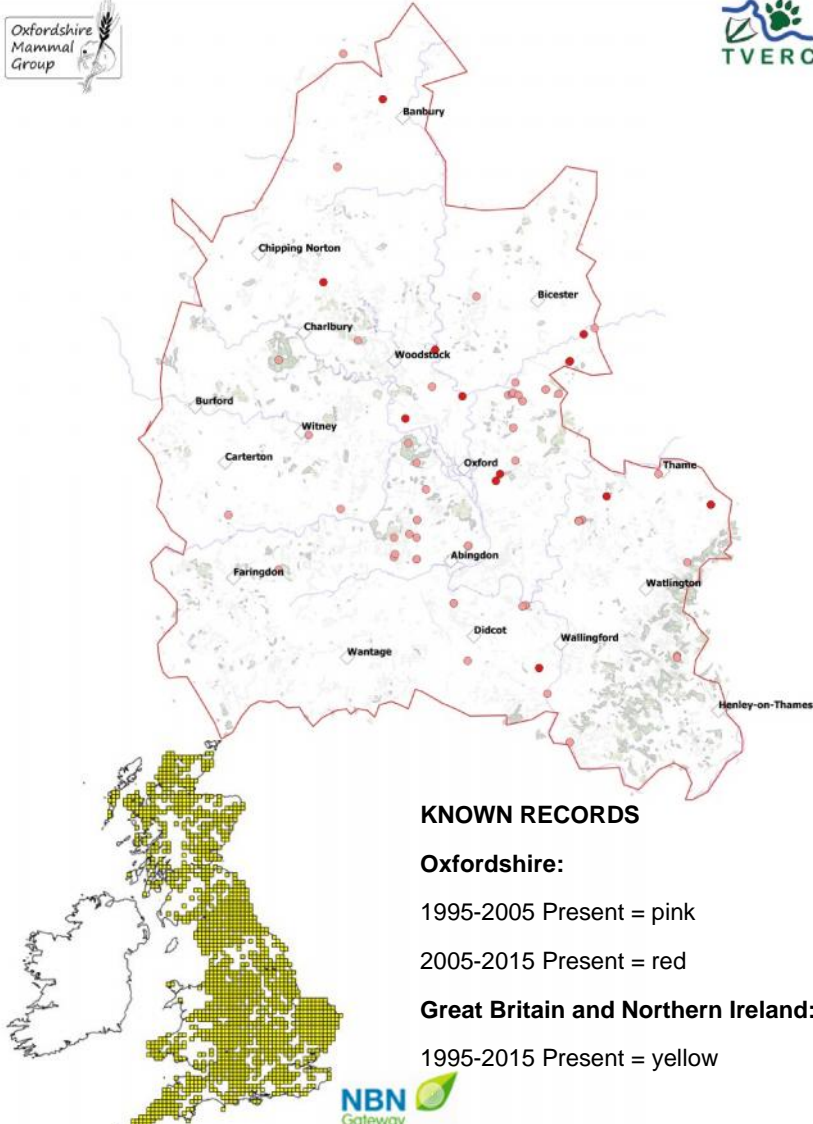

Pygmy Shrew	<i>Sorex minutus</i>	 <p>Derek Crawley</p>		
Description: Bicoloured, with dark brown back and flank, and pale belly. Long, pointed, flexible snout, tiny eyes and ears and red-tipped teeth. Tail $\frac{3}{4}$ length of the head and body. Head and body length 40-60mm, tail length 32-46mm. Adults 2.4-6.1g. Active throughout the day and night all year around.				
Field Signs		Call: Shrews most commonly detected by loud, high pitched piercing squeaks.		
Bones: Skulls can be found in owl pellets and have long, narrow jaws c. 6.3mm long, with red-tipped teeth. Front tooth of lower jaw without cusp.		Droppings: Rarely found. Tiny, black and crumbly. Contain insect remains. 		
		Footprints: Less than 10mm, rarely seen. Look for tail drag between prints. 		
Diet: Insects, spiders and woodlice. Must consume 125% of its body weight each day.		Habitat: Grassland, deciduous woodland and hedgerows. More frequently found on moorland than Common shrew.		
Lifespan: 13-16 months.		 <p>Oxfordshire Mammal Group</p> <p>TVERC</p> <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> <p>NBN Gateway</p>		
Breeding: 2 litters of 4-7 young born between April and October. Young become sexually mature in spring. Very high infant mortality rate.		UK Conservation Status: Native. Common and widespread. Oxfordshire: Uncommon but widespread. Legislation: ♦ Wildlife and Countryside Act 1981 Schedule 6		
Don't confuse with: Common shrew: Larger than Pygmy shrew and tricoloured (rather than bicoloured) with dark brown on the back, light brown flank and pale belly. Tail proportionally shorter ($<\frac{3}{4}$ of body length) than Pygmy shrew. Angle between head and snout of Common shrew is flatter.				



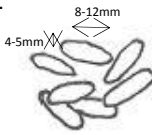
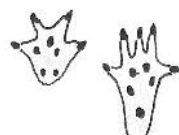
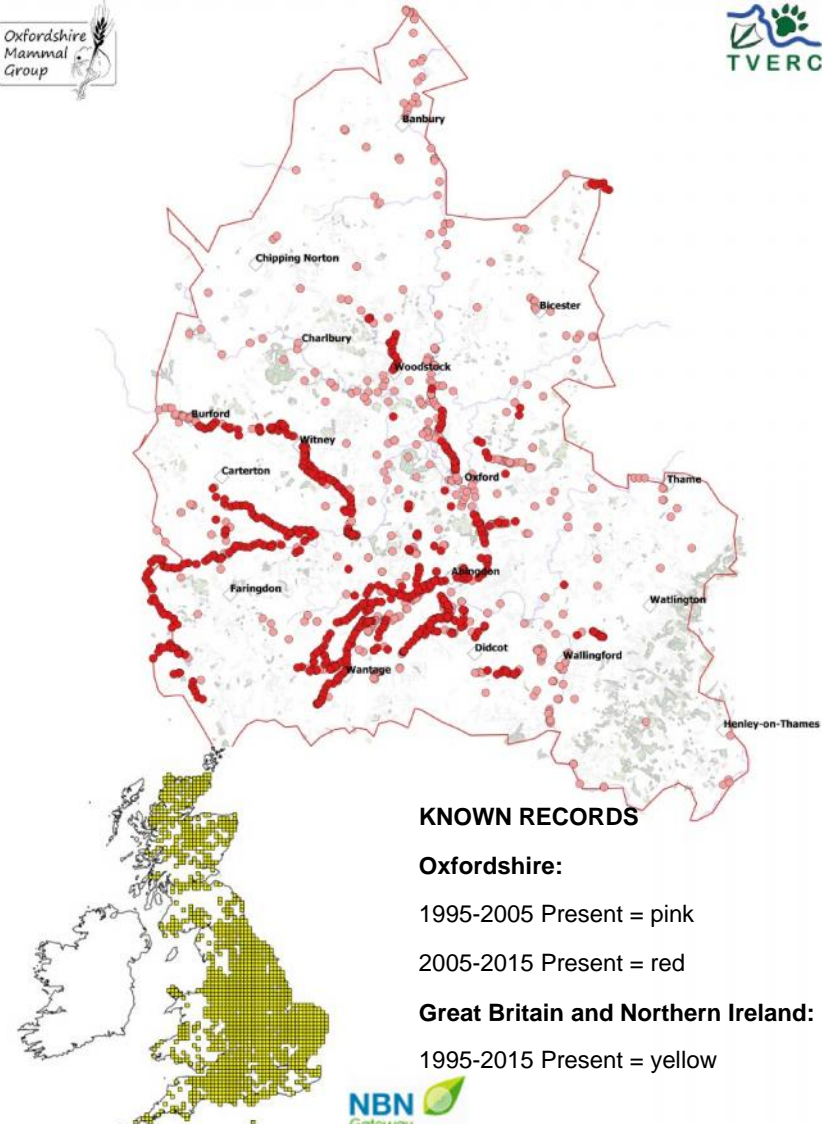
Common Shrew		<i>Sorex araneus</i>			
Description: Tricoloured, with dark brown back, light brown flank and pale belly. Long, pointed, flexible snout, tiny eyes and ears and red-tipped teeth. Tail less than ¾ length of the head and body. Head and body length 48-80mm, tail length 24-44mm. Adults 5-14g. Head and body shrink in size over the winter to reduce need for food. Active throughout the day as must eat every 2-3 hours, but most active at night.					
Field Signs					
Call: Shrews most commonly detected by loud, high pitched piercing squeaks.		Bones: Skulls can be found in owl pellets and have long, narrow jaws c. 9.5mm long, with red-tipped teeth. Front tooth of lower jaw with cusp, appearing serrated.		Droppings: Rarely found. Tiny, black and crumbly. Contain insect remains.	
					
				Footprints: Less than 10mm, rarely seen. Look for tail drag between prints.	
Diet: Terrestrial insects, worms, slugs and snails.				Habitat: All terrestrial habitat with good vegetation cover.	
Lifespan: Up to 12 months.					
Breeding: 3-4 litters of 5-7 young born May-September. Litters may have multiple fathers. Young emerge at 16 days and may follow their mother in a 'caravan' with each shrew holding the tail of the shrew in front.					
UK Conservation Status: Native. Common and widespread.					
Oxfordshire: Common and widespread.					
Legislation: ♦ Wildlife and Countryside Act 1981 Schedule 6					
Don't confuse with: Pygmy shrew: Smaller than Common shrew and bicoloured (rather than tricoloured) with dark brown on the back extending down the flanks to a pale belly. Tail proportionally longer (>¾ of body length) than Common shrew. Angle between head and snout of Common shrew is flatter. Water shrew: Much larger than Common shrew, with black rather than dark brown fur on back.					
				KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow	



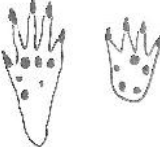
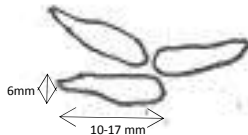

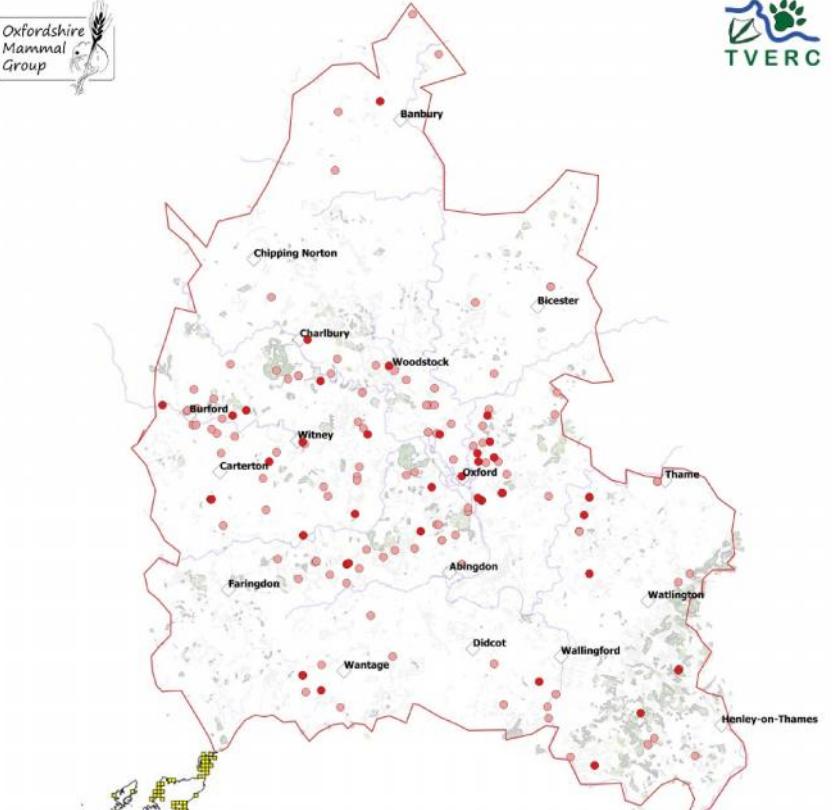

Water Shrew	<i>Neomys fodiens</i>			
Description: Short, black fur with clearly demarked, pale underside. Eyes and ears small, snout long and pointed. Tail long with line of stiff hairs underneath forming a keel. Teeth with red tips. Head and body length 67-96 mm, tail length 45-77mm. Adults 12-18g. Nocturnal. Venomous saliva which can cause skin irritation in humans.				
Field Signs				
Burrows: Burrows in ground, banks or moss, entrance up to 2 cm across. Surrounding vegetation undisturbed.	Bones: Skulls can be found in owl pellets and have long, narrow jaws c. 13mm long, with red-tipped teeth. Front tooth of lower jaw without cusp.	Droppings: Black, cylindrical. In piles along runs of disturbed soil under a log or along edge of bank. Only small mammal dropping to contain fragments of aquatic invertebrates. 	Footprints: Less than 10mm, rarely seen. Look for tail drag between prints. 	
Diet: Freshwater and terrestrial invertebrates. Occasionally eats fish, newts and small frogs.		Habitat: Semi-aquatic habitats: river banks, wet ditches, fens, ponds, water meadows and particularly watercress-beds. Dispersing young may be found in other habitats.		
Lifespan: 14-19 months.		<div data-bbox="651 1003 767 1084">Oxfordshire Mammal Group</div> <div data-bbox="1378 987 1477 1059">TVERC</div>  <div data-bbox="651 1742 975 2134">  </div> <div data-bbox="1075 1809 1477 2085"> <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> </div> <div data-bbox="963 2078 1075 2134">  </div>		
Breeding: 2 or 3 litters of 3-15 young born April to September in dry grassy nest in burrow or under a log. Gestation 14-21 days. Adults die after breeding and young become sexually mature in spring.				
UK Conservation Status: Native. Locally common. Oxfordshire: Uncommon. Legislation: ♦ Wildlife and Countryside Act 1981 Schedule 6				
Don't confuse with: Mole: Both species have short, black fur and long, pointed snouts. However, the water shrew is much smaller, with a pale belly and long tail and lacks the obvious large, turned-out forefeet of the mole. Common and Pygmy Shrews: The other two UK species of shrew are both much smaller than the water shrew and have dark brown rather than black fur above.				



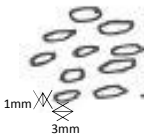
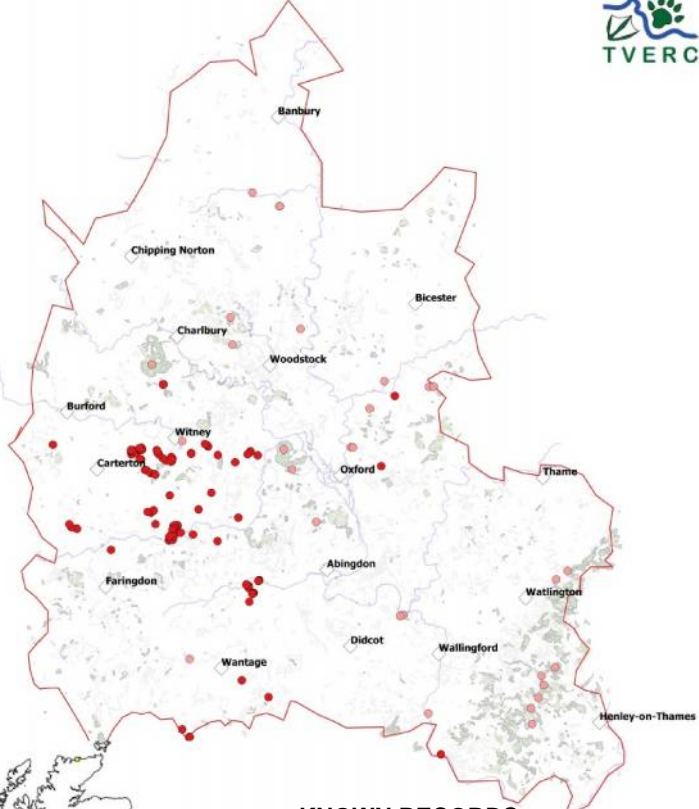
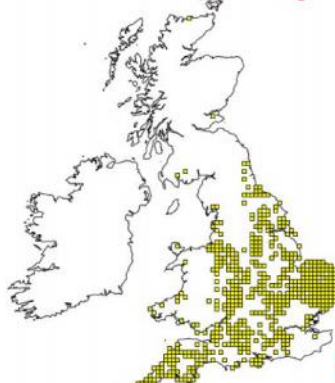
European Mole		<i>Talpa europaea</i>
Description: Black, short, velvety fur. Long cylindrical body with very short hairy tail. Eyes small and hidden in fur, no external ears, nose long and hairless, with long whiskers. Tail dark and hairy. Head and body length 113-159mm, tail 25-40mm. Adults 72-128g.		
 <div>Derek Crawley</div>		
Field Signs		
Molehills: Freshly-turned mounds of earth that are pushed up during the excavation of tunnels.		
 <div>Peter Newbold</div>		
Diet: Invertebrates, particularly earthworms. Will eat adult and larval insects.		Habitat: Grassland, arable, pasture, deciduous woodland.
Lifespan: Typically 2-3 years, but can live to 5 years in the wild.		
Breeding: Breeding season March-May. Litters of 2-7 young born blind and hairless from mid to late April. Fur begins to grow at 14 days, eyes open at 22 days, weaned at 33 days. Disperses from natal territory at 5-6 weeks.		
UK Conservation Status: Native. Common and widespread.		
Oxfordshire: Common and widespread.		
Legislation: Not currently protected.		
Don't confuse with:		
Water shrew: Both species have short, black fur and long pointed snouts. However, the mole is much larger, with obvious large, turned-out forefeet and lacks the pale belly and long tail of the water shrew.		
<div><div><div>KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow</div></div><div></div></div>		



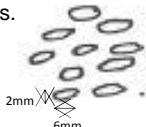




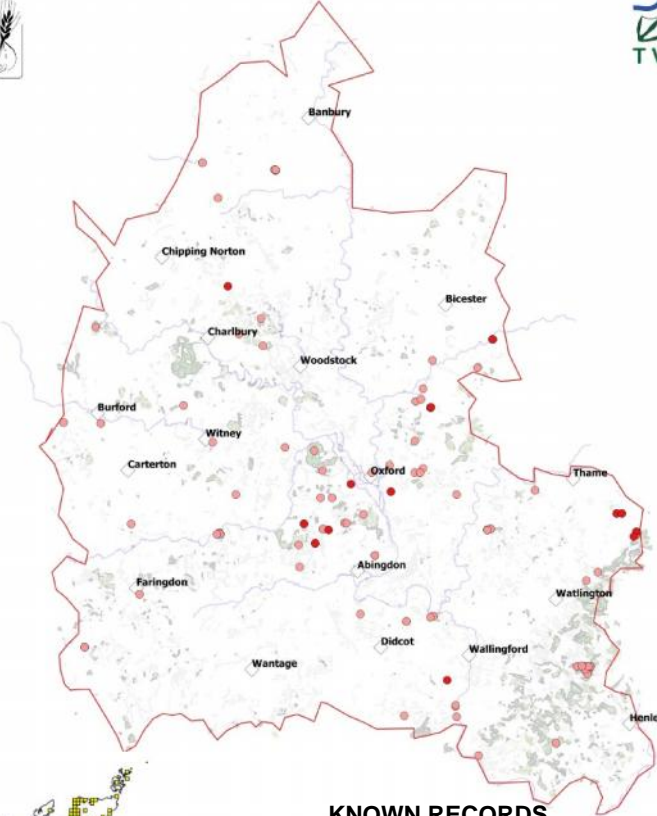


Bank Vole	<i>Myodes glareolus</i>		
Description: Red-brown fur above and creamy-grey fur below. Rounded snout and small eyes and ears hidden under fur (ears not as visible as mice but more prominent than field vole). Head and body length 9-12cm, tail length 50% length of head and body (5-6 cm). Juveniles are grey-brown.		Field Signs	
Nest: Often 2-10 cm below ground so hard to see (although found under logs/refugia); may also have breeding nests in tree trunks. Moss, leaves, grass and feathers used as nesting materials.	Tunnels and runways: chewed through long grass, with cut remains of grass and droppings within.	Droppings: Rounded in section; usually brown-black but vary with diet, green when fresh. Hard when dry (doesn't crumble). More uniform and regular than mice.	Footprints: Forefoot approximately 10mm, hindfoot up to 20mm.
Diet: Largely herbivorous: mainly tree leaves in summer, fungi in summer and autumn and fruit and seeds in autumn-winter; highest intake of animal food (invertebrates) is in spring.		Habitat: Common in mature deciduous and mixed woodland; also found in grasslands, hedges, grass verges and fens. Thick ground cover important.	
Lifespan: High mortality in first 6 weeks and in summer months. 1-2 years.		Breeding: Breeding season March/April to September/October; pregnancy 18-20 days; mean litter size 4.8 (up to 7); successive litters can be delivered at 3-4 week intervals; early born females may breed in same year.	
UK Conservation Status: Native. Common and widespread Oxfordshire: Common and widespread Legislation: Not currently protected			
Don't confuse with: Field vole: More yellowish or greyish brown with shorter tail and hardly visible ears. Yellow-necked/wood/house mouse: Longer tails, large and obvious ears. Dormouse: Orange-yellow coat on top with yellow underside and white on throat.		KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow	



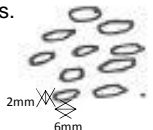


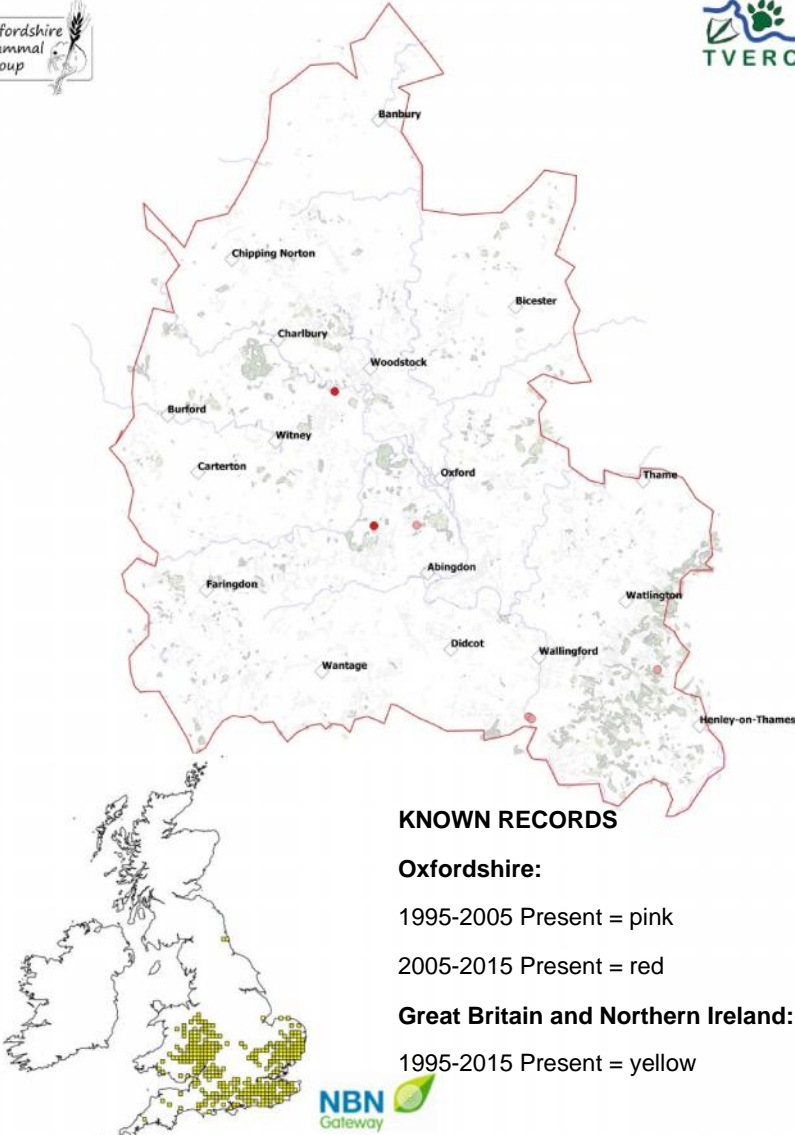
Field Vole	<i>Microtus agrestis</i>	 <p>Derek Crawley</p>		
Description: Grey-brown or yellowish fur above, creamy-grey fur below and a short tail. Rounded snout and small eyes and ears (ears usually not visible, hidden under fur). Head and body length 9-12cm, tail length 1-5cm (tail about 30% of head and body length).				
Field Signs				
Tunnels and runways: chewed through long grass, with cut remains of grass and droppings within.	Nest: Round nests of shredded grass, often at ground level under tussocks of grass. Also found under logs/refugia.	Droppings: Rounded in section; usually brown-black but vary with diet, green when fresh. Hard when dry (doesn't crumble). More uniform and regular than mice. 	Footprints: Forefoot approximately 10mm, hindfoot up to 20mm. 	Feeding stations: Voles often bring food to platforms along water's edge or in tussocky vegetation. Neat piles of vegetation (grasses and herbs) typically 4cm long or less, with 45° cuts.
Diet: Herbivorous – mainly feeding on green leaves and stems of grasses; mosses may make up 20% of diet.			Habitat: Mainly rough, ungrazed grasslands, including damp areas.	
Lifespan: High mortality in first 6 weeks and in summer months. 1-2 years.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> 		
Breeding: Young born March/April to September/October. Early born females will breed in same year. Gestation 21 days, litter size 1-9, average 5.				
UK Conservation Status: Native. Widely but patchily distributed. Oxfordshire: Common and widespread Legislation: Not currently protected				
Don't confuse with: Bank vole: More reddish-brown with longer tail and more visible (but small) ears. Yellow-necked/wood/house mouse: Longer tails, large and obvious ears. Dormouse: Orange-yellow coat on top with yellow underside and white on throat.				


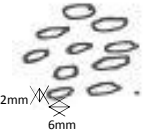


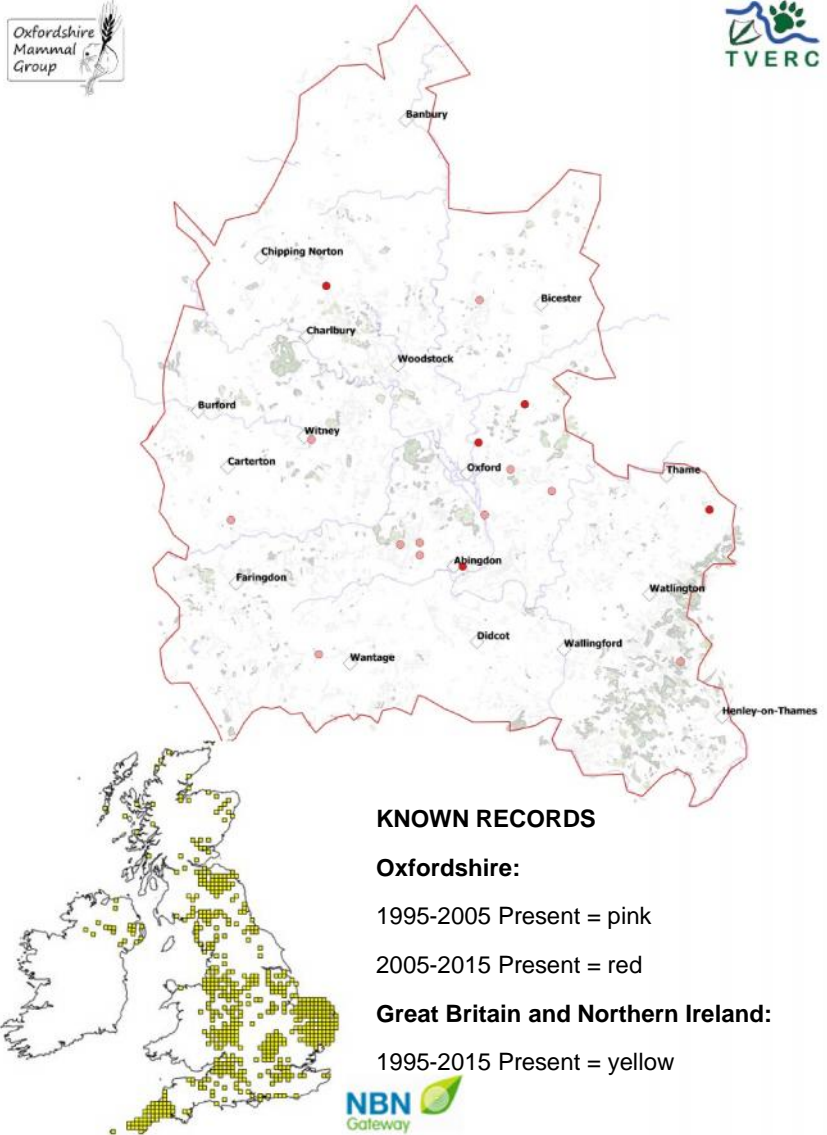
Water Vole	<i>Arvicola amphibius</i>			
Description: Dark brown fur, plump body and rounded face with blunt nose. Small but protuberant eyes; small ears, largely concealed by fur. Tail is furry and shorter than body length (~60%). Total length of body and tail approximately 18 cm. Swims with large proportion of body and head above water.				
Field Signs		Burrows: usually within 1 metre of water. Entrance 4-8 cm diameter, width greater than height, may have several entrances, including underwater. Will occasionally nest on surface (nests about 20cm wide) amongst vegetation.	'Feeding lawns' of short grazed grass outside burrows on top of river bank. Runways: 4-9 cm wide by water's edge or close to burrow normally leading into water.	
		Droppings: Usually in prominent latrines, which may mark territory. Colour varies: usually dark green with visible vegetation when broken up. 	Footprints: Star like forefoot. Hindfoot outer toes always splayed and heel shorter than rats'. Hindfoot up to 34mm. 	
Diet: Predominantly vegetarian: eats mainly grasses, reeds and sedges, as well as some other plants. Occasionally eats insects, crayfish and small fish – particularly pregnant females.		Feeding stations: Water voles often bring food to platforms along water's edge. Neat piles of vegetation (grasses, reeds, sedges and rushes) typically 8cm long or more with 45° cuts.		
Habitat: Usually within 2 metres of water: most frequent in densely vegetated banks of ditches, rivers, streams and marshes – generally where water flow is slow.				
Lifespan: Few survive 2 winters. Predators include fox, otter, stoat, weasel, brown rat, owls, herons and pike and, in colonised areas, mink.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> <p>NBN Gateway</p>		
Breeding: Young born between April-September; females have 1-5 litters, average 6 young (max 9). Weight at birth 3.5-7.5 g; weaned and leave nest at 22 days.				
UK Conservation Status: Native. Vulnerable due to habitat loss and predation by mink. Oxfordshire: Widespread and increasing along river corridors Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5◆ Section 41 NERC Act 2006				
Don't confuse with: Brown rat: Grey-brown, pointed muzzle, large ears, hairless tail longer than body, rat doesn't 'plop' on entering water; footprints somewhat larger; droppings scattered (not in latrines), blackish-brown and offensive smell. Burrow entrance similar size and location: may be linked by 'rat-runs', with absence of feeding lawns or territorial latrines. Rat burrows often have a fan of excavated soil in front of burrow.				





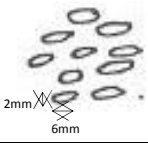
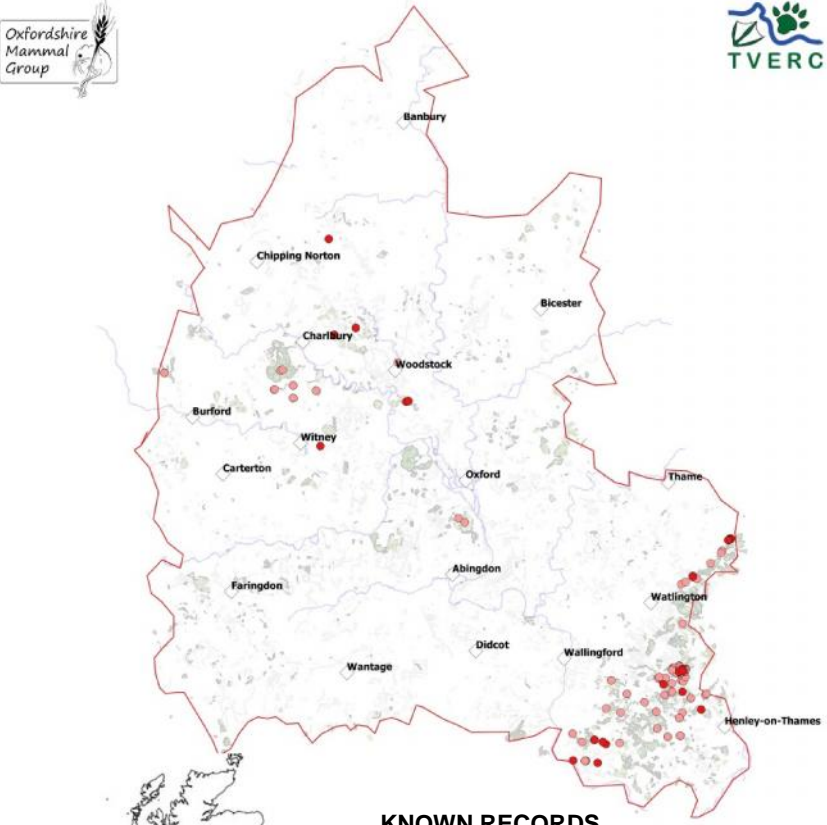
Brown Rat	<i>Rattus norvegicus</i>	 <p>Derek Crawley</p>
Description: Grey-brown fur with a very pointed muzzle. 150-270mm long body with similar length, almost naked tail.		
Field Signs		Burrows: Typically live in underground burrows with 4-8cm wide entrances. There is usually a well-travelled system of pathways around the entrance and excavated soil in entrance.  <p>Peter Newbold</p>
Footprints: Forward facing and straight toes, although can splay on soft ground. Hindfoot up to 45 mm. 	Droppings: One blunt end, the other pointed. More irregular than water vole. Black-brown and smelling foul. Often feel putty like. Mostly scattered (not in latrines). 	
Diet: Complete omnivore – will eat anything, especially grains, insects and food scraps.		Habitat: Anywhere with suitable food (gardens, farmland, coast, etc.).
Lifespan: Up to 1 year in the wild.		
Breeding: All year around. Will start to breed from 3 months old and will breed continuously if food is available. Litter size is approximately 6.		
UK Conservation Status: Native. Common and widespread.		
Oxfordshire: Common and widespread.		
Legislation: Not currently protected.		
Don't confuse with: Water vole. Rats are much darker than water vole with longer more pointed muzzles – but both similar in size and can live near water. Rat burrows often connected with tracks to each other and no latrines or feeding lawns nearby. Rat burrows often have a fan of excavated soil in front of burrow.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> <p>NBN Gateway</p>





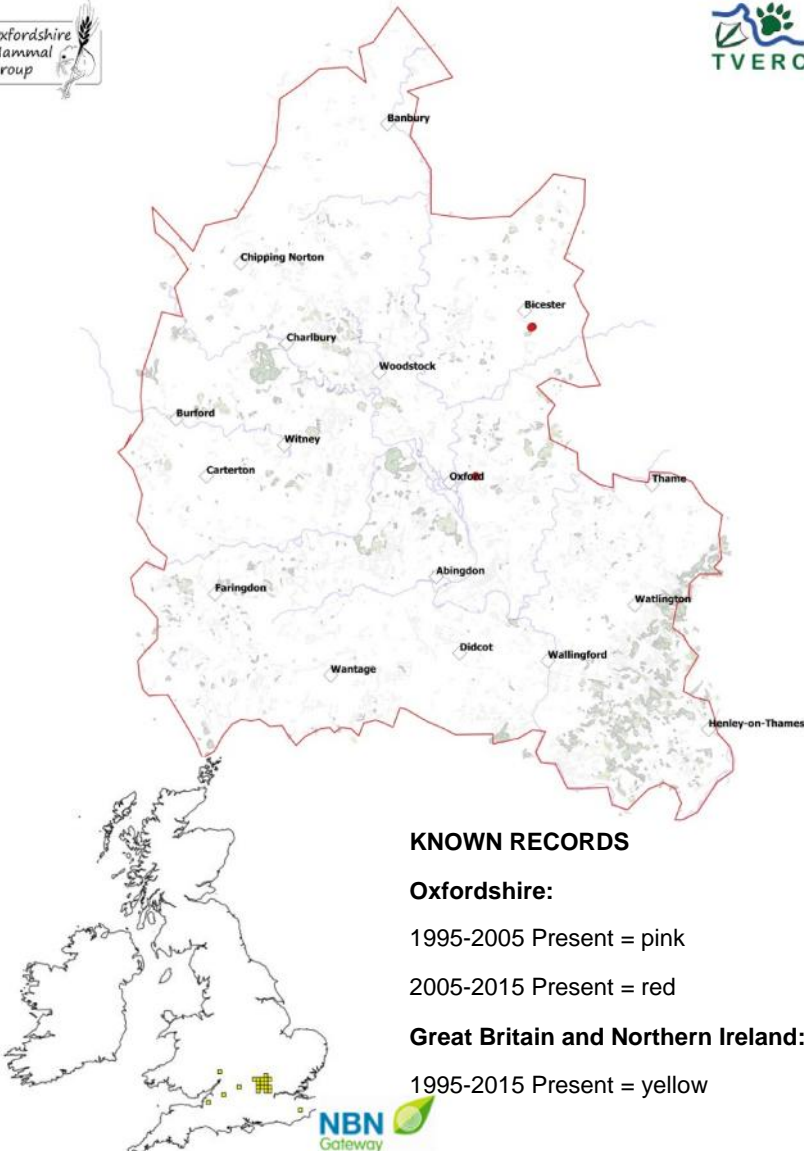

Harvest Mouse	<i>Micromys minutus</i>	 <p>Phil Riordan and Amanda Lloyd</p>	
Description: Golden brown fur with white underside. Tail as long as body and prehensile. Thin covering of fur present on tail. 5-7g in weight (smallest UK rodent). Body length 5-8cm and tail length 5cm. Small black eyes; ears obvious.		Field Signs	
Nest: Grass-woven nest 50-90mm in diameter, 25cm to 1m above ground in tussocks and reeds.	 <p>Peter Newbold</p>	Droppings: Rounded in section; usually brown. Hard when dry (doesn't crumble).	
Diet: Granivore - so primarily eats seeds but will also take small insects, fungi, berries and roots.		Habitat: Grassy margins, reed beds and roadside verges.	
Lifespan: 12-18 months. 90% die over winter.		<div data-bbox="641 985 764 1075">Oxfordshire Mammal Group</div> <div data-bbox="1374 985 1474 1059">TVERC</div>  <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>  <div data-bbox="995 2069 1107 2114">NBN Gateway</div>	
Breeding: 4-8 offspring in a litter, 3-7 litters a year. Pregnant females can weigh up to 15g and gestation is 17-19 days. Babies are born naked and blind, weighing approximately 10% of mother's weight. They are weaned within 14 days.		UK Conservation Status: Native. Likely to be common and widespread but listed on UK BAP as population status unknown. Oxfordshire: Widespread but status unknown Legislation: ♦ Section 41 NERC Act 2006	
Don't confuse with: Yellow-necked or wood mouse: Much larger with sandy-brown fur. House mouse: Much larger. Grey-brown fur all over, usually no contrast between top and underside. Dormouse: Larger. Orange-yellow coat on top with yellow underside and white on throat. Voles: Voles have a more rounded muzzle.			




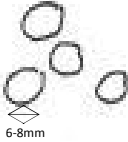
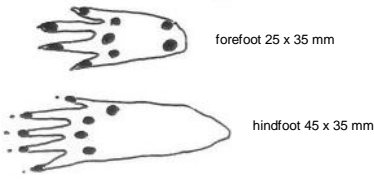

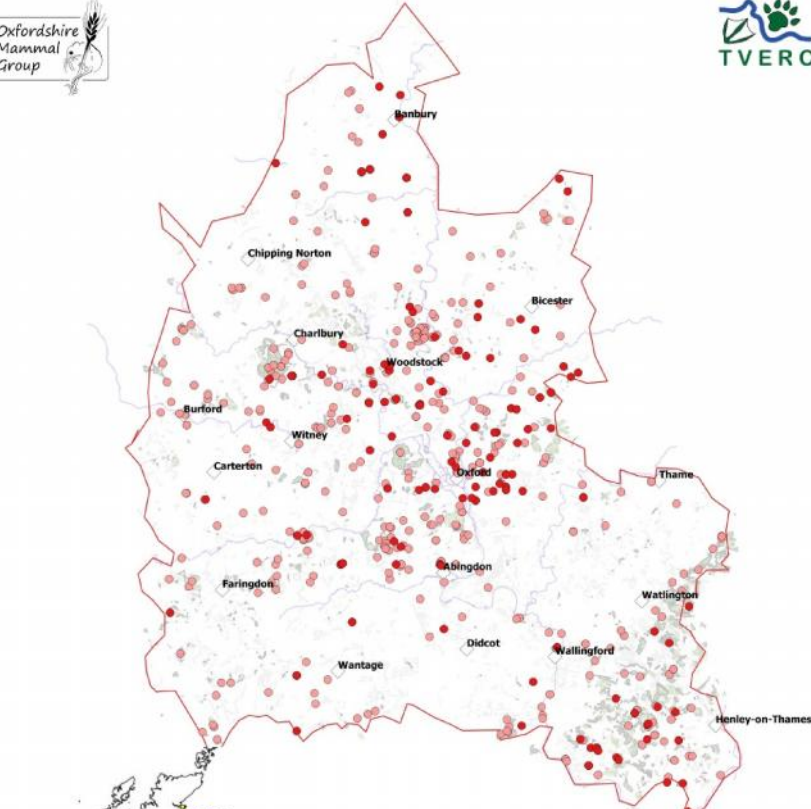

Wood Mouse	<i>Apodemus sylvaticus</i>		
Description: Sandy brown fur with pale grey underside and a long tail. Protruding eyes and large ears. Tail dark and hairy. Does not have yellow V-shaped collar across the neck which distinguishes the yellow-necked mouse, but may have a smaller neck-tie of yellow that does not reach all the way around. Head and body length 8-11cm, tail length 7-11cm. Adults 13-27g.		Hazel nuts: Woodmice leave teeth marks both on inner rim of the nut (like the edge of a pound coin) and also on the surface, around the edge of the hole. 	
Field Signs	Droppings: Rounded in section; usually brown-black but vary with diet. Hard when dry (doesn't crumble). Slight smell of ammonia. Less uniform and regular than voles. 		Footprints: Forefoot approximately 10mm, hindfoot up to 20mm. 
Nest: Often underground but occasionally in nest boxes or tree cavities. When fresh, the nests comprise a loose mass of dead brown leaves that becomes reduced to an untidy carpet in the bottom of a nest box or tree hole. 		Diet: Seeds, buds, green plants, fungi, fruits and invertebrates. Will cache food.	
Lifespan: Up to 2 years.		<div>   </div>  <div> KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow </div>  <div>  </div>	
Breeding: Litters of 2-11 young from February to October, although can continue overwinter if suitable food sources. Babies born blind and hairless and weigh about 2.8g.			
UK Conservation Status: Native. Common and widespread. Oxfordshire: Common and widespread. Legislation: Not currently protected.			
Don't confuse with: Harvest mouse: Much smaller than wood mouse. Golden-brown on top with pale grey-white underside. Yellow-necked mouse: Longitudinal yellow band around neck (main distinguishing feature). Slightly larger than the wood mouse, with proportionately slightly larger eyes and ears. Paler grey underside than wood mouse. House mouse: Grey-brown fur all over, usually no contrast between top and underside. Wood mice have larger ears. Dormouse: Orange-yellow coat on top with yellow underside and white on throat. Voles: Voles have a more rounded muzzle than mice, with smaller eyes and smaller, more subtle ears that are often covered by fur. Mice eyes and ears are large. Voles often have shorter			




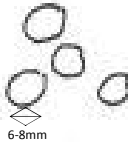
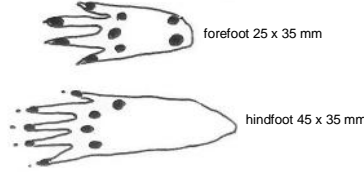
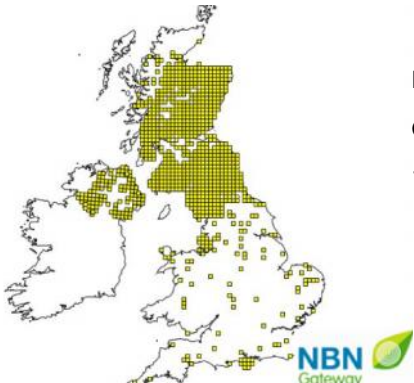

Yellow-necked Mouse	<i>Apodemus flavicollis</i>	 <p>Maria Walker</p>	
Description: Fur is brown on the back and white on the underside. A complete band of yellow fur across the neck area, distinguishing it from the very similar wood mouse. Large ears, protruding eyes and long tail. Head and body length 9-12 cm, tail length 7-12 cm. Adults 14-45g.		Hazel nuts: Yellow necked mice leave teeth marks both on inner rim of the nut (like the edge of a pound coin) and also on the surface, around the edge of the hole.  <p>Peter Newbold</p>	
Field Signs		Droppings: Rounded in section; usually brown-black but vary with diet. Hard when dry (doesn't crumble). Strong smell of ammonia. Less uniform and regular than voles.  <p>2mm 6mm</p>	
Nest: Often underground but occasionally in nest boxes or tree cavities. When fresh, the nests comprise a loose mass of dead brown leaves that becomes reduced to an untidy carpet in the bottom of a nest box or tree hole.  <p>Peter Newbold</p>		Footprints: Forefoot approximately 10mm, hindfoot up to 20mm. 	
Diet: Seeds, buds, green plants, fungi, fruits and invertebrates. Will cache food.		Habitat: Woodland, gardens, hedgerows and scrub.	
Lifespan: Rarely older than 1 year.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>	
Breeding: Litters of 2-11 young from February to October, although can continue overwinter if suitable food sources. Babies born blind and hairless and weigh about 2.8g.			
UK Conservation Status: Native. Common and widespread in south England and Wales. Oxfordshire: Assumed common and widespread. Legislation: Not currently protected.			
Don't confuse with: <p>Wood mouse. No yellow band around neck (main distinguishing feature), but can have 'yellow tie'. Slightly smaller than the yellow-necked, with proportionately slightly smaller eyes and ears.</p> <p>Harvest mouse Much smaller than yellow-necked. Golden-brown on top with pale grey-white underside.</p> <p>House mouse Grey-brown fur all over, usually no contrast between top and underside and smaller ears.</p> <p>Dormouse Orange-yellow coat on top with yellow underside and white on throat.</p> <p>Voles. Voles have a more rounded muzzle than mice, with smaller eyes and smaller, more subtle ears that are often covered by fur. Mice eyes and ears are large. Voles often have shorter</p>			



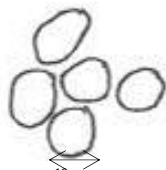
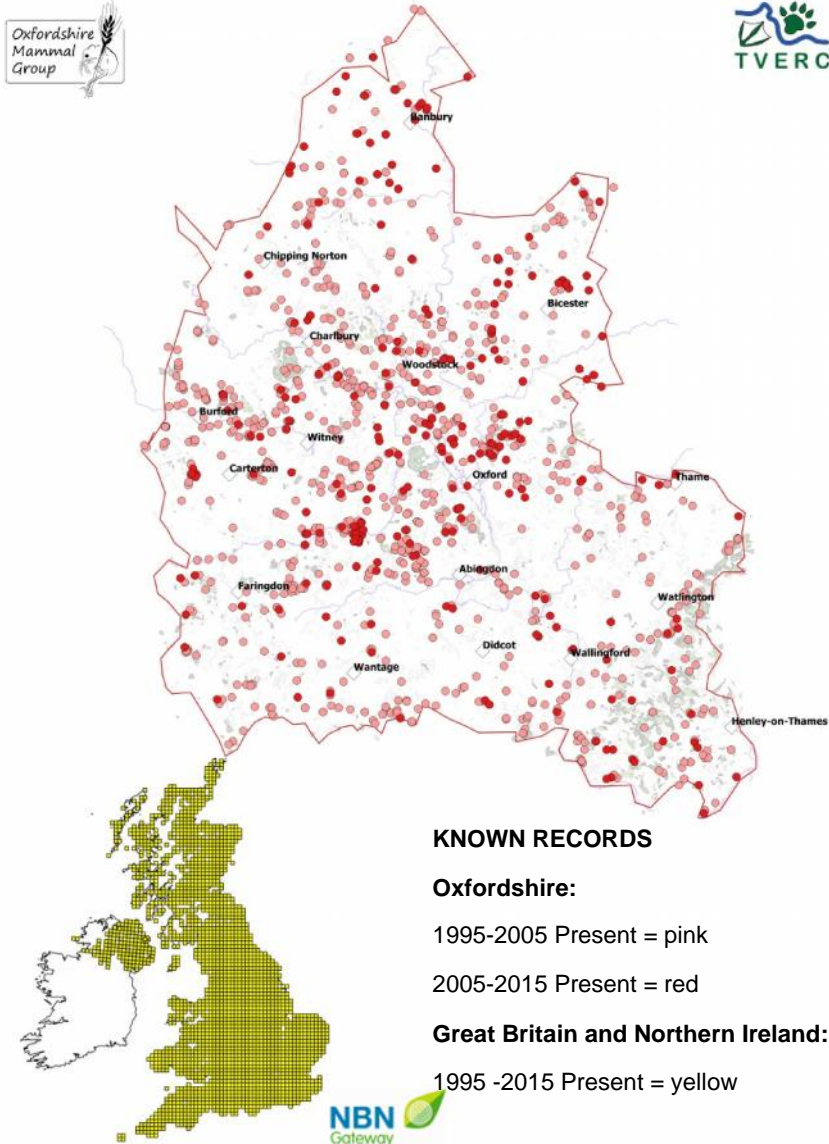
House Mouse	<i>Mus domesticus</i>			
Description: Fur is grey-brown ('mouse coloured') on the back and the underside. Large ears (but not as big as wood or yellow-necked mouse), small eyes and long tail (70-95% of body). Head and body length up to 10cm, tail length up to 10cm. Adults up to 20g.				
Field Signs				
Droppings: Rounded in section; usually brown-black but vary with diet. Hard when dry (doesn't crumble). Strong smell of ammonia. Less uniform and regular than voles. 		Footprints: Forefoot approximately 10mm, hindfoot up to 20mm 	Food remains and stashes: Piles of nuts, seeds, or nibbled remains of food. 	
Diet: Generalist: grain, seeds, roots, fungi and insects. Will cache food.		Habitat: Woodland, gardens, houses, hedgerows, farmland and scrub.		
Lifespan: Rarely older than 1 year.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> <p>NBN Gateway</p>		
Breeding: Litters of 4-8 young from February to October, although can continue overwinter if suitable food sources. Babies born blind and hairless.				
UK Conservation Status: Native. Common and widespread. Oxfordshire: Common and widespread. Legislation: Not currently protected.				
Don't confuse with: <p>Harvest mouse: Much smaller than house mouse. Golden-brown on top with pale grey-white underside.</p> <p>Wood mouse: Fur is more sandy-brown with contrast between upper and lower fur colours. Large, protruding eyes and larger ears.</p> <p>Yellow-necked mouse: Fur is more sandy-brown with contrast between upper and lower fur colours. Large, protruding eyes and larger ears.</p> <p>Dormouse: Orange-yellow coat on top with yellow underside and white on throat.</p> <p>Voles: Voles have a more rounded muzzle than mice, with smaller eyes and smaller, more subtle ears that are often covered by fur. Mice eyes and ears are large. Voles often have shorter tails.</p>				



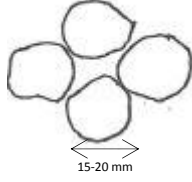
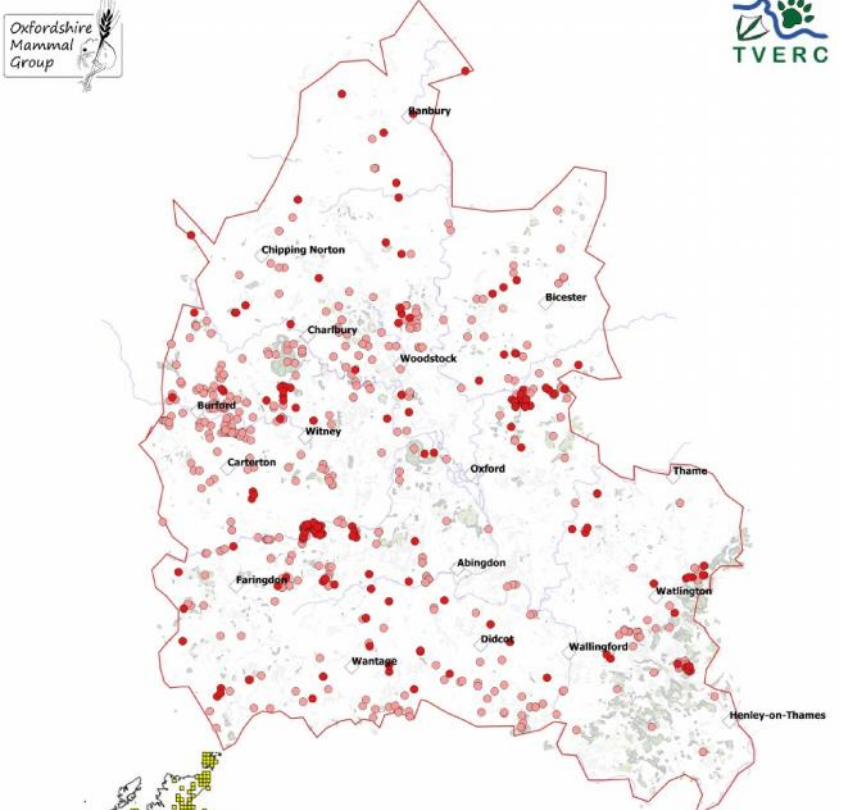

Hazel Dormouse	<i>Muscardinus avellanarius</i>			
Description: Orange fur; our only small mammal with a very distinctive thick, furry (semi-prehensile) tail. Large black eyes and large ears. Head and body length 6-9cm, tail length 5-7cm. Adults 17-40g.				
Field Signs				
Hazel nuts: Dormice leave tooth marks on the outside of the hole while gnaw marks follow the circumference of the hole, very neat and smooth to the touch.	Nest: Green leaves are often laid on top of the nest. Nest material is characteristically woven together. Commonly-used materials are stripped honeysuckle bark, grass and leaves. Depending on what is available, nests may include moss, pine needles, gorse, bluebell stems, or lichens.		Footprints: Forefoot approximately 10mm, hindfoot up to 20mm.	Droppings: Rounded in section; usually brown-black but vary with diet. Hard when dry (doesn't crumble). More crinkly than other rodents. Does not smell.
				
Diet: Flowers, pollen, fruits, insects and nuts. Does not usually cache food.				Habitat: Predominantly deciduous woodland and overgrown hedges, but also any woodland (including scrub or conifer) over 10ha, although
Lifespan: Up to five years.				
Breeding: Up to two litters each year, of about four young. Breeding season is weather-dependent but normally April to August.				
UK Conservation Status: Rare. Dormice occur mainly in southern counties, especially in Devon, Somerset, Sussex and Kent. Oxfordshire: Rare, mainly found in south east of county. Legislation: <ul style="list-style-type: none"> ◆ Habitat regulations 2010 Schedule 2 ◆ Wildlife and Countryside Act 1981 Schedule 5 			Don't confuse with: <p>Harvest mouse: Much smaller than dormouse. Golden-brown on top with pale grey-white underside.</p> <p>Wood mouse: Fur more sandy-brown with contrast between upper and lower fur colours. Tail not thickly furry.</p> <p>Yellow-necked mouse: Fur more sandy-brown with contrast between upper and lower fur colours. Tail not thickly furry.</p> <p>House mouse: Grey-brown fur all over, usually no contrast between top and underside.</p>	


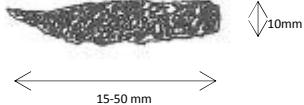
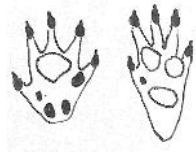


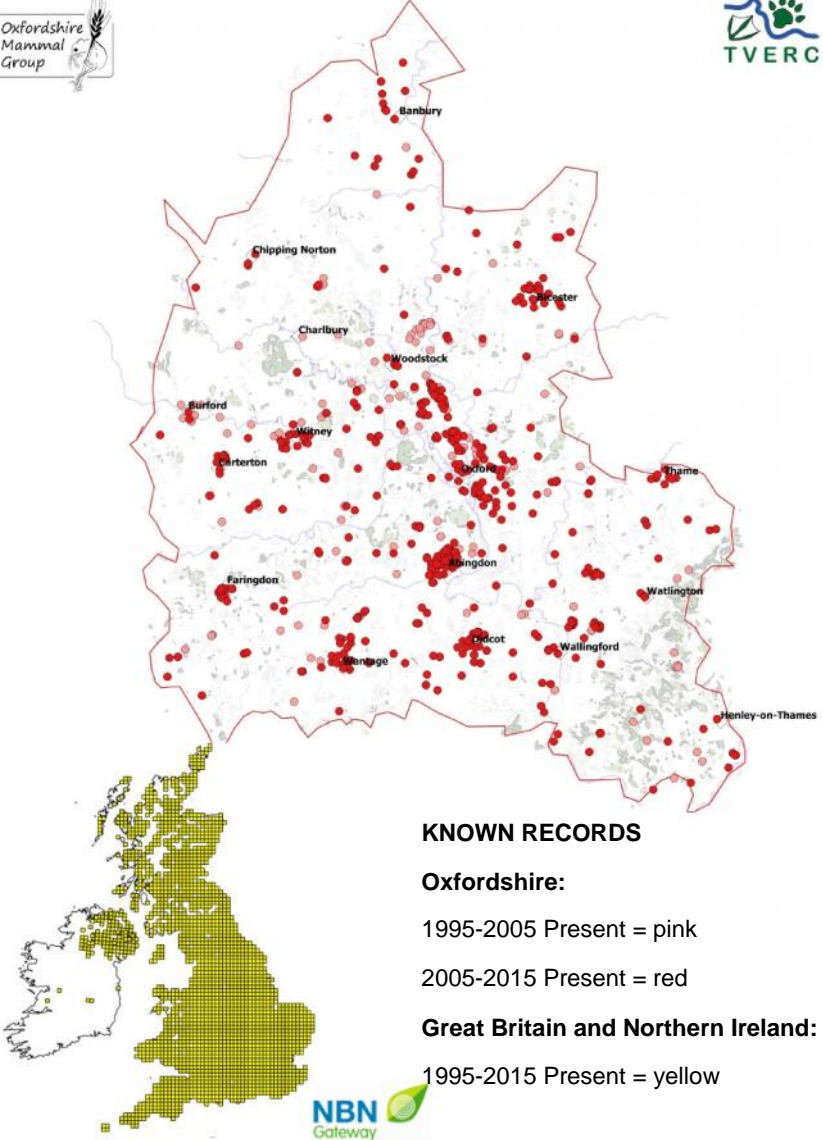

Edible Dormouse		<i>Glis glis</i>	 Derek Crawley
Description: Grey fur with a whitish belly. Bushy tail similar to squirrel but smaller. Large bulging black eyes with a dark ring of fur surrounding them.			
Field Signs			
Tree damage: Will chew bark and strip areas of bark from trees.  Peter Newbold		Nest: Not elaborate, normally made from mosses and fibres. Usually tucked away in holes in trees or walls, so not obvious.	
Diet: Feeds mostly in trees on nuts, fruits, and buds.		Habitat: Woodland and large dense hedgerows. Will hibernate underground or in buildings.	
Lifespan: 2-3 years. Have been recorded to live up to 12 years in wild.		 	
Breeding: Late June to mid-August. Will not reproduce every year depending on food resource. Have litters of up to 11 young.		 KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow 	
UK Conservation Status: Non-native. Common in Chilterns.			
Oxfordshire: Rare but possibly spreading. Legislation: Invasive non-native (Wildlife and Countryside Act 1981 Schedule 9i).			
Don't confuse with: Grey squirrel: Much larger and looks more multi-coloured (compared to very grey dormouse). Tails are also darker on squirrel.			


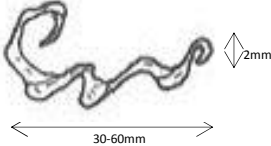

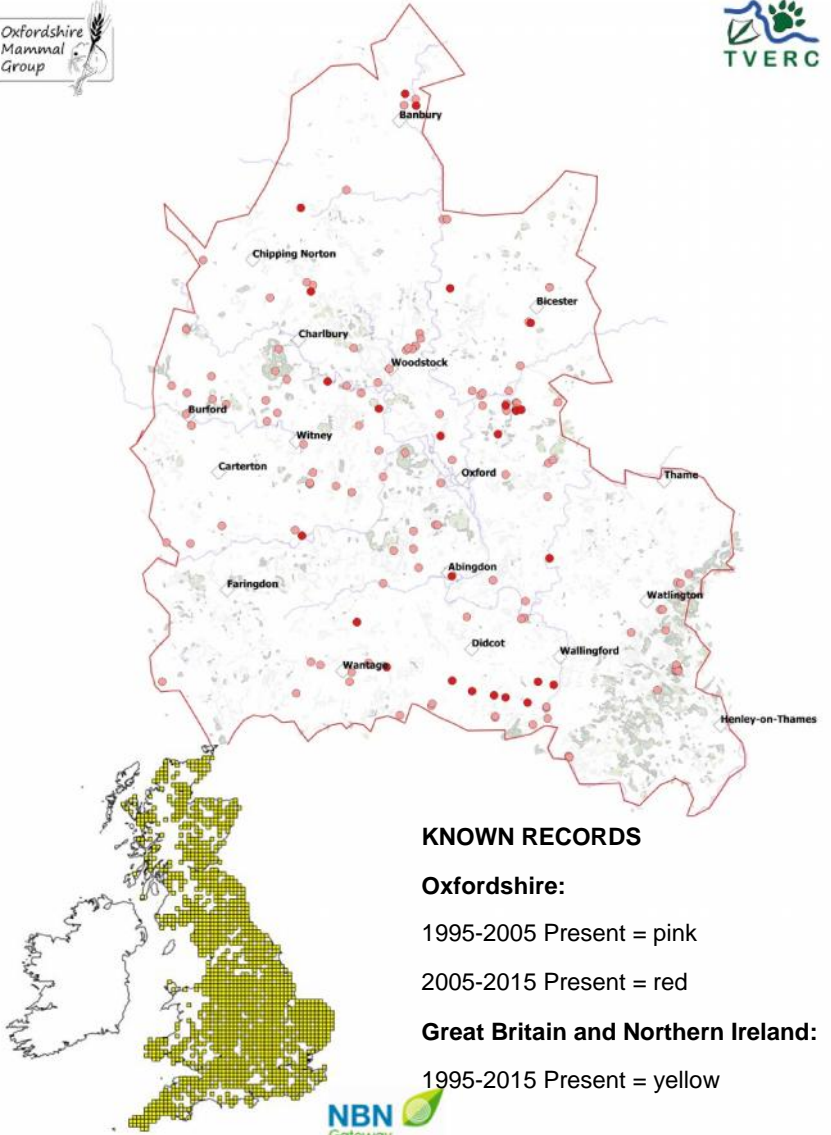
Grey Squirrel	<i>Sciurus carolinensis</i>	 <p>Peter Newbold</p>	
Description: Grey fur with creamy-white underside. Tail grey and bushy, held over head when sitting (used as shade). Can get red-grey and grey-black colour variations. Body weight 400-500g, body length 383-525mm, tail length 150-243mm.		Field Signs	
Drey: Their dreys are characteristic, made of leaves/conifer needles, football-sized and shaped and placed between tree trunk and branch.	Feeding signs: Distinctively-stripped conifer cones, split hazel nuts.	Droppings: Small dark grey balls, often smelling of earth/mud. Found near trees.	Footprints: Central 3 toes of hindfoot are long and same length.
 <p>Peter Newbold</p>		 <p>6-8mm</p>	 <p>forefoot 25 x 35 mm</p> <p>hindfoot 45 x 35 mm</p>
Diet: Nuts, conifer cones, fungi, insects, fruit, berries and insects.		Habitat: Deciduous and coniferous woodland, urban parks and gardens.	
Lifespan: 3-4 years			
Breeding: 3-4 offspring in a litter, 1-2 litters per year. Babies born blind and naked, weaned within 54 days.			
UK Conservation Status: Non-native. Common and widespread. Oxfordshire: Common and widespread. Legislation: Invasive non-native (Wildlife and Countryside Act 1981 Schedule 9i).			
Don't confuse with: Red squirrel: Grey squirrels do not have ear tufts, whereas red squirrels have them during winter. Grey squirrels are significantly larger.		KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow	


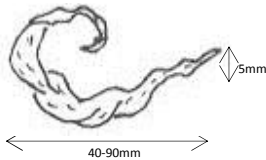
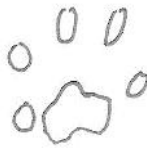
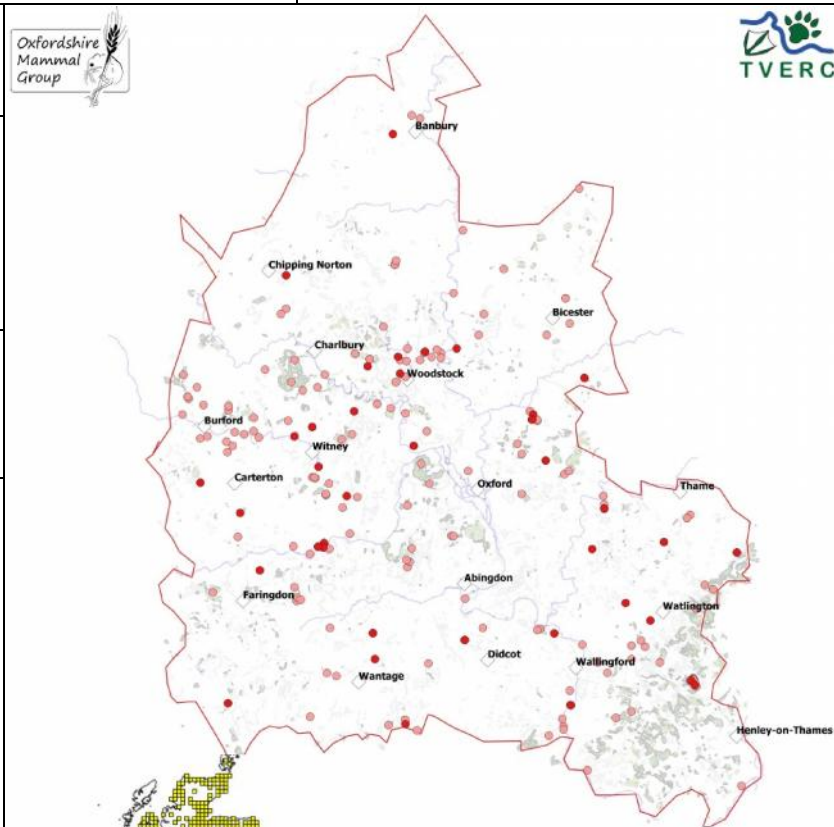
Red Squirrel		<i>Sciurus vulgaris</i>		 Peter Newbold
Description: Red, russet fur above with white fur on underside. Can get fur that is black-red and grey-red. Weight 200-270g, body length 180-240mm, tail length 140-195mm. Tail bushy and held over head when sitting (used as shade).				
Field Signs				
Drey: Their dreys are characteristic, made of leaves/conifer needles, football sized and shaped and placed between tree trunk and branch.  Peter Newbold	Feeding signs: Distinctively-stripped conifer cones, split hazel nuts. 	Droppings: Small dark grey balls, often smelling sweetly of pine. Found near trees.  6-8mm	Footprints: Central 3 toes of hindfoot are long and same length. 	
Diet: Nuts, conifer cones, fungi, insects, fruit, berries, and insects.			Habitat: Deciduous and coniferous woodland.	
Lifespan: 2-3 years.		<p>Not recorded in Oxfordshire since 1949.</p>  KNOWN RECORDS Great Britain and Northern Ireland: 1995-2015 Present = yellow 		
Breeding: 2-3 offspring in litter, 1-2 litters a year, 2nd litter with reduced chance of survival. Babies born naked and blind, weaned within 45 days.				
UK Conservation Status: Near threatened and declining. Predominantly in Scotland. Oxfordshire: Absent—last recorded in 1947 (which was probably an escapee). Legislation: <ul style="list-style-type: none">◆ Wildlife and Countryside Act 1981 Schedule 5◆ Section 41 NERC Act 2006				
Don't confuse with: Red squirrel: Grey squirrels do not have ear tufts, whereas red squirrels have them during winter. Grey squirrels are significantly larger.				


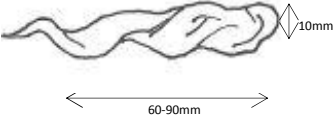
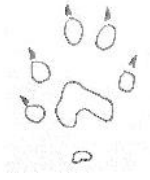
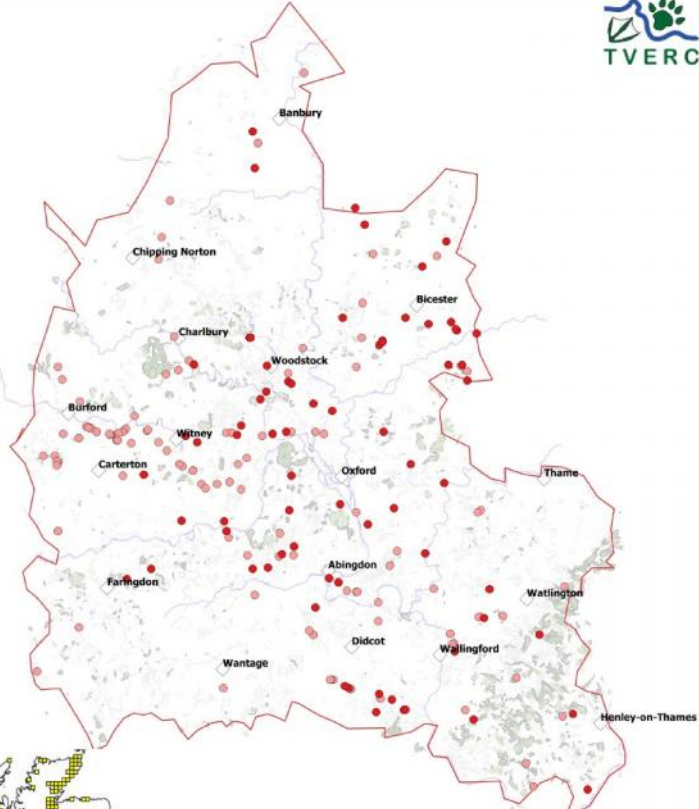
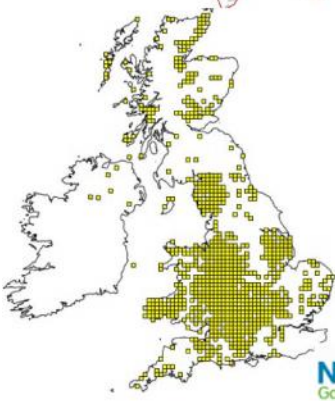

European Rabbit	<i>Oryctolagus cuniculus</i>		
Description: Grey-brown fur with characteristic cotton tail (white with black upper side). Ears same size as head. Dark brown eyes.			
Field Signs			
Footprints: Very distinctive by the position of their feet. Long hind legs are parallel and the fore feet are often between them. Hare tracks are larger than rabbits' and the difference between the fore and hind prints is larger. Hindfoot length 90 mm.		Droppings: Found scattered across their range; can be very densely distributed. 10mm in diameter and yellowish/brown-green. Smell of freshly mown hay.	Burrows: Warrens often have numerous entrances with 8-20 cm entrances (normally 10cm). Entrances may be wider but narrows quickly.
			
Diet: Wide range of vegetation especially grasses. Favours young shoots.		Habitat: Woodland, moorland, farmland, grassland, roadside verges.	
Lifespan: Up to 3 years.			
Breeding: January to August, producing one litter (3-7 kittens) a month. Can start reproducing at 3.5 months old.			
UK Conservation Status: Introduced. Common and widespread.			
Oxfordshire: Common and widespread.			
Legislation: Not currently protected.			
Don't confuse with:			
Brown hare: Much larger, more upright, with more powerful back-legs. Rabbits are more brown-grey than hares and will normally be found in groups. Rabbits have brown eyes, hares' are more amber coloured.			


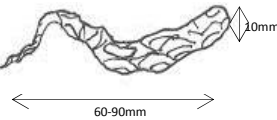

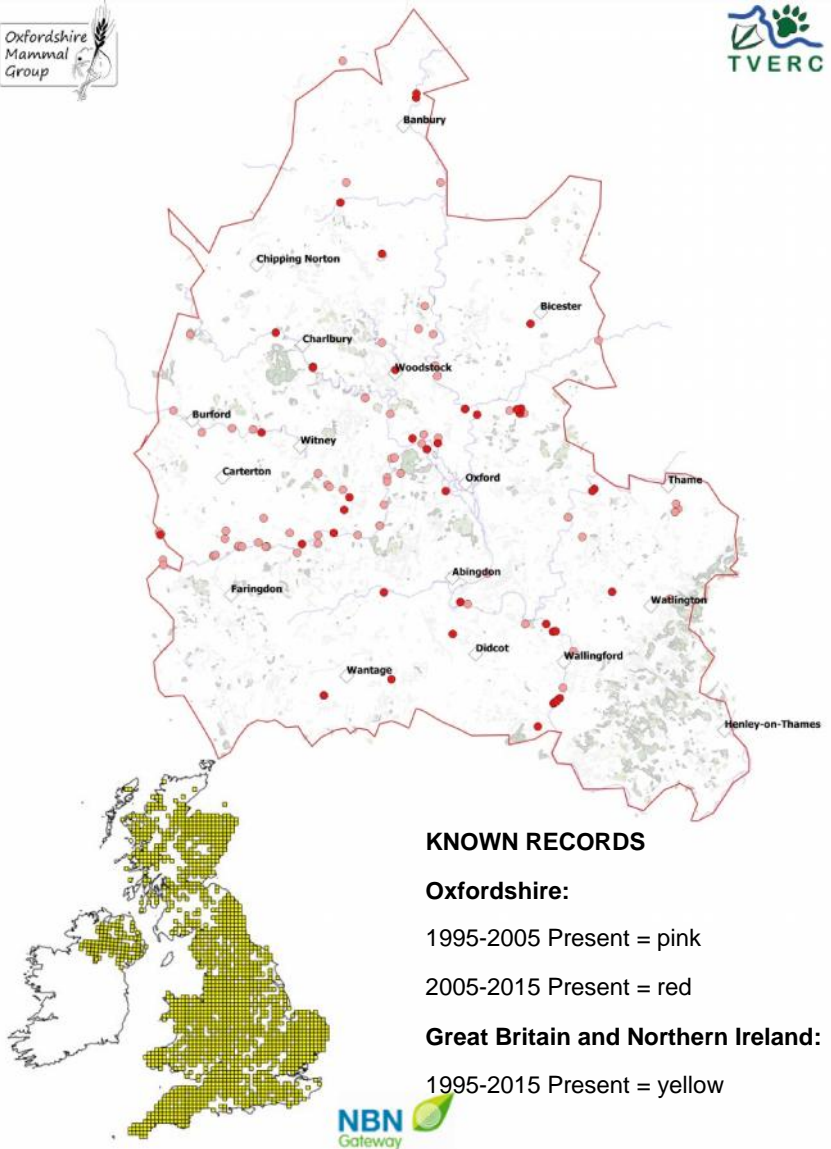
European Hare	<i>Lepus europaeus</i>	 <p>Peter Newbold</p>	
Description: Very long ears with black tips. 52-59cm long with very powerful hind legs. Slight yellowness to the grey-brown coloured fur.		Field Signs Footprints: Very distinctive by the position of their feet. Long hind legs are parallel and the fore feet are often between them. Hare tracks are larger than rabbits' and the difference between the fore and hind prints is larger. Hindfoot length 135mm. 	
Droppings: Larger and more flattened than rabbit droppings (1.5-2cm). Greenish brown and smell like fresh mown hay. Often left on bare ground in arable and grassland.  <p>15-20 mm</p>		Forms: Small depressions in the ground used by the hares during the day.	
Diet: Grass shoots, including cereal crops.		Habitat: Open habitats such as large areas of arable land or grassland.	
Lifespan: 3-4 years.		 <p>Oxfordshire Mammal Group</p> <p>TVERC</p> <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>  <p>NBN Gateway</p>	
Breeding: Takes place between February and September. Will have multiple (up to 4) litters a year with 2-4 young (leverets).		UK Conservation Status: Native. Massive decline in last 100 years but still widespread. Oxfordshire: Widespread but uncommon. Legislation: ♦ Section 41 NERC Act 2006	
Don't confuse with: Rabbits: much smaller, less upright. Have less powerful back-legs, more brown-grey and will normally be found in groups. Rabbits have brown eyes, hares' are more amber-coloured.			

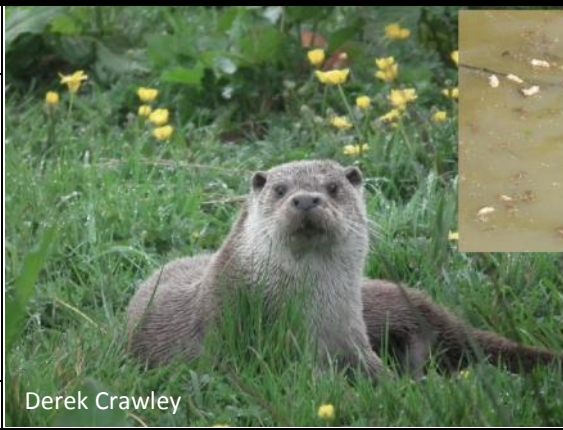





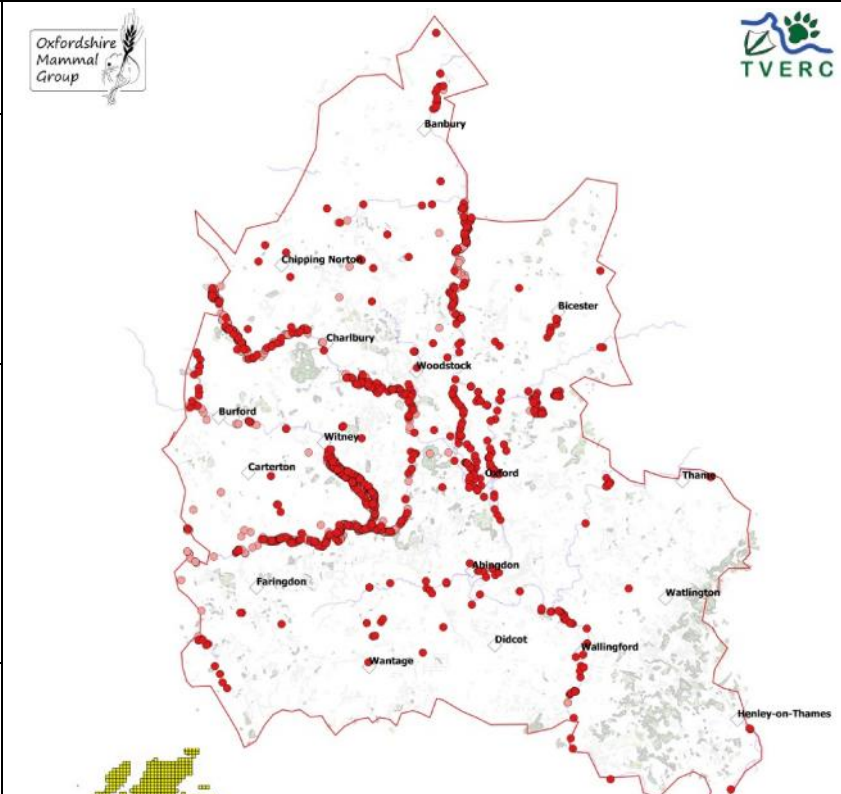
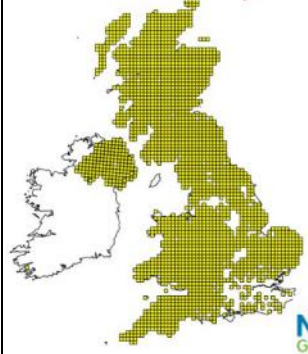
Hedgehog	<i>Erinaceus europaeus</i>		
Description: Small, nocturnal mammal covered in spines over back and sides. Spines are banded; usually pale tips, followed by a darker brown. Adults usually weigh between 500g-1.5kg.		Field Signs Nest: Three sorts of nest: day nest - these can be little more than a bundle of leaves under a bramble bush; hibernacula - a far more substantial nest made of many layers of leaves or other vegetation combed into shape by the action of the animal's spines; and nursing nests - larger in volume and used by females for the first few weeks of young's life. Droppings: 1-2cm long, usually dark (blue-black) and slightly shiny (large portion of diet being macro invertebrates). Usually blunt at one end, pointed at the other. Sweet smell (hint of linseed oil). 	
Diet: Macro-invertebrates, principally - but will eat small mammals, birds and reptiles. Main item in diet analysis was worms.		Footprints: Long claw marks continuous with footpads, thump print rarely seen. 28x25mm. 	
Habitat: Woodland edge is natural home, but will use hedges and domestic garden landscape.		Lifespan: Up to 7 years.  	
Breeding: Gestation around 5 weeks, when they will give birth to around 5 young.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> 	
UK Conservation Status: Population in the UK has declined since the turn of the century by around a third in urban areas and rurally by over 50%. Oxfordshire: Widespread but declining. Legislation: ♦ Section 41 NERC Act 2006		Don't confuse with: Some people keep pet hedgehogs, these are (or should be) of different species, known as African pygmy hedgehogs, which are smaller than our species with a more mixed pelage.	


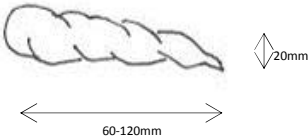


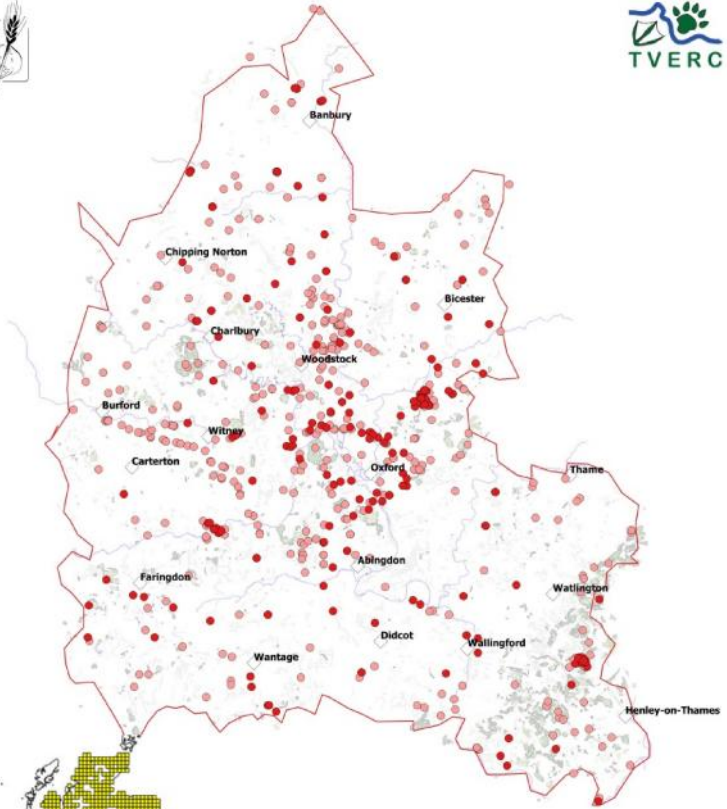
Least Weasel	<i>Mustela nivalis</i>		
Description: Fur bright warm-brown, cream underside, wavy line between the two colours. Does not change colour in winter. Long slender body, short tail of uniform colour. Body length 17-22cm and tail length 3-6cm.		Field Signs Droppings: Droppings deposited singularly and often contain hair or bits of bone. Brown in colour, with a musky smell. 	
Diet: Small mammals in particular, but also birds, eggs and young rabbits.		Footprints: Small claw marks join toes, very delicate palm pad. 10x13mm. 	Habitat: Woodland, farmland, riparian and grassland.
Lifespan: Up to 2 years.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>	
Breeding: Mates in April-July with 34-37 day gestation. Average litter consists of 6 kits and these reach sexual maturity in 3-4 months.		UK Conservation Status: Native. Common and widespread. Oxfordshire: Common and widespread. Legislation: Not currently protecte	
Don't confuse with: Stoats: Slightly larger, with a straight line between lower and upper fur colours (weasels have an irregular line). Stoats have black tail tips and may turn white, in part or totally, in winter (black tail tip remains).			




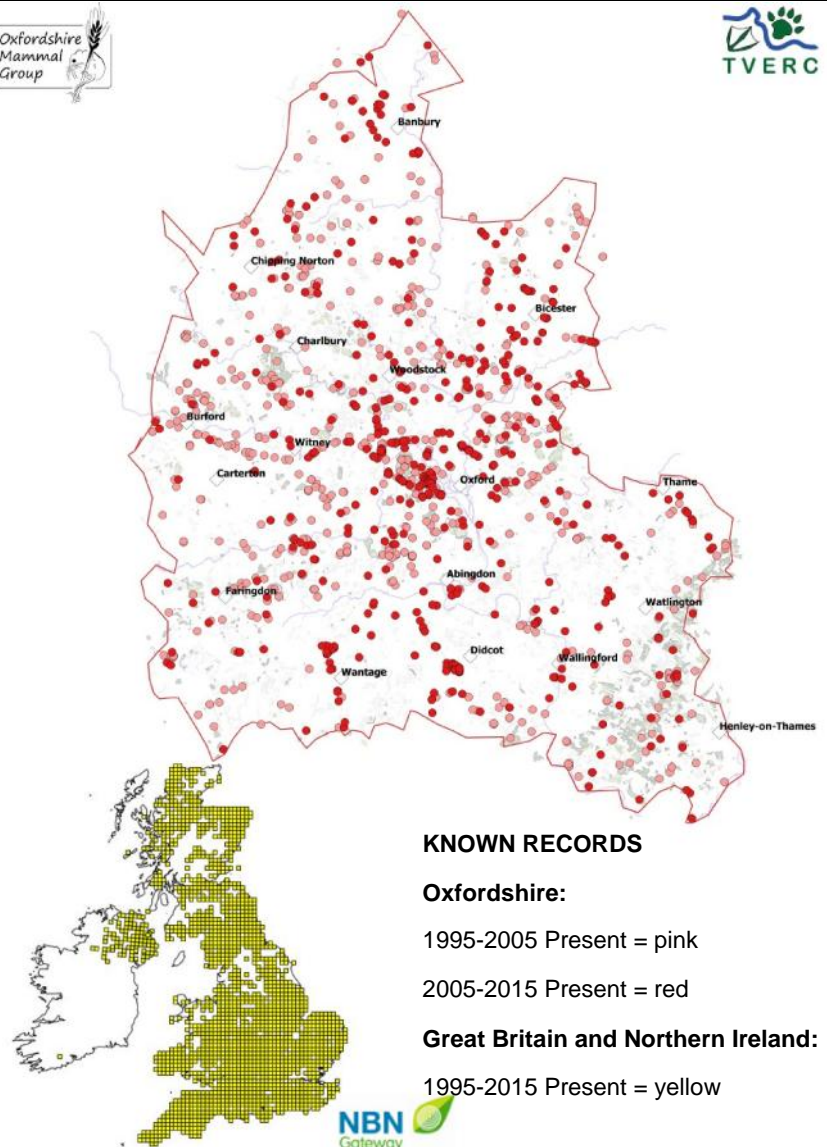
Stoat	<i>Mustela erminea</i>	 <p>Derek Crawley</p>	
Description: Warm-brown fur, white/cream underside with neat straight line separating the two. Coat may turn white/partially white in winter. Shortish tail with distinctive bushy black tip. Body length 24-31cm and tail length 9-14cm.			
Field Signs			
Droppings: Droppings deposited singularly and often contain hair or bits of bone. Blackish brown, with a musky smell but not too unpleasant.	Footprints: Small claw marks join toes, very delicate palm pad. 20x22mm.		
			
Diet: Medium-sized mammal specialist, particularly rabbits but rodents and birds as well.		Habitat: Farmland, woodland, grassland, marshland and mountain moorland.	
Lifespan: 1-2 years.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>	
Breeding: Mating occurs in April-July. Litters of 5-15 kits of mixed paternity.			
UK Conservation Status: Native. Common and widespread.			
Oxfordshire: Common and widespread.			
Legislation: Not currently protected.			
Don't confuse with:			
Weasels: Smaller than stoats, wavy line between upper and lower fur colours, no black tail tip, does not turn white in winter.			



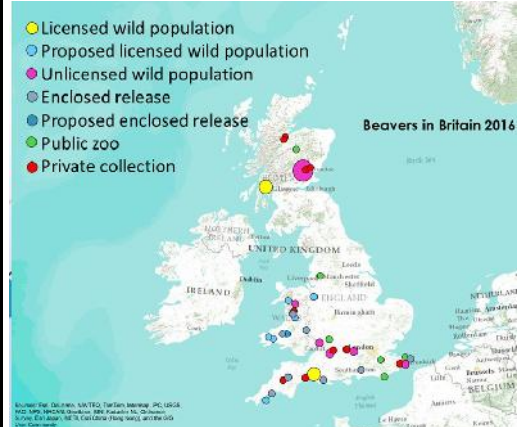
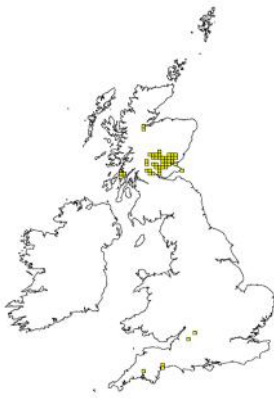

European Polecat	<i>Mustela putorius</i>	 <p>Derek Crawley</p>	
Description: Blackish guard hairs and yellow under fur on the body, giving 'black and tan' appearance. Banded "bandit" face: pale muzzle, ear tips and 'eyebrows', with a broad dark band around the eye. Darker legs and belly with a short fluffy tail. The size of a ferret. Sexually dimorphic - head-body length of males 33-45cm, females 32-39cm.		Field Signs	
Droppings: Droppings deposited singularly and often contain hair or bits of bone. Blackish in colour, with a foul smell (rotten meat). Deposited in prominent places.		Footprint: Footprints rarely seen. Easy to confuse with mink. 25-40x30-35mm.	
			
Diet: Rabbits in summer, rats in winter, will also take birds and frogs.		Habitat: Urban and gardens, deciduous woodland, grassland, mixed woodland and arable land.	
Lifespan: Up to 5 years.		<div data-bbox="644 994 764 1084">Oxfordshire Mammal Group</div> <div data-bbox="1378 994 1474 1061">TVERC</div>  <div data-bbox="644 1733 979 2134">  </div> <div data-bbox="1075 1812 1474 2092"> <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> </div> <div data-bbox="963 2080 1075 2134">  </div>	
Breeding: 5-10 young born in May-June. They reach adult size by autumn and breed at one year old.		UK Conservation Status: Native. Common and widespread. Oxfordshire: Common and widespread. Legislation: ♦ Section 41 NERC Act 2006	
Don't confuse with: Polecat can hybridise with feral ferrets, resulting in polecat-ferret hybrids which are often (but not always) paler overall with less distinctive markings.			

American Mink	<i>Neovison vison</i>		
Description: Semi-aquatic mustelid, with plain dark brown (almost black) fur and white chin. Head and body length 30-40cm, tail 15-20cm. Weight 500-1200g.		Field Signs	
Feeding remains: With such varied diets, it is hard to distinguish their feeding remains from those of other predators, but often they leave their droppings nearby.	Burrow: Makes dens in the hollows of bankside trees, usually with a strong, musty odour.	Droppings: Foul-smelling, mucilaginous, likely to contain a mixture of fur, shell, bones and scales. 	Footprints: Most likely to be found in muddy riverbanks, their 5-toed prints are much smaller than those of otters, but similar in shape. 20-40x25-40mm More often star shaped with tear shaped toes. 
Diet: Opportunistic and aggressive predator, hunting mammals, fish, birds and invertebrates.		Habitat: Equally at home on land or in water, mink will generally be found in or around rivers, in areas with good cover for hunting.	
Lifespan: Up to 12 years.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>	
Breeding: Litters average 4 kits, born April-June, becoming fully independent by autumn.			
UK Conservation Status: Non-native. Common and widespread. Oxfordshire: Common and widespread. Legislation: Invasive non-native (Wildlife and Countryside Act 1981 Schedule 9i)			
Don't confuse with: Otter: Although both share similar semi-aquatic lifestyles, the otter is substantially larger, with lighter coloured fur and a strong, muscular tail. Polecat: Polecat and mink are very similar in size and shape. However, the polecat has creamy underfur showing through its black coat, and a distinctive bandit mask on its face.			



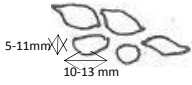
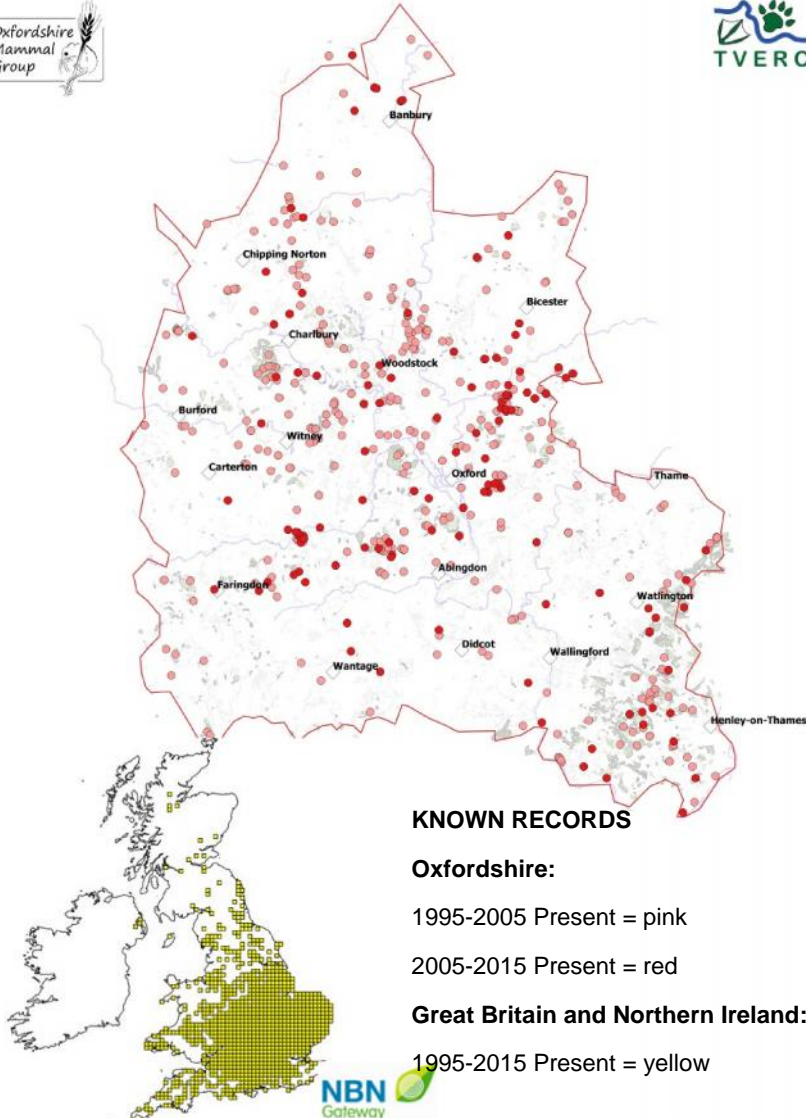
European Otter	<i>Lutra lutra</i>	  <p>Derek Crawley</p>	
Description: Brown fur, often pale on underside; long slender body; small ears on a broad head; long thick tail; webbed feet; swims very low in the water, head and back barely showing. About 60-80cm; tail about 32-56cm. Average weight 8.2kg for males; 6.0kg for females.		Field Signs	
Holts: Often in natural crevices in tree roots or boulders, but can be dug into soft soils.	Slides: Muddy slides running into watercourse.	Droppings (spraints): Sweet smelling, slightly oily. Often in very small quantities. Greenish, black-grey. Contains fish scales and occasionally small bones, shell fragments, feathers or fur. Smearred onto rocks or logs close to water. Highly variable in size.	Footprints: Normally only 4 toes show (except on very soft ground). Forefoot 60x65mm. Hindfoot 60x90mm. Look for tail drag. Toes are more oval although claws can make tear shape.
			
Diet: Fish, especially eels and salmonids. Crayfish eaten at certain times of the year. Coastal otters in Shetland eat bottom-living species such as eelpout, rockling and butterfish. Occasionally take water birds such as coots, moorhens and ducks. In the spring, frogs are an important food item.		Habitat: Rivers, lakes, and ditches although the female otter will range up to 1km from the river for maternity holts.	
Lifespan: Less than 5 years but can live up to 10 years in captivity.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> 	
UK Conservation Status: Native. Increasing range and population. Oxfordshire: Increasing range and population. Legislation: <ul style="list-style-type: none"> Habitat regulations 2010 Schedule 2 Wildlife and Countryside Act 1981 Schedule 5 Section 41 NERC Act 2006 		Don't confuse with: <p>Mink: Much smaller and darker furred, they have fluffier tails that aren't broad and wedge shaped. Mink also have a white spot on the underside of their chin.</p>	


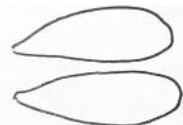
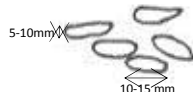
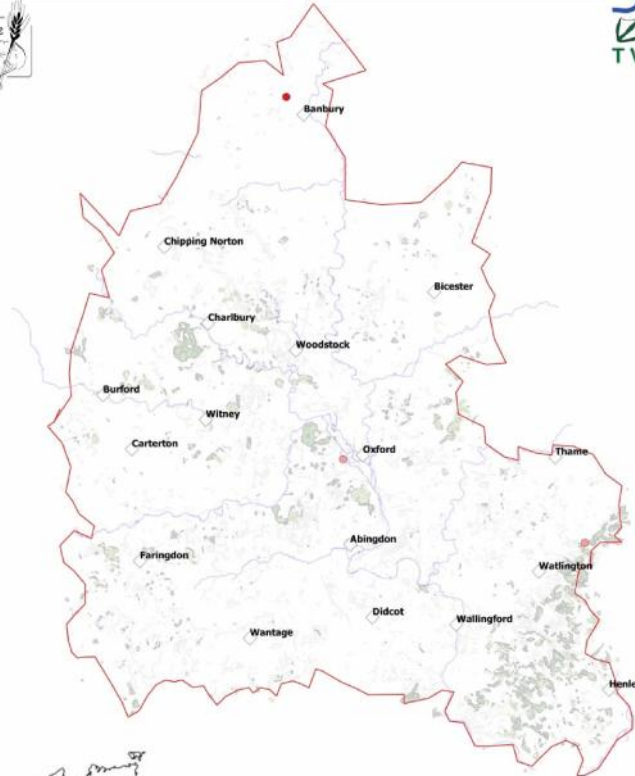
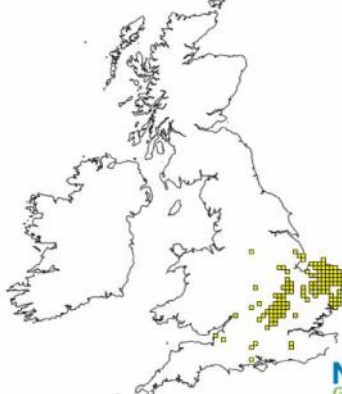

Red Fox	<i>Vulpes vulpes</i>	 <p>Peter Newbold</p>	
Description: Reddish-brown or greyish-brown fur on back and flanks, with bushy tail and white or light grey undersides. Largely nocturnal, but often seen in daylight. Adult body length 50-80cm, tail length 30-50cm. Weight 5-15kg.		Field Signs	
Feeding signs: Often messy eaters, but actual signs will vary with the diet. A fox will remove a bird's wing in one piece by biting right across its base, not by plucking it like other predators. Feathers will also show bite marks where they have been chewed off.	Den: May burrow into soft banks to create dens with one or two entrances, maybe 25cm tall and 15cm wide, but equally happy to make use of available ready-made spaces under sheds, among rocks or in piles of debris.	Droppings: Vary with diet, but typically 6-12cm long and about 2cm wide, with a twisted tapering tail at one end. Texture is un-uniform. Characteristic pungent smell, and often left on raised, conspicuous site. 	
Diet: Very adaptable omnivore, hunting small mammals and birds, but also eating earthworms, insects, fruit and berries, as well as scavenging carrion and human garbage.		Footprints: Similar to that of a small-medium dog, but "neater" diamond shape, (can draw a cross between the pads). 35x50mm. 	
Habitat: Open landscapes, fields and parkland, but also (increasingly) suburban and urban environments.		Lifespan: 5-10 years in the wild.	
Breeding: One litter of usually 4-6 cubs is produced in the spring. Cubs remain in the den for 3-4 weeks, with both parents (and often other "aunts") providing food. They reach full maturity in about 9 months.		UK Conservation Status: Native. Common and widespread.	
Oxfordshire: Common and widespread. Legislation: Not currently protected.		Don't confuse with: Domestic cat or dog: Given their distinctive size, colouring and bushy tail, foxes are unlikely to be confused with any other wild animal in UK. However, some domestic cats and dogs do have the right combination of colour and bushy tail to cause confusion.	
		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> <p>NBN Gateway</p>	


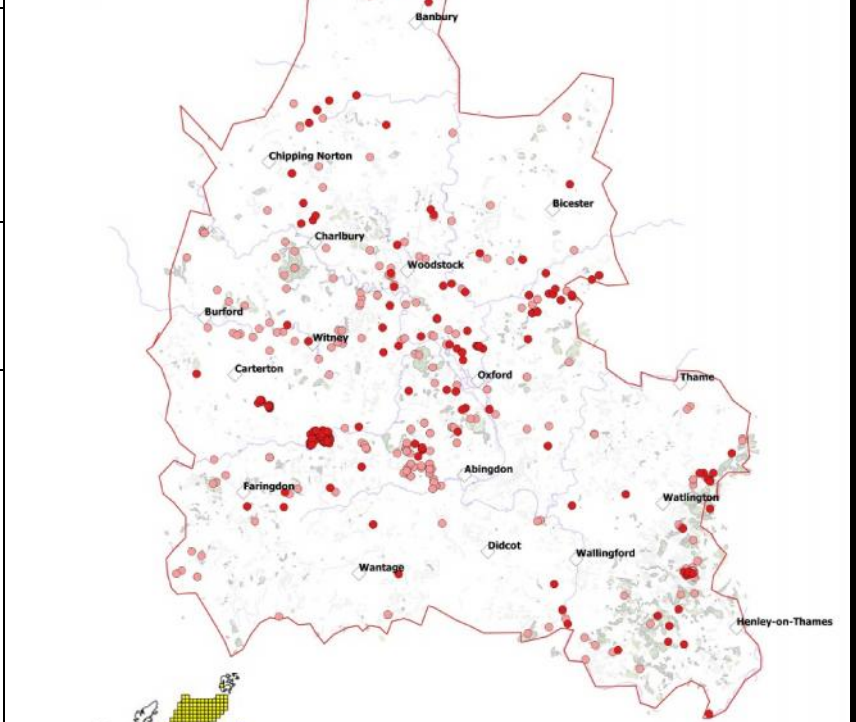
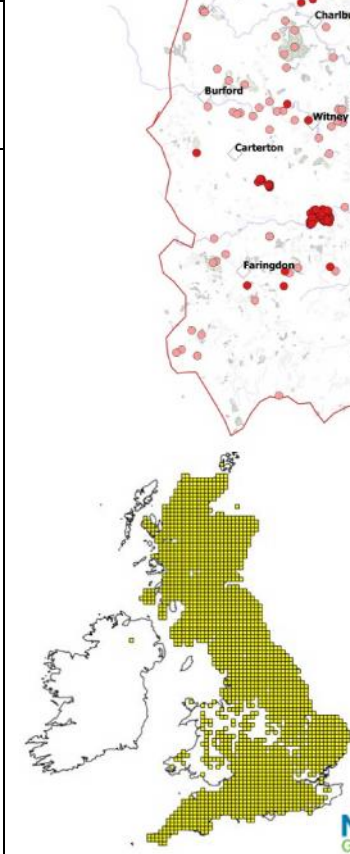

European Badger	<i>Meles meles</i>	 <p>Derek Crawley</p>	
Description: Much heavier-set than our other mustelids, with grey body and distinctive black and white striped head. Short club-like tail. Nocturnal, spending daytime in underground setts, often shared by an extended family. Head and body length 60-80cm, tail 15cm. Adults 8-15kg.		Field Signs	
Paths: Badgers will often follow the same routes for generations creating well-trodden pathways through the vegetation. Leave characteristic snuffle holes when they dig for roots or worms.	Sett: Often very extensive underground network of tunnels and chambers, with multiple entrances. Entrance holes typically 20-25cm across, broader than they are tall, with extensive spoil heaps in front, often containing dried grass bedding.	Droppings: Variable consistency depending on diet. Can be formless, mud-like dung. Often deposited in characteristic conical latrine p... 	Footprints: There should be 5 toepads almost in a line, in front of a very broad footpad, but sometimes only 4 toepads visible. Long claw marks often extend beyond Kidney shaped palm. 
Diet: Opportunistic omnivores – earthworms, insects and carrion, with fruit when in season.		Habitat: Well-drained woodland is preferred for setts, with access to open land for foraging.	
Lifespan: Up to 15 years.		 <p>Oxfordshire Mammal Group</p> <p>TVERC</p> <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> <p>NBN Gateway</p>	
Breeding: Litters of 1-5 cubs are usually born in February or March, emerging from the sett about 8 weeks later, by which time they have developed their characteristic adult colouring.		UK Conservation Status: Native. Common and widespread.	
Oxfordshire: Common and widespread.		Legislation: <ul style="list-style-type: none"> ◆ Protection of Badger Act 1992 	
Don't confuse with: <p>Wild boar: The badger's black and white striped face is unmistakable, but with its head down, the general size, shape and snuffling behaviour might be confused with a wild boar. However, the boar's brown hair forming into a stiff ridge along its back contrasts with the badger's cascade of grey hair.</p>			


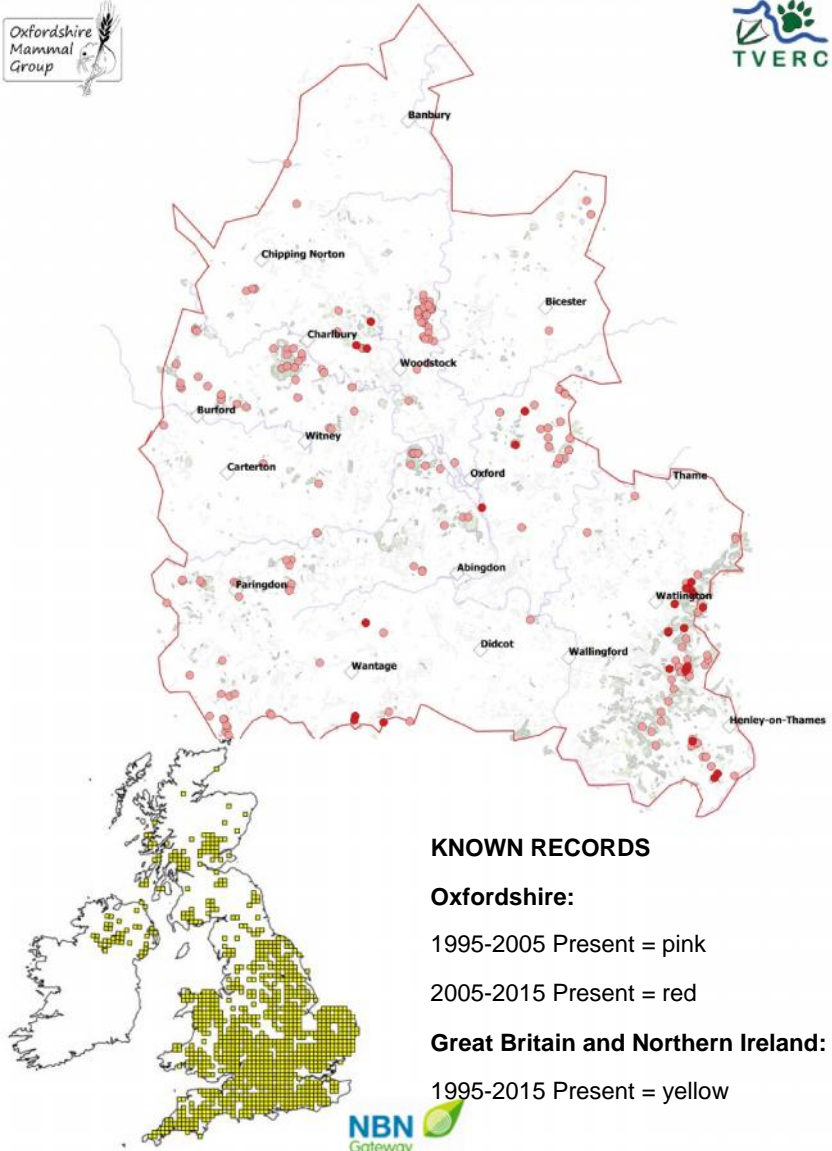
Eurasian Beaver	<i>Castor fiber</i>			
Description: The broad torso and widely spaced short legs, with the broad scaly tale, and large incisors make the beaver (if seen properly) unmistakable. They can grow up to 25-30 kg/ 70-100 cm long with the female the same size as the male.				
Field Signs		Droppings: Rarely found as usually deposited in water. Consist of fibrous, undigested woody material.	Footprints: 3 or 4 toed forefoot (5x7cm) (very rarely see all five toes). Distinctly webbed hind feet (15x11cm) tracks are often obliterated by dragging tail. 	Felled trees: Beavers will leave gnawed and completely felled trees near waterways. These are unmistakable.
Dams: Dams are constructed in rivers along with lodges in the ponds created by their dams. These consist of logs, and sticks, compacted with mud and stones.				
Diet: Herbivores– eating aquatic plants, grasses and shrubs during the summer months and resort to more woody plants in winter.		Habitat: Each family group occupy a few kilometre stretch of river, stream or wetland.		
Lifespan: up to 15 years		<p>Not currently recorded in Oxfordshire.</p>		
Breeding: Mating takes place between January and February, and 2-4 kits are born within the lodge from April to June. Kits emerge from the lodge after 2-3 weeks, remaining with their parents until 2 years old.				
UK Conservation Status: Extinct (originally native) but being re-introduced under licence.				
Oxfordshire: Currently not recorded				
Legislation: Not currently protected.				
Don't confuse with: Field signs could be potentially confused with otter. Unlikely to visually confuse with any mammal.				
				
		<p>KNOWN RECORDS</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> 		



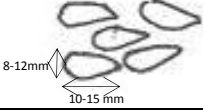
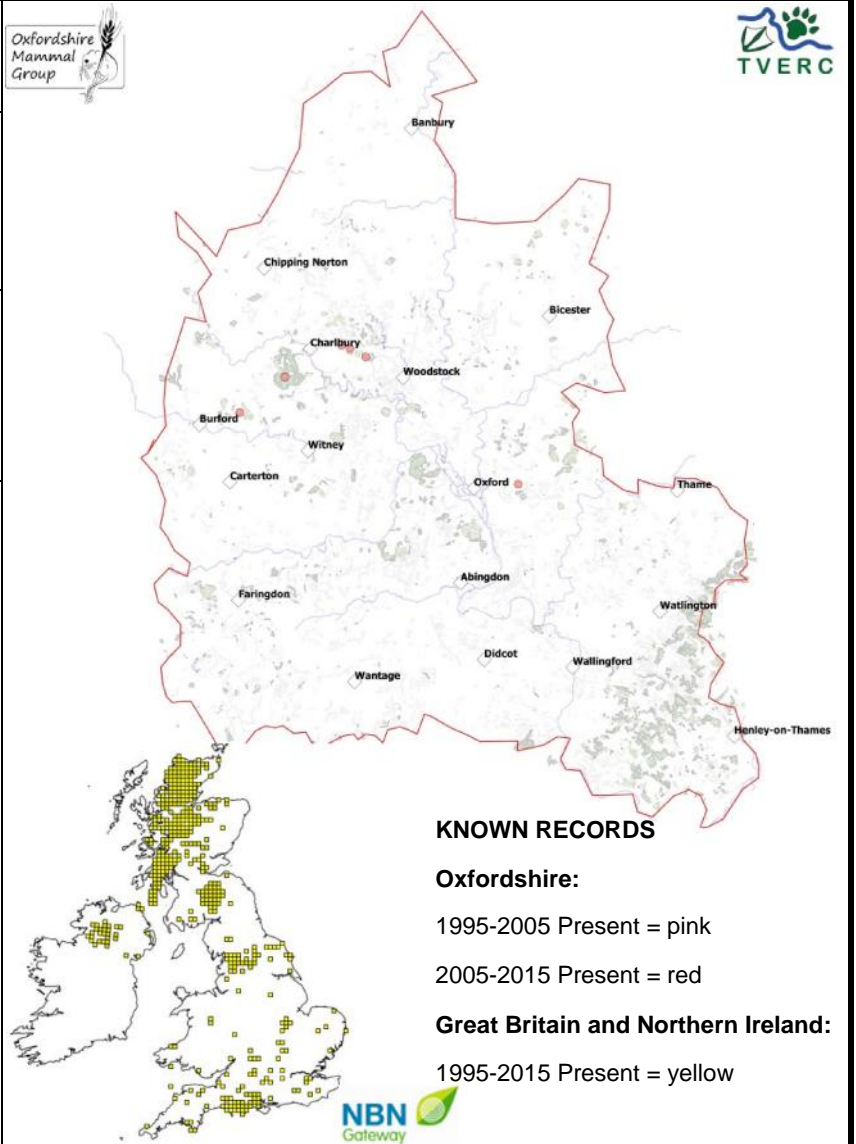
Please submit all records of mammal sightings to: www.oxonmammals.org/records



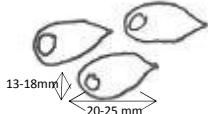
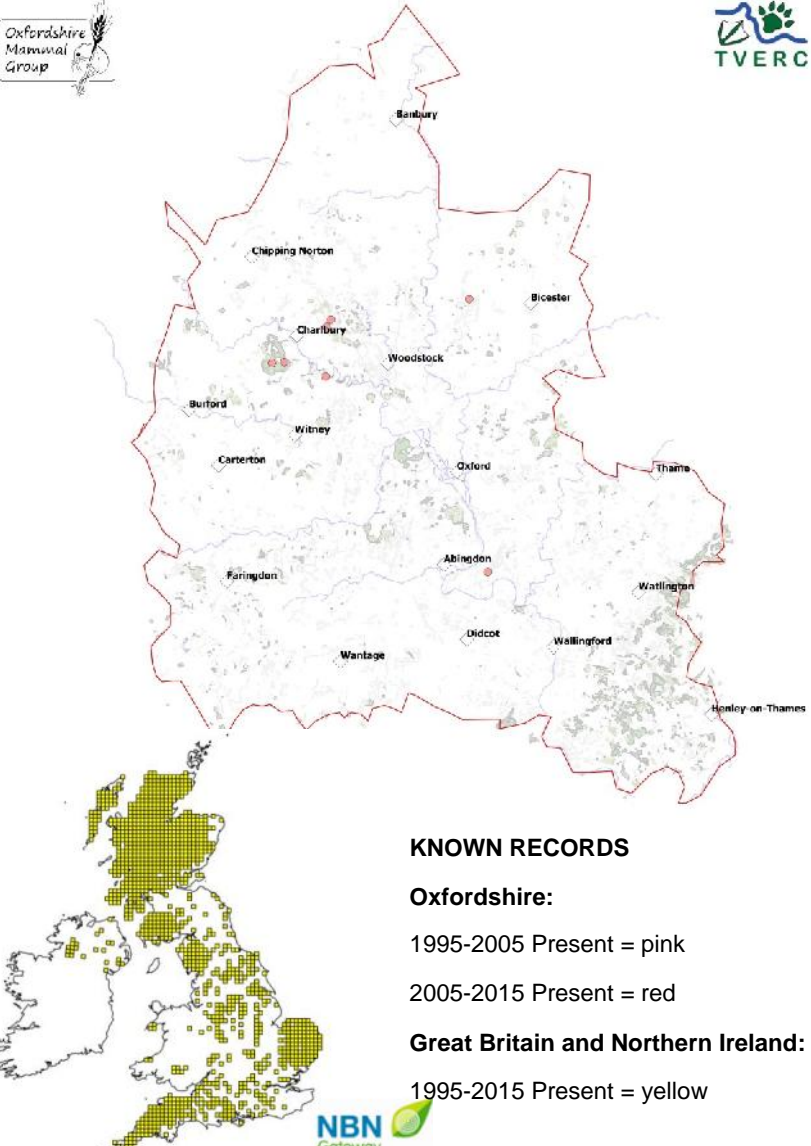
Reeve's Muntjac		<i>Muntiacus reevesi</i>		
Description: The smallest British deer, native to China. Males have short, straight antlers, a dark V-shaped ridge on the forehead and fang-like upper teeth; females lack antlers and fangs and have a dark triangular patch on the forehead. Muntjac have a rounded back and glossy reddish-brown summer coat. When disturbed, they will flee with their tails in the air, showing the bright-white underside. Can bark loudly. Shoulder height: 38-45cm. Weight: 13-20kg.				
Field Signs				
Footprints: Usually asymmetrical; outer toe typically longer than inner toe. Small: 20x30mm. 		Droppings: Black, rounded or cylindrical. Sometimes pointed at one or both ends. Scattered more than any other deer. 		Browsing: Deer leave a ragged end on browsed vegetation unlike hare and rabbit which leave a clean cut.
		Bark stripping: Red, Sika, Muntjac and Fallow deer will peel and eat bark of trees, leaving broad teeth marks running up the stem with torn bark at the top. Cannot tell species apart.		Rump colour: Dark. When alarmed, tail held vertically to show white underside.
Diet: Varied; browses on grass, herbs, bramble, tree shoots and ivy.			Habitat: Varied; at home in close proximity to humans, wherever there is dense undergrowth, scrub and woodland for shelter.	
Lifespan: 15 years or longer has been known.			 KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow	
Breeding: No fixed breeding season; females capable of giving birth every 7 months, allowing the species to spread rapidly from introduction site in Bedfordshire around 1900.				
UK Conservation Status: Introduced. Common and widespread.				
Oxfordshire: Common and widespread.				
Legislation: Invasive non-native (Wildlife and Countryside Act 1981 Schedule 9i).				
Don't confuse with: Chinese water deer: Protruding upper canine teeth (tusks) but no antlers; uncommon and shy. Roe deer: Taller, with distinctive black and white nose and white or buff rump; males have longer antlers with tines.				





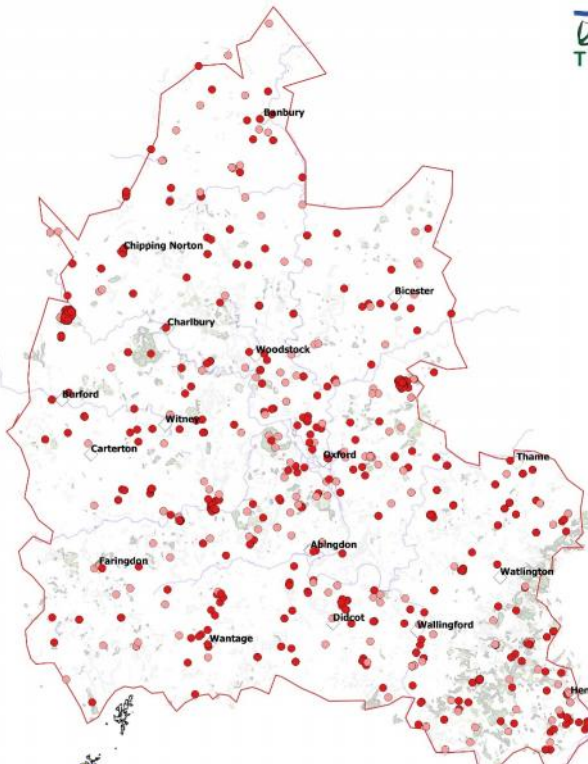
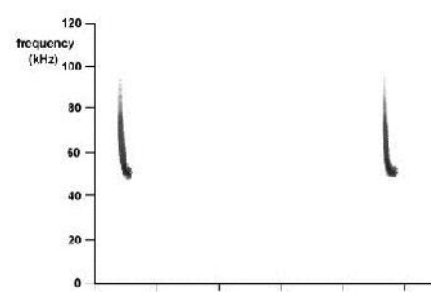


Chinese Water Deer		<i>Hydropotes inermis</i>		 Derek Crawley	
Description: A small deer, with neither sex having antlers. Red-brown coat in summer, grey-brown in winter. Distinctive pale ring around black eyes and nose. Both sexes have tusk-like teeth protruding below upper lip; longer (7cm) in males. Large furry ears. Haunch slightly higher than shoulder. Short, inconspicuous tail; rump same colour as body. Shy, secretive, nocturnal/crepuscular. Shoulder height: 55-60cm. Weight: 10-15kg.					
Field Signs					
Footprints: Inner side of slot straight compared to any other deer. 30-40 x 40-50 mm. 		Droppings: Black or dark brown, cylindrical, pointed at one end, rounded at other 		Browsing: Deer leave a ragged end on browsed vegetation unlike hare and rabbit which leave a clean cut.	
Diet: Grazes on grasses; rarely browses on trees and shrubs.			Habitat: Wetlands, swamps, river valleys, occasionally arable fields.		
Lifespan: Up to 6 years.		  KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow 			
Breeding: Rut occurs in November and December. Females give birth in June and may have up to 6 fawns; twins and triplets usual.					
UK Conservation Status: Introduced. Common and widespread. Oxfordshire: Rare. Legislation: Invasive non-native (Wildlife and					
Don't confuse with: Muntjac: Smaller, stocky deer with distinctive black markings on forehead. Bucks have short antlers about 10cm long without branches. Roe deer: Taller, with distinctive black and white nose and white or buff rump; males have antlers with tines.					



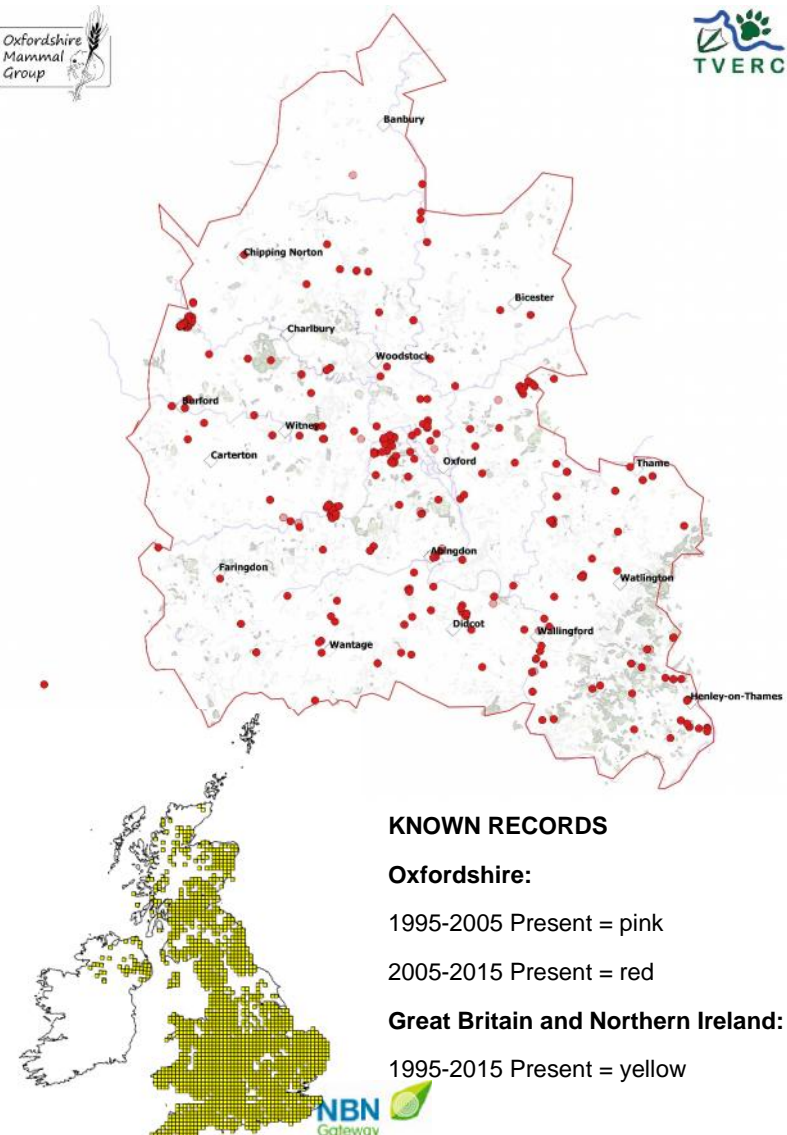
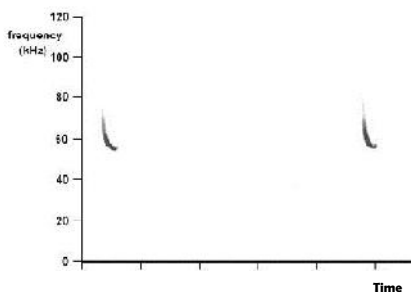
Roe Deer	<i>Capreolus capreolus</i>	 <p>Peter Newbold</p>		
Description: In summer the coat is reddish brown, turning to a greyish or pale brown in winter. The rump is cream or white with no visible tail. They have a distinctive black nose and white chin. Male has short ridged antlers less than 30cm long with three points. Shoulder height 60-75cm. Weight: 10-25kg		Field Signs		
Footprints: Appear like an inverted heart shape. Dew claws common on soft ground. 30 x 45mm.	Droppings: Shiny black when fresh, cylindrical pellets. Pointed at one end, the other rounded.	Browsing: Deer leave a ragged end on browsed vegetation unlike hare and rabbit which have a clean cut.		Rump colour: Cream-white rump which can be flared when alarmed. No visible tail. (In winter female has a tuft of hair between back legs.)
Diet: Browses on herbs, bramble, heather, bilberry, tree shoots and ivy.		Habitat: Prefers woodland with dense undergrowth and scrub. Will also be found in fields, heathland and uplands occasionally.		
Lifespan: Up to 10 years.				
Breeding: Rut occurs in mid-July to mid-August when males defend a territory with one or more does. The birth is then postponed through delayed implantation of the egg so that the young (1-3) are born in May to June.				
UK Conservation Status: Common and widespread		KNOWN RECORDS		
Oxfordshire: Common and widespread.		Oxfordshire:		
Legislation: Not currently protected.		1995-2005 Present = pink		
Don't confuse with:		2005-2015 Present = red		
Sika deer: Larger with white spots and a white rump with a black upper border and black tail stripe. Male Sika have larger antlers with generally more than 4 points.		Great Britain and Northern Ireland:		
Muntjac deer: Smaller stocky deer with distinctive black markings on forehead. The males have short antlers about 10cm long without branches.		1995-2015 Present = yellow		
Chinese water deer: Rump the same colour as rest of coat, no antlers, with protruding upper canine teeth (tusks).				



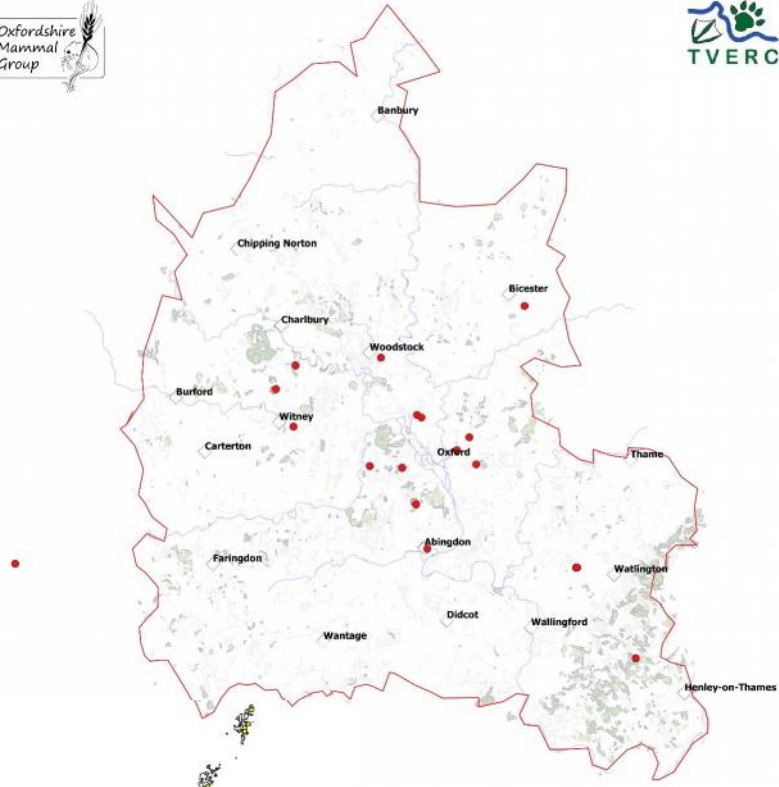
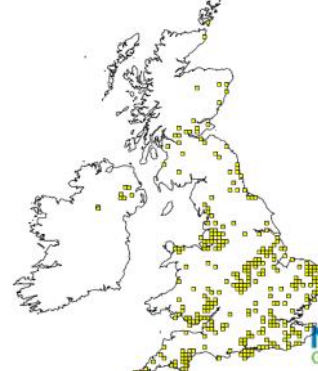

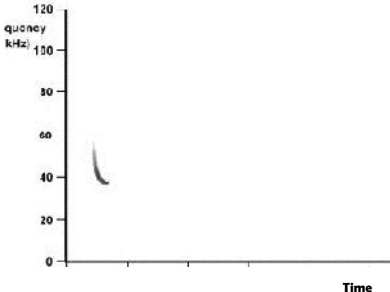
Fallow Deer	<i>Dama dama</i>	 <p>Peter Newbold</p>		
Description: Most common colouration is tan with white spots in summer, becoming greyer with indistinct spots in winter, but colouration is highly variable with black and white varieties present. Tail longer than other deer species. The white rump with a black horseshoe shape outline and white tail with central thick, black stripe are very distinctive.		Field Signs		
Footprints: slots have straight or concave outer edges, appearing long and narrow. 40x60mm.	Droppings: Black changes to brown with age, shiny, cylindrical pellets, one end pointed, one end indented.	Browsing: Deer leave a ragged end on browsed vegetation unlike hare and rabbit which leave a clean cut.	Bark stripping: Red, Sika, Muntjac and Fallow deer will peel and eat bark of trees, leaving broad teeth marks running up the stem with torn bark at the top. Cannot tell species apart.	Rump colour: Heart shaped white rump with horseshoe-shaped black border. Black long tail.
Diet: Favours grasses. Will also eat arable crops and, in winter, the shoots of trees and shrubs.		Habitat: Wooded habitat preferred but will move into farmland.		
Lifespan: 8-16 years, females live longer.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>		
Breeding: Rutting season late September to mid -October. Single fawn born between late May and July. May form harems with many females or there may be several males with a few does.				
UK Conservation Status: Introduced. Common and widespread. Oxfordshire: Common and widespread. Legislation: Not currently protected.				
Don't confuse with: Red deer: Larger deer with large branched antlers that are not palmated (i.e. narrow points rather than broad and flat). Sika deer: Similar size and coat but darker than fallow deer. Sika tail is smaller with a less distinct black stripe. The male's antlers are pointed rather than palmate, more similar to red deer. Roe deer. Much smaller deer with small branched antlers. Creamy-white rump.				



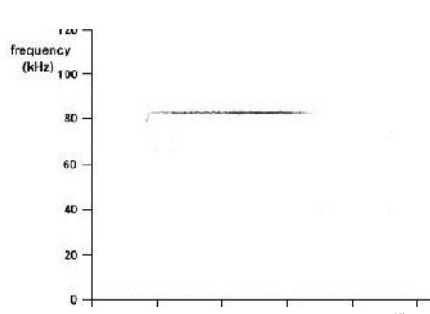
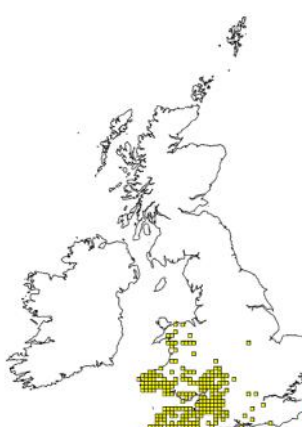
Sika Deer	<i>Cervus nippon</i>	 <p>Peter Newbold</p>		
Description: Closely related to red deer but native to east Asia. Similar build to red deer but shorter neck and less elongated head. Coat chestnut-brown in summer with white spots; tail and rump also white, tail sometimes with dark stripe. Forehead markings give the appearance of frowning. Coat dark greyish-brown in winter; markings indistinct. Shoulder height: 70-90cm. Weight: 35-65kg.		Field Signs		
Footprints: Very similar to fallow or young red deer. Broader than fallow and more concave than red. 50x80mm	Droppings: Glossy black to fallow pellet, one end flat, indented or rounded the other pointed.	Browsing: Deer leave a ragged end on browsed vegetation unlike hare and rabbit which leave a clean cut.	Bark stripping: Red, Sika, Muntjac and Fallow deer will peel and eat bark of trees, leaving broad teeth marks running up the stem with torn bark at the top. Cannot tell species apart.	Rump colour: Heart-shaped white rump with black upper border. White tail with thin vertical black streak.
		Diet: Browses on grass, herbs, bramble, shrubs and tree foliage.		
Lifespan: 15 years or longer has been known in captivity.		Habitat: Prefers mixed woodland with scrubby undergrowth. Will also be found in fields, heathland and uplands.		
Breeding: Rut occurs from September to early November when stags defend a territory and harem of hinds. Stags emit a loud, high-pitched noise that lowers into a roar. Calves born in late spring.		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>		
UK Conservation Status: Introduced. Common in Scotland and south England.		Don't confuse with:		
Oxfordshire: Rare.		Red deer: Buff-coloured rump and no spots or stripes on flanks; larger at shoulder; bellowing roar.		
Legislation: Invasive non-native (Wildlife and Countryside Act 1981 Schedule 9i).		Fallow deer: Palmate antlers; no markings on forehead; long dark tail (white fringed).		

Red Deer	<i>Cervus elaphus</i>	 <p>Peter Newbold</p>		
Description: The largest of the UK deer species. Reddish-brown in the summer but coat greyish-brown in winter. Rump buff with a ginger-buff tail. Males have large branched antlers which can have up to 16 points. Antlers are shed in February and regrow in the spring, increasing in size each year. Although white spots are present when born, these quickly fade and adults have no spots. In woodland they are usually solitary or just a mother and calf, but in open hillside habitats single sex herds are formed. Males: shoulder height 105-137cm;		Field Signs		
Footprints: Large parallel broad slots up to 70x90 mm, curving evenly to the tip.	Droppings: Black acorn shaped, often pointed at one end and rounded or hollow at other.	Browsing: Deer leave a ragged end on browsed vegetation unlike hare and rabbit which leave a clean cut.	Bark stripping: Red, Sika, Muntjac and Fallow deer will peel and eat bark of trees, leaving broad teeth marks running up the stem with torn bark at the top. Cannot tell species apart.	Rump colour: Buff with a ginger-buff tail.
				
Diet: Grasses, sedges, rushes and heather form main diet, but will also eat woody shrubs and young trees when food is scarce.		Habitat: Moorlands and open hillsides, woodland and forest.		
Lifespan: 15-18 years.				
Breeding: The rut (mating season) is from mid-September to late October/November. Males will fight for dominance over a group of 10-15 hinds. Single calf born in May-June.		UK Conservation Status: Common and widespread.		
Oxfordshire: Rare (no records since 2005)		Legislation: Not currently protected.		
Don't confuse with: <p>Fallow deer: Have spots, which adult red deer do not. Antlers are large and flattened (palmated). Rump is white with a black border and the tail is black.</p> <p>Sika deer: Has white spots in summer. Heart shaped white rump with black upper border. White tail with a central black stripe.</p> <p>Roe deer: Much-smaller deer with small branched antlers. Creamy-white rump.</p>		KNOWN RECORDS <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>		

Common pipistrelle <i>Pipistrellus pipistrellus</i>		 BSG Ecology	
Description: A small bat (body length 35-45mm), with a wingspan of 200-234mm. 3-8g. It has a post-calcarial lobe and does not have an internarial ridge. Medium to dark brown. Face and around the eyes usually dark. Adult forearm length: 35-45mm. Tragus up to four times as long as it is broad. Visual difference from other pipistrelle species is that common pipistrelle has an I-shaped vein on the wing membrane and the last finger bone is shorter than previous bone (4:5 ratio).			
Droppings: 7-9mm long, 1.5-2mm wide. Fine texture, tapered at either end. Often found below roost access points. 	Flight description: Emerges 20-30 mins after sunset, although occasionally before. Moderate speed hawking (catching prey on the wing). Fast erratic flight at head height (up to 10m).	Lifespan: Normally 4-5 years, can live up to 11 years.	Life cycle: During summer, females form maternity colony where they give birth to a single young. Young can fly at 4 weeks and forage for themselves at 6 weeks. Males usually roost singularly.
Roost locations: Buildings (any, although especially in villages), trees, bat boxes, rarely tunnels and caves. Prefer tight crevices. Hibernation roosts similar but usually solitary or in small numbers.			Habitats: Wide range of habitats comprising woodland, hedgerows, grassland, farmland, suburban and urban. Light tolerant.
UK conservation status: Widespread, declined over last few decades but now stabilising. Oxfordshire: Common and widespread Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5		  	
Echolocation: Lowest frequency: 40.8 kHz Highest frequency: 83 kHz Peak intensity: 45 kHz Average call duration: 0.006 seconds Description: Irregular, loud, wet slaps developing into clicks at the end. Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>). 		  KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow	

<p>Soprano pipistrelle</p>	<p><i>Pipistrellus pygmaeus</i></p>	 <p>Matt Hobbs</p>	
<p>Description: A small bat (body length 35-45mm), with a wingspan of 190-230mm. 3-8g. It has a post-calcarial lobe and does not have an internarial ridge. Medium to dark brown. Face and around the eyes usually dark. Adult forearm length: 29-34mm. Tragus up to four times as long as it is broad. Visual difference from other pipistrelle species is that soprano pipistrelle has a Y-shaped vein in the wing and the last finger bone is same length as previous bone (5:5 ratio).</p>	<p>Droppings: 7-9mm long, 1.5-2mm wide. Fine texture, tapered at either end. Often found below roost access points.</p> 	<p>Flight description: Emerges 20-30 mins after sunset, although occasionally before. Moderate speed hawking (catching prey on the wing). Fast erratic flight at head height (up to 10m)</p>	<p>Lifespan: Normally 4-5 years, can live up to 11 years.</p> <p>Life cycle: During summer, females form maternity colony where they give birth to a single young (in June/July). Young can fly at 4 weeks and forage for themselves at 6 weeks. Males usually roost singularly.</p>
<p>Roost locations: Buildings (any, although especially in villages), trees, bat boxes, rarely tunnels and caves. Prefer tight crevices. Hibernation roosts similar but usually solitary or in small numbers.</p>		<p>Habitats: Typically wetland habitats, rivers, lakes, woodland edges, tree lines or hedgerows, suburban parks and gardens.</p>	
<p>UK conservation status: Widespread, declined over last few decades but now stabilising.</p> <p>Oxfordshire: Common, especially near wetlands.</p> <p>Legislation:</p> <ul style="list-style-type: none"> ◆ Habitat regulations 2010 Schedule 2 ◆ Wildlife and Countryside Act 1981 Schedule 5 ◆ Section 41 NERC Act 2006 		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>	
<p>Echolocation:</p> <p>Lowest frequency: 47.3 kHz Highest frequency: 90 kHz Peak intensity: 55 kHz Average call duration: 0.006 seconds Description: Irregular, loud, wet slaps developing into clicks at the end.</p> <p>Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).</p> 			

Nathusius' pipistrelle <i>Pipistrellus nathusii</i>		 Matt Hobbs	
Description: A small bat (body length 46-55mm), with wingspan of 220-250mm. 6-16g. It has a post-calcarial lobe and does not have an internarial ridge. Medium to dark reddish brown. Face, ears and membranes usually very dark. Adult forearm length: 32-38mm. Tragus up to four times as long as it is broad with a distinctly blunt, rounded tip. Visual difference from other pipistrelle species is that Nathusius' pipistrelle is bigger and shaggier.			
Droppings: 7-9mm long, 1.5-2mm wide. Fine texture, tapered at either end. Often found below roost access points. 	Flight description: Emerges 20-30 mins after sunset, although occasionally before. Moderate hawking speed. Fast erratic flight at head height (to 10m) along habitat edges. Less manoeuvrable than	Lifespan: Normally 4-5 years, up to 11 years.	Life cycle: During summer, females form maternity colony where they give birth to a single young. Young can fly at 4 weeks and forage for themselves at 6. Males usually roost singularly. A migratory species which typically overwinters in the UK and breeds in Europe, although some populations are resident.
Roost locations: Buildings (any, although especially in villages), trees, bat boxes and rock faces. Prefer tight crevices. Hibernation roosts similar but usually solitary or in small numbers.			Habitats: Often large freshwater lakes, or near rivers, canals, lakes and waterlogged areas, as well as in woodland rides and edges.
UK conservation status: Widespread but records are sparse. Oxfordshire: Likely seasonal migrant Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5		  KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow 	
Echolocation: Lowest frequency: 34.6 kHz Highest frequency: 79 kHz Peak intensity: 38kHz Average call duration: 0.006 seconds Description: Irregular, loud, wet slaps developing into clicks at the end. Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>). 			

<p>Greater Horseshoe</p>	<p><i>Rhinolophus</i></p>	 <p>Matt Hobbs</p>	
<p>Description: A large bat (body length 57-71mm), with a wingspan of 290-350mm, the size of a small pear. 17-34g. It has a complex horseshoe-shaped nose leaf. It does not have a tragus. Medium to dark brown. Face and around the eyes usually dark. Adult forearm length: 54-61mm.</p>	<p>Droppings: 9-13mm long, 2.2-2.7mm wide. Coarse texture, tapered at either end. Often silver speckled with wing cases of beetles or moths around. Found beneath roost locations (i.e. beneath central ridge of building) in patches.</p> 	<p>Flight description: Emerges within 30-50 minutes of sunset. Slow, fluttering flight with short glides close to the ground along habitat edges or in vegetation. Catches prey on wing and uses feeding</p>	<p>Lifespan: Can live up to 30 years.</p> <p>Life cycle: Mating occurs mainly in autumn. During summer (May onwards peaking in June), females form maternity colony where they give birth to a single young. Males usually roost singularly. All females and some males migrate up to 50km to maternity roosts from hibernation sites.</p>
<p>Roost locations: Buildings (stately homes, boiler houses, cellars, attics) and caves. Free hanging. In winter the greater horseshoe bat uses caves, disused mines, cellars and tunnels as hibernation sites.</p>		<p>Habitats: Grasslands, woodlands, farmland and urban areas. Typically sensitive to lighting.</p>	
<p>UK conservation status: Rare and has marked decline in population. Confined to South-West.</p> <p>Oxfordshire: None known.</p> <p>Legislation:</p> <ul style="list-style-type: none"> ◆ Habitat regulations 2010 Schedule 2 ◆ Wildlife and Countryside Act 1981 Schedule 5 ◆ Section 41 NERC Act 2006 		<p>None recorded in Oxfordshire</p>	
<p>Echolocation:</p> <p>Lowest frequency: 64kHz Highest frequency: 84 kHz Peak intensity: 82 kHz Average call duration: 0.051 seconds Description: Continuous loud babbling warbles. Very directional.</p> <p>Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).</p> 		 <p>Great Britain and Northern Ireland: 1995-2015 Present = yellow</p> <p>NBN Gateway</p>	

Lesser horseshoe

Rhinolophus hipposideros

Description: A small bat (body length 35-45mm), with a wingspan of 192-254mm (size of a plum). 5-9g. It has a complex horseshoe-shaped nose leaf. It does not have a tragus. Pinky buff-brown. Adult forearm length: 54-61mm.



Matt Hobbs

Droppings: 6-8mm long, 1.5-2mm wide. Medium texture, occasionally ginger in colour. Occasionally, lacewing and small beetle wings found next to droppings. Found beneath roost locations (i.e. beneath central ridge of building) in circular clusters.



Flight description: Emerges within 30-50 mins of sunset. Fairly fast and skilful flight close to the ground along habitat edges in vegetation. Catch prey from perch.

Lifespan: Can live up to 30 years.

Life cycle: Mating occurs mainly in autumn. During summer (May onwards, peaking in June), females form maternity colony where they give birth to a single young. Males also use same roosts as females during summer.

Roost locations: Buildings (stately homes, boiler houses, cellars, attics) and caves. Free hanging. In winter uses caves, disused mines, cellars and tunnels as hibernation sites.

Habitats: Sheltered valleys, woodland edge, pasture and wetlands. Typically sensitive to lighting.

UK conservation status: Rare and has marked decline in population. Confined to South-West.

Oxfordshire: Uncommon but widespread.

Legislation:

- ◆ Habitat regulations 2010 Schedule 2
- ◆ Wildlife and Countryside Act 1981 Schedule 5
- ◆ Section 41 NERC Act 2006

Echolocation:

Lowest frequency: 84kHz

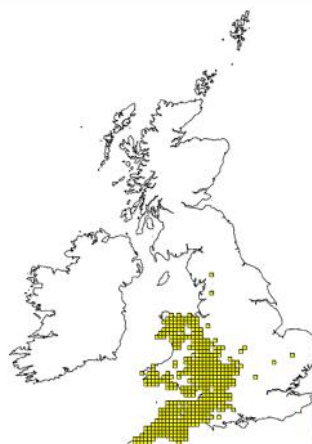
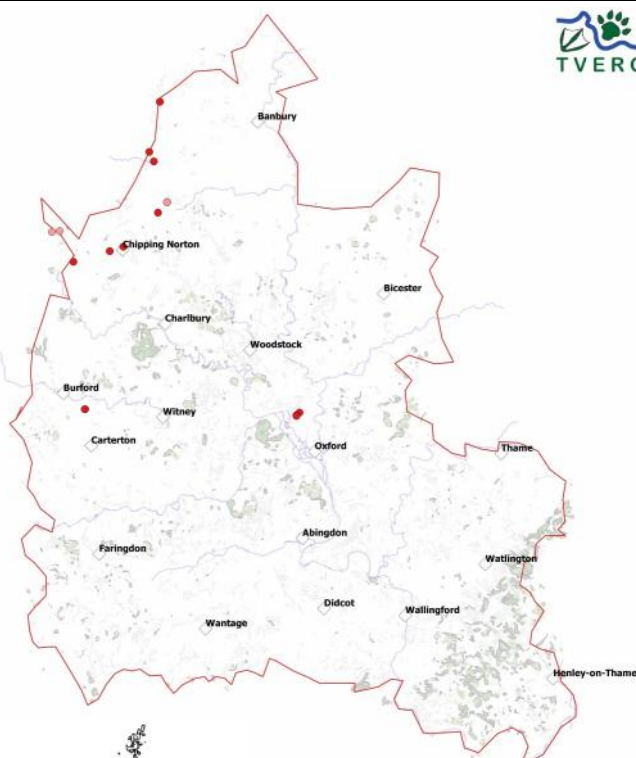
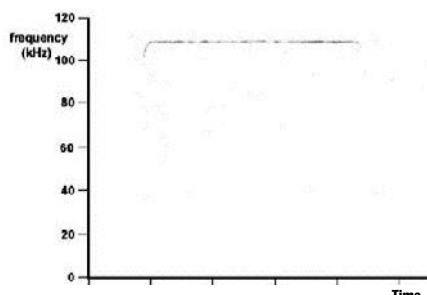
Highest frequency: 113 kHz

Peak intensity: 110kHz

Average call duration: 0.044 seconds

Description: Continuous loud babbling warbles. Very directional.

Typical echolocation sonogram (from Brooks, A. *The Bats of Britain and Europe*).



KNOWN RECORDS

Oxfordshire:





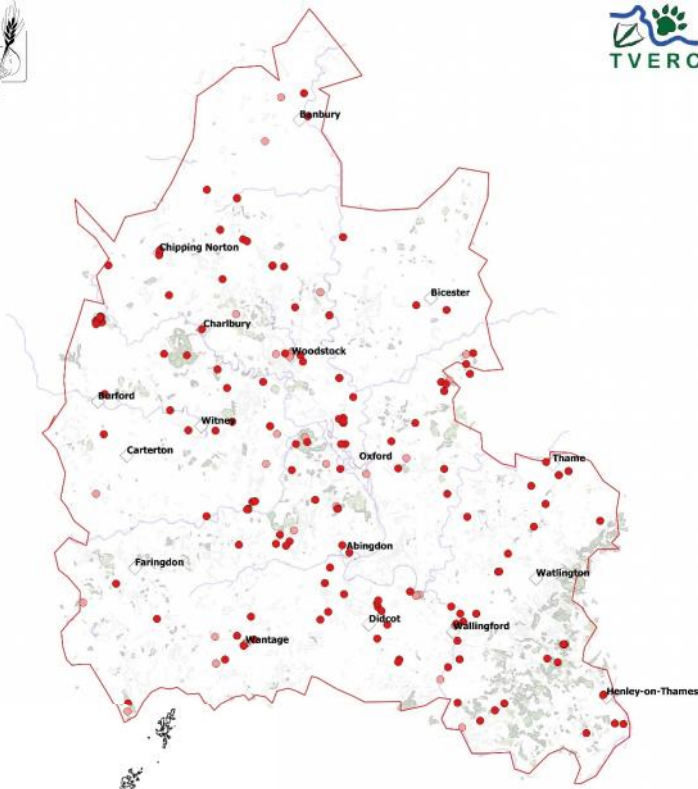
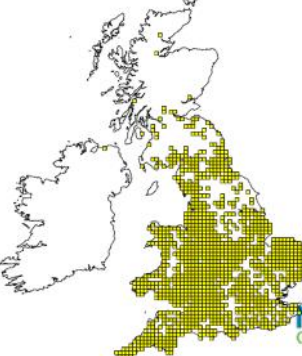

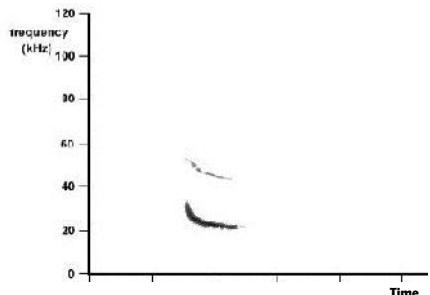
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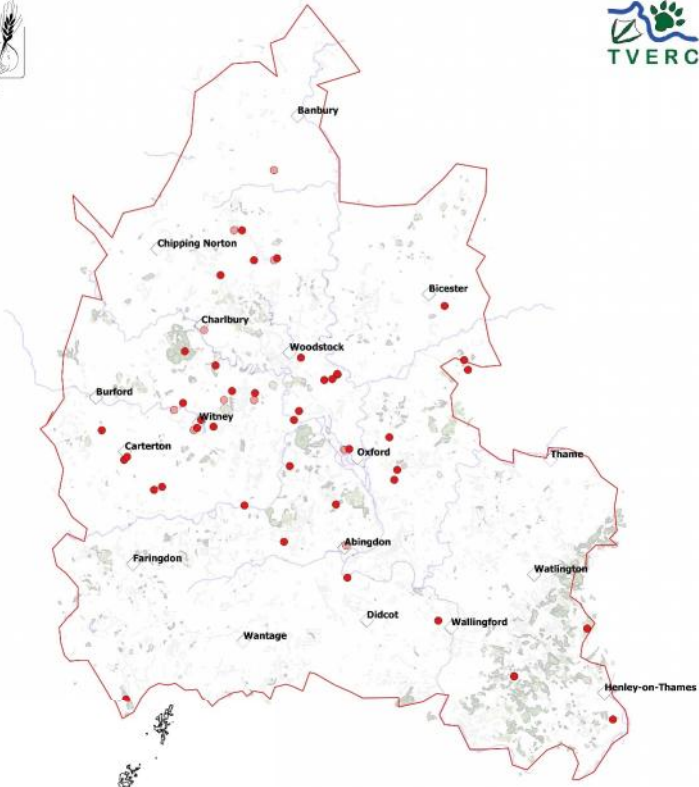

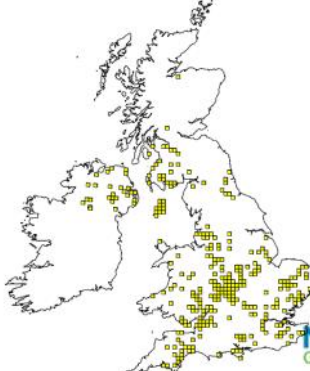

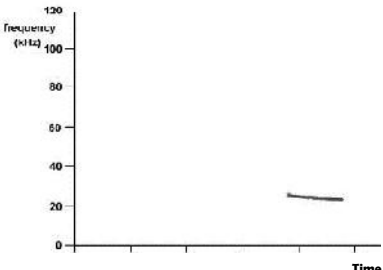
2005-2015 Present = red



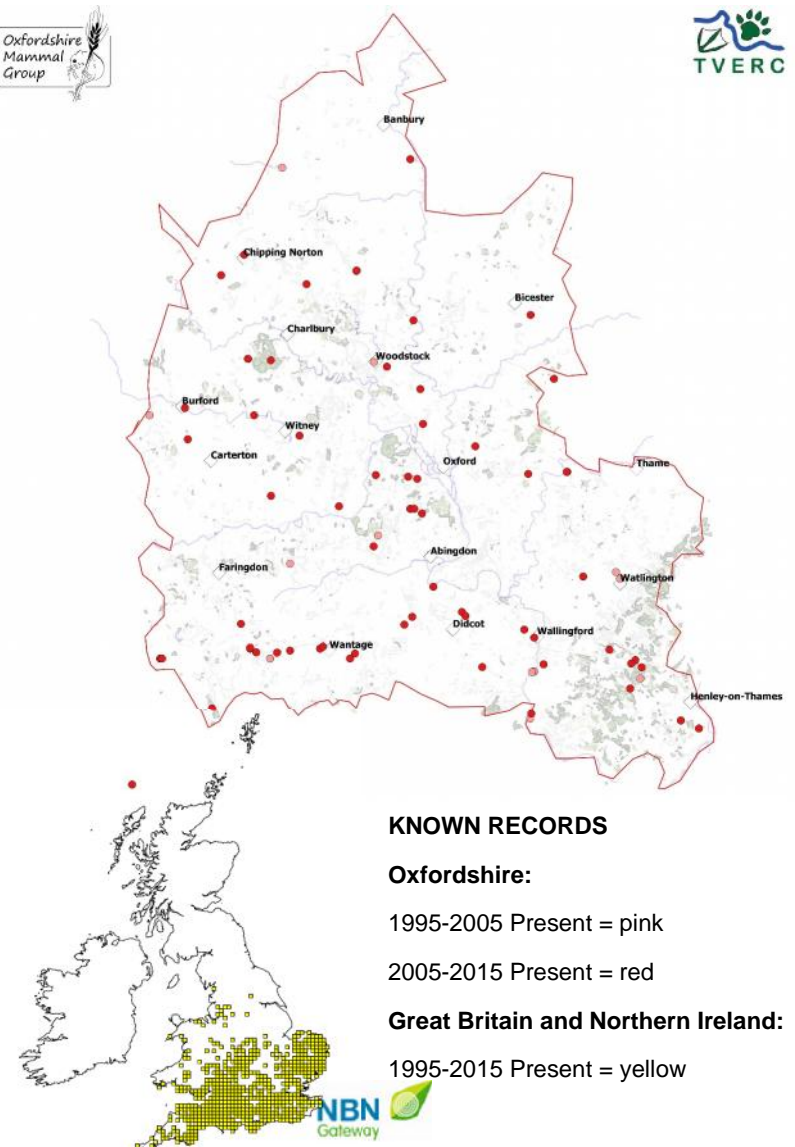
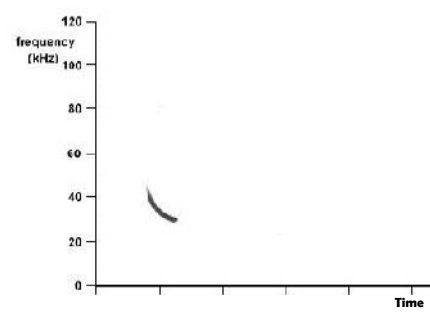
Great Britain and Northern Ireland:





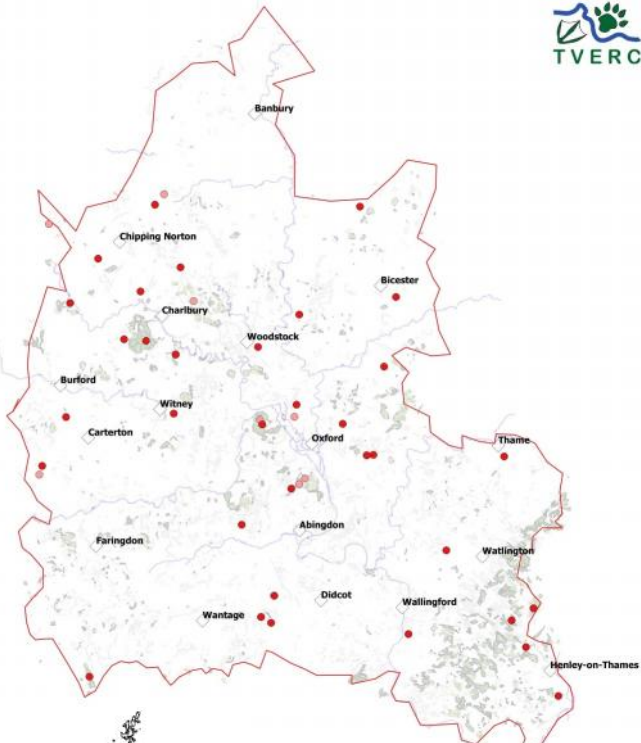
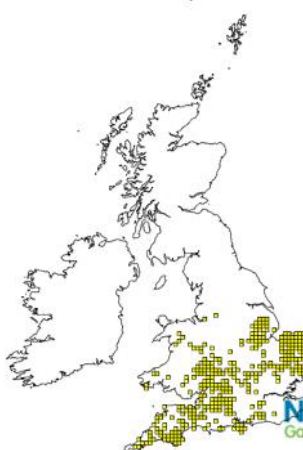
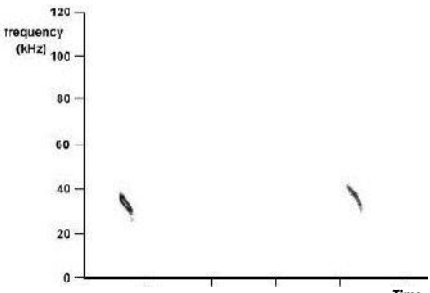
1995-2015 Present = yellow




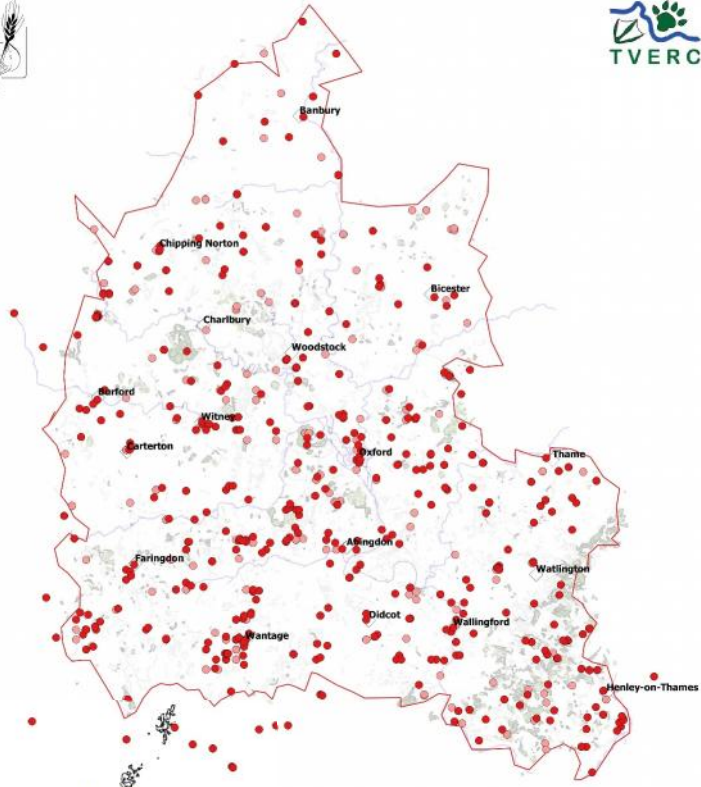
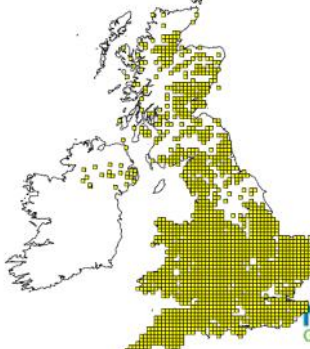

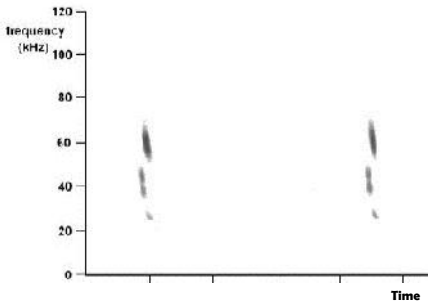




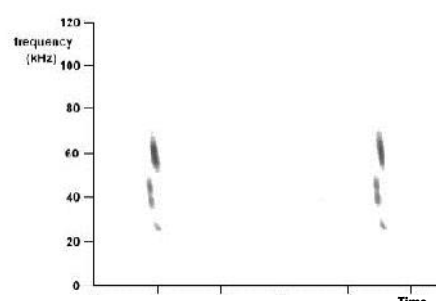


Noctule		<i>Nyctalus noctula</i>	
Description: A large bat (body length 50-70mm), with a wingspan of 320-450mm. 18-40g. It has a post-calcarial lobe and a mushroom-shaped tragus. Chocolate-brown, long bat which looks segmented into three sections. Adult forearm length: 48-58mm.		 <div>Matt Hobbs</div>	
Droppings: 11-15mm long, 3-3.5mm wide. Medium texture, blunt at either end. Often found below roost access points. <div></div>	Flight description: Emerges 5-10 mins after sunset, occasionally before sunset (often confused with swifts at height). Fast hawking (catching prey on the wing). Fast straight flight above trees in open habitats. Dives steeply	Lifespan: Normally 4-5 years.	Life cycle: During summer, females form maternity colony where they give birth to a single young. Maternity colonies often move location. Males usually roost singularly or in small bachelor groups. Mixed-sex colonies form in April to June. Young can fly at 4 weeks and forage for themselves at 6.
Roost locations: Trees, rarely buildings, sometimes walls and bridges. Loose crevice dweller. Most hibernation roosts are in trees or rock fissures, but have been found in bat boxes and buildings.		Habitats: Open habitats and rivers or lakes, near woodlands.	
UK conservation status: Relatively widespread, but scarce in areas of intensive agriculture. Oxfordshire: Infrequent yet widespread. Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5◆ Section 41 NERC Act 2006		<div><div></div><div></div></div> <div></div> <div><div><div>KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow</div></div><div></div></div>	
Echolocation: Lowest frequency: 15 kHz Highest frequency: 52 kHz Peak intensity: 25 kHz Average call duration: 0.021 seconds Description: Slow irregular, very loud metallic chinks or 'chop chop'. Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>). <div></div>			




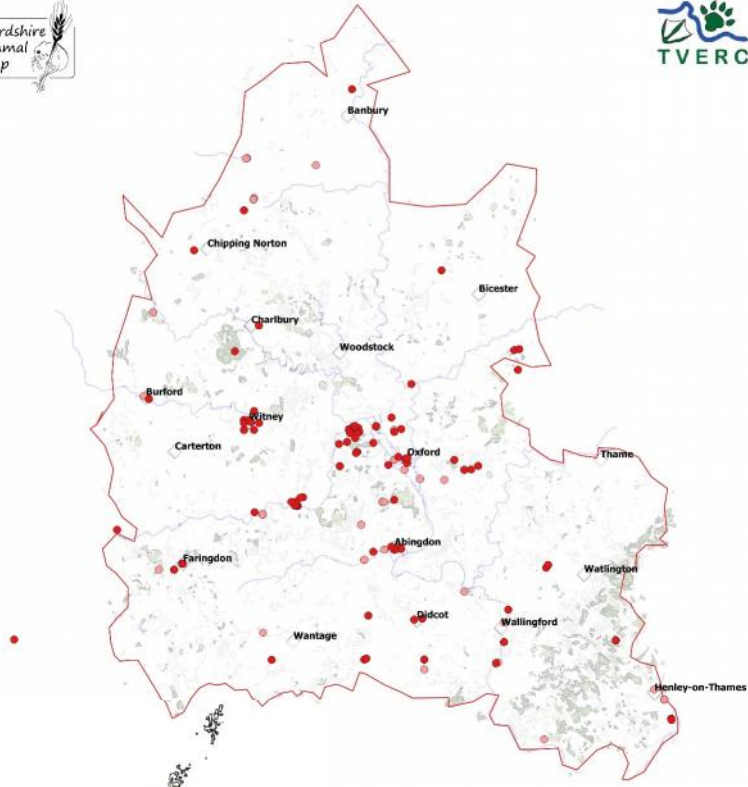


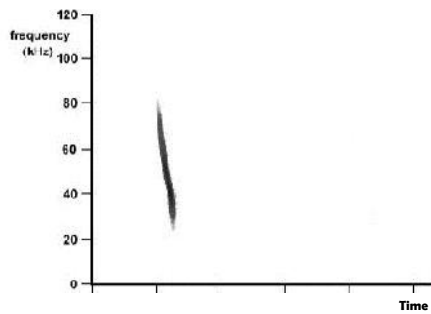
Leisler's bat		<i>Nyctalus leisleri</i>	 Helen Simmons	
Description: A medium bat (body length 37-48mm), with a wingspan of 300-340mm. 12-20g. It has a post-calcarial lobe and a mushroom-shaped tragus. Dark brown, shaggy fur with a ruffled mane. Adult forearm length: 38-47mm.				
Droppings: 6-9mm long, 2.5-3mm wide. Medium texture.		Flight description: Emerges 10-15 mins after sunset, although occasionally before. Fast hawking (catching prey on the wing). Fast straight flight above trees in open habitats. Dives steeply when	Lifespan: Can live up to 10 years.	Life cycle: In the summer, maternity colonies of females gather in tree holes and sometimes in buildings where they give birth to a single young.
Roost locations: Loose crevices in trees, building and bat boxes. Most hibernation roosts are in tree holes, in cavities in buildings and occasionally in caves and tunnels.				Habitats: Open habitats and rivers or lakes, near woodlands.
UK conservation status: Widespread, but relatively rare. Oxfordshire: Infrequent but widespread			  	
Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5				
Echolocation: Lowest frequency: 20 kHz Highest frequency: 61 kHz Peak intensity: 25 kHz Average call duration: 0.017 seconds Description: Slow irregular, very loud metallic chinks or 'chop chop'. Clicks at top of range. Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).			 	
				



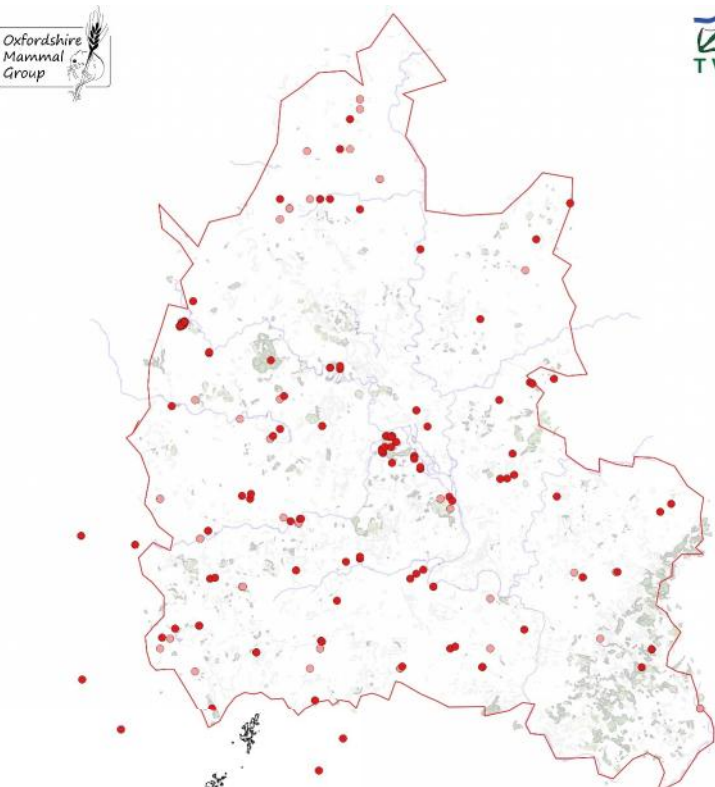
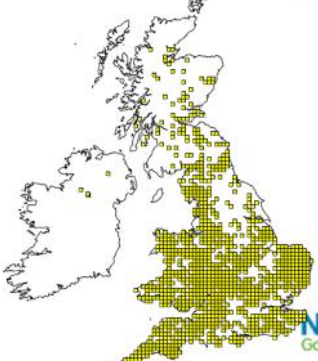
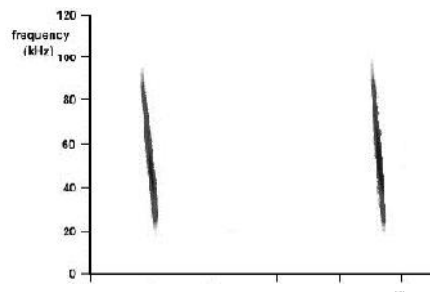
<p>Serotine</p> <p><i>Eptesicus serotinus</i></p>	<p>Description: A large bat (body length 58-80mm), with a wingspan of 320-380mm. 15-35g. It has a post-calcarial lobe and a mushroom-shaped tragus. It is a big bat, with big teeth and looks 'stupid'. Long snout, shaggy fur and broad wings.</p>	 <p>Matt Hobbs</p>	
<p>Droppings: 8-11mm long, 3.5-4mm wide. Coarse texture, more rounded than other bats with rounded ends. Often found below roosts (below ridges, around chimneys) in circular clusters or scattered.</p> 	<p>Flight description: Emerges 20-25 mins after sunset. Slow hawking (catching prey on the wing). Relative slow flight often above roof height. Flies in loops in open areas and much closer to</p>	<p>Lifespan: Can live up to 19 years.</p>	<p>Life cycle: During summer, females form maternity colony where they give birth to a single young. Young can fly at 4 weeks and forage for themselves at 6. Males usually roost singularly. Mating occurs in autumn.</p>
<p>Roost locations: Buildings ('Edwardian buildings'- high gabled 1920s/30s houses and churches), tunnels and mines. Loose crevice dweller. Very few found in their hibernation roosts, but most likely to be in buildings.</p>		<p>Habitats: Woodland, farmland, parkland and urban areas.</p>	
<p>UK conservation status: Relatively uncommon, occurring mainly south of a line drawn from The Wash to parts of South Wales.</p> <p>Oxfordshire: Infrequent but widespread.</p> <p>Legislation:</p> <ul style="list-style-type: none"> ◆ Habitat regulations 2010 Schedule 2 ◆ Wildlife and Countryside Act 1981 Schedule 5 		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>	
<p>Echolocation:</p> <p>Lowest frequency: 22 kHz</p> <p>Highest frequency: 42 kHz</p> <p>Peak intensity: 25-30kHz</p> <p>Average call duration: 0.005 seconds</p> <p>Description: Medium-slow, quite-loud irregular smacks.</p> <p>Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).</p> 			



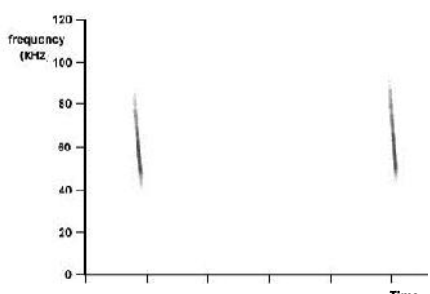
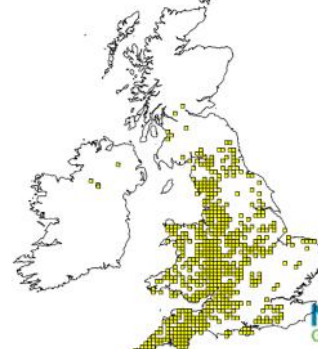
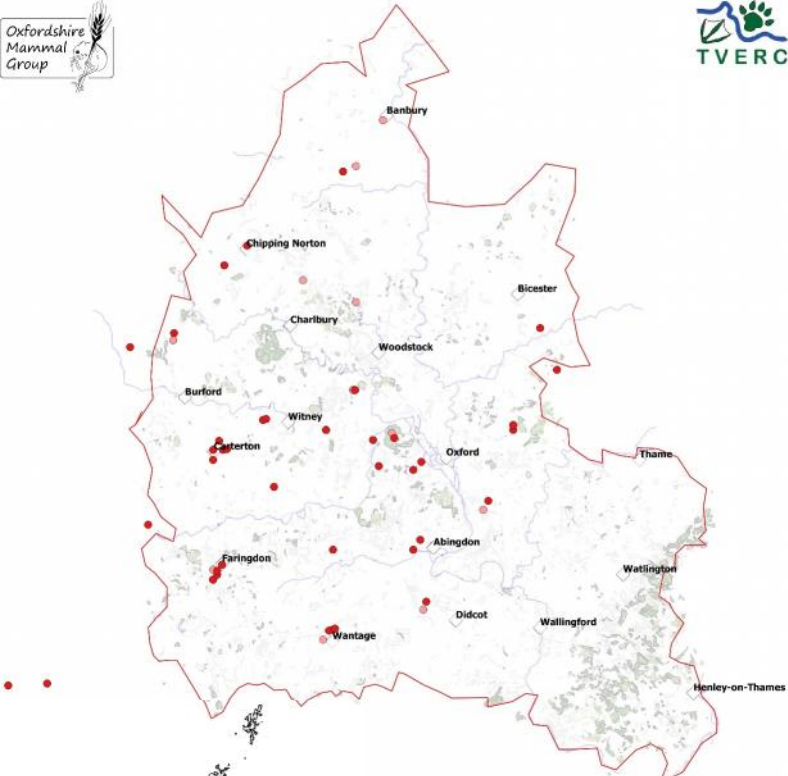



<p>Barbastelle</p>	<p><i>Barbastella barbastellus</i></p>	 <p>Matt Hobbs</p>	
<p>Description: A medium bat (body length 40-55mm), with a wingspan of 245-290mm. 6-13g. Ears are joined at the base and have a triangular-shaped tragus. Blackish fur and looks like a night club bouncer (very beefy with a pug-shaped nose).</p>	<p>Droppings: 8-11mm long, 2.1-2.7mm wide. Medium-coarse texture. Knobbly, often in three parts.</p> 	<p>Flight description: Emerges 30-60 mins after sunset. Fast agile flight (catching prey on the wing) close to vegetation. Individuals can have a wide feeding range of up to 15km.</p>	<p>Lifespan: Can live up to 25 years.</p> <p>Life cycle: Females give birth to one-two young from mid-June. Young can fly at 4 weeks and forage for themselves at 6. Males usually roost singularly. Mating occurs in autumn with mating groups comprising one male and up to four females.</p>
<p>Roost locations: Typically open crevice features such as loose bark on trees and crevices in buildings and caves. The majority of winter records are of single bats in underground roosts.</p>		<p>Habitats: Woodland, farmland and parkland.</p>	
<p>UK conservation status: Very rare, south-central England and Wales.</p> <p>Oxfordshire: Rare, but widespread.</p> <p>Legislation:</p> <ul style="list-style-type: none"> ◆ Habitat regulations 2010 Schedule 2 ◆ Wildlife and Countryside Act 1981 Schedule 5 ◆ Section 41 NERC Act 2006 		<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 30%;">  </div> <div style="width: 60%; text-align: right;">  </div> </div>  <div style="display: flex; justify-content: space-between; align-items: flex-start; margin-top: 20px;"> <div style="width: 30%;">  </div> <div style="width: 60%;"> <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> </div> </div>	
<p>Echolocation:</p> <p>Lowest frequency: 28 kHz Highest frequency: 46 kHz Peak intensity: 32 kHz Average call duration: 0.003 seconds Description: Quiet, castanet-like smacks</p> <p>Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).</p> 			



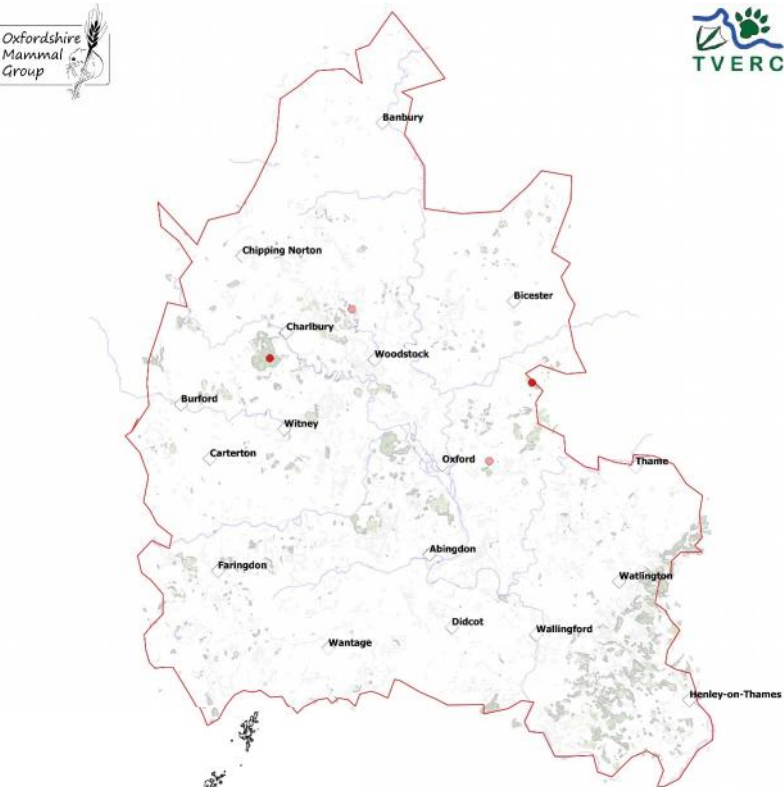
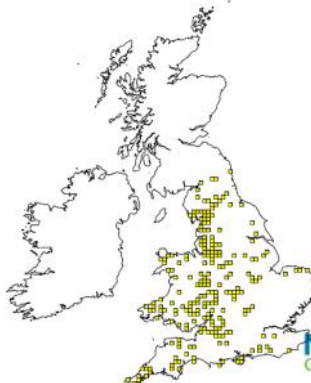
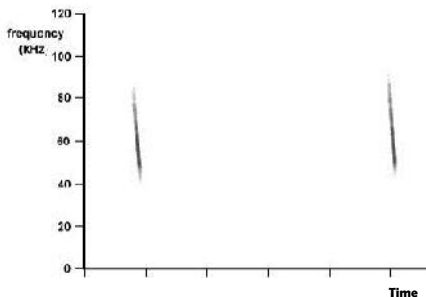
Brown long-eared		<i>Plecotus auritus</i>	 <div>Matt Hobbs</div>
<p>Description: A medium bat (body length 37-52mm), with a wingspan of 240-285mm. 6-12g. Ears are long and joined at the base, with a narrow tragus (less than 5.5mm). They have obviously big feet. Thumb is larger on brown long-eared bat (greater than 6.2mm). Light brown fur, pale underneath. Adult forearm length: 34-42mm.</p> <p>Similar to grey long-eared bat.</p>			
<p>Droppings: 8-10mm long, 2.5-3mm wide. Medium to coarse texture. Knobbly, often mixed black/brown colour with wings amongst droppings. Often found below roost locations, in a line along main ridge in building.</p> 	<p>Flight description: Emerges 45-65 mins after sunset. Gleans prey off leaves and uses feeding perches. Slow fluttering agile flight in vegetation with occasional hovering pauses.</p>	<p>Lifespan: Typically 4-5 years, but can live up to 22 years.</p>	<p>Life cycle: Mating in autumn, continues into winter. Maternity colonies (with males as well as females) established late spring where a single young is born per female. Weaned at 6 weeks.</p>
<p>Roost locations: Buildings (churches, barns, lofts of large houses and mills. Free hanging and loose crevices), trees, bat boxes and caves. Hibernation roosts similar, but less often in trees and buildings.</p>			<p>Habitats: Woodland, farmland, urban areas and parkland. Typically sensitive to lighting.</p>
<p>UK conservation status: Common (but declining) and widespread.</p> <p>Oxfordshire: Common and widespread.</p> <p>Legislation:</p> <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5◆ Section 41 NERC Act 2006			<div><div></div><div></div></div> <div><div></div><div><div>KNOWN RECORDS</div><div>Oxfordshire:</div><div>1995-2005 Present = pink</div><div>2005-2015 Present = red</div><div>Great Britain and Northern Ireland:</div><div>1995-2015 Present = yellow</div><div></div></div></div>
<p>Echolocation:</p> <p>Lowest frequency: 28.1 kHz Highest frequency: 50 kHz Peak intensity: 35 kHz Average call duration: 0.002 seconds Description: Quiet ticks. More commonly seen than heard.</p> <p>Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).</p> 			





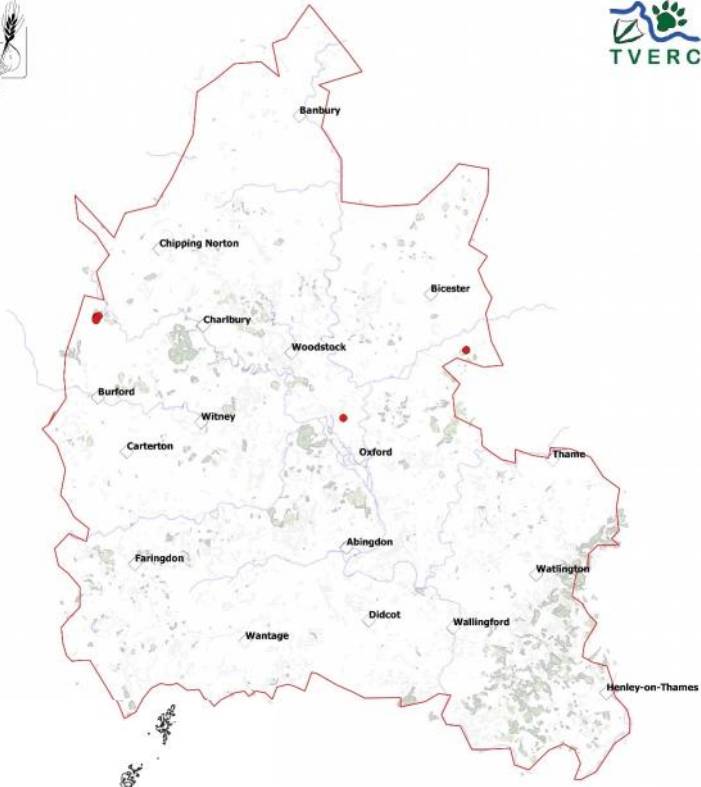
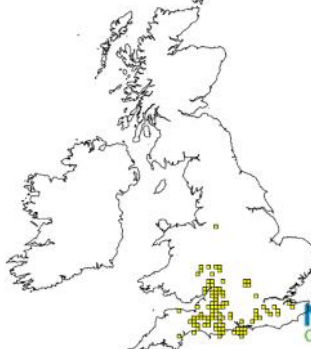

Grey long-eared		<i>Plecotus austriacus</i>		 (c) Hugh Clark/www.bats.org.uk
Description: A medium bat (body length 41-58mm), with a wingspan of 255-300mm. 7-12g. Ears are long and joined, with a narrow tragus (5.2-5.6mm) (but wider than brown long-eared). They have obviously big feet. Thumb is smaller on grey long-eared than brown long-eared (5-6.5mm). Grey-brown fur, often with darker mask around face. Adult forearm length: 37-45mm. Similar to brown long-eared bat.				
Droppings: 9-11mm long, 2.5-3mm wide. Medium to coarse texture. Knobbly with wings amongst droppings. Often found below roost locations, in a line along main ridge in building. 		Flight description: Emerges 45-65 mins after sunset. Gleans prey off leaves and uses feeding perches. Slow fluttering agile flight in vegetation with occasional hovering pauses.		Lifespan: Typically 5-9 years but can live up to 12 years.
Roost locations: Buildings (churches, barns, lofts of large houses and mills. Free hanging and loose crevices), trees, bat boxes and caves. Hibernation roosts similar but less often in trees and buildings.				Habitats: Woodland, farmland, urban areas and parkland.
UK conservation status: Restricted to a few colonies in Sussex, Hampshire, Dorset, Devon and Somerset. Oxfordshire Conservation Status: None known. Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5				
Echolocation: Lowest frequency: 28.1 kHz Highest frequency: 50 kHz Peak intensity: 35 kHz Average call duration: 0.004 seconds Description: Quiet ticks. More commonly seen than heard. Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>). 				
 Great Britain and Northern Ireland: 1995-2015 Present = yellow 				

Daubenton's bat		<i>Myotis daubentonii</i>	
Description: A medium bat (body length 45-55mm), with a wingspan of 230-275mm. 7-12g. Tragus has a convex outer edge. Red/brown fur, pale underneath with pinkish face (bare around eyes). Tail membrane is very stiff with fine hairs. Straight calyx 3/4 length of tail. Has massive-looking feet (relative to other <i>Myotis</i> species) and tiny ears. Adult forearm length: 34-41mm. Often nicknamed the 'potato bat' given its plump appearance.		 <div>BSG Ecology</div>	
Droppings: 8-9mm long, 1.5-2.3mm wide. Fine texture, often clumping together. Found inside roost locations. <div></div>	Flight description: Emerges 40-50 mins after sunset. Catches prey off surface of water (trawls). Fast straight flight most often low over smooth water and sometimes along habitat edges.	Lifespan: Can live up to 22 years.	Life cycle: Mating in autumn, continues into winter. Maternity colonies (with males as well as females) established late spring where a single young is born per female. Weaned at 6 weeks.
Roost locations: Trees, bridges, stone buildings, underground sites and tunnels near rivers. Loose crevice dwellers. Most hibernation roosts are underground in caves or mines.			Habitats: Wetland, woodland and parkland. Light tolerant.
UK conservation status: Common and widespread in wetland areas. Oxfordshire: Common and widespread in wetland areas. Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5		<div><div>KNOWN RECORDS</div><div>Oxfordshire:</div><div>1995-2005 Present = pink</div><div>2005-2015 Present = red</div><div>Great Britain and Northern Ireland:</div><div>1995-2015 Present = yellow</div><div></div></div>	
Echolocation: Lowest frequency: 32 kHz Highest frequency: 87 kHz Peak intensity: 45-50 kHz Average call duration: 0.003 seconds Description: Medium loud, rapid series of regular clicks - machine gun fire. Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>). <div></div>			

<p>Natterer's bat</p>	<p><i>Myotis nattereri</i></p>	 <p>Matt Hobbs</p>	
<p>Description: A medium bat (body length 40-50mm), with a wingspan of 245-300mm. 7-12g. Tragus is long, straight and sharp. Light-brown fur, white underneath, bare pink face. Tail membrane is baggy and crumpled. S-shaped calyx 2/3 length of tail. Ears point forwards and has a 'ski-jump' shaped long snout. Adult forearm length: 36-43mm.</p>	<p>Droppings: 8-11mm long, 2.3-3.3mm wide. Medium texture, often in three parts and twisted. Wings often found with droppings. Found beneath timber joints, crevices in a circular pattern or scattered.</p> 	<p>Flight description: Emerges 40-60 mins after sunset. Moderate speed hawking (catching prey on the wing). Fast and agile flight at head height in habitat edges and sometimes low over</p>	<p>Lifespan: Can live up to 20 years.</p> <p>Life cycle: Mating in autumn, continues into winter. Maternity colonies established late spring where a single young is born per female. Weaned at 6 weeks, although females will crèche young after 3 weeks.</p>
<p>Roost locations: Trees, timber framed barns, stone buildings and bat boxes. In tight crevices. Hibernation roosts are underground.</p>		<p>Habitats: Woodland, parkland, farmland and urban areas.</p>	
<p>UK conservation status: Common and widespread.</p> <p>Oxfordshire: Common and widespread.</p> <p>Legislation:</p> <ul style="list-style-type: none"> ◆ Habitat regulations 2010 Schedule 2 ◆ Wildlife and Countryside Act 1981 Schedule 5 		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p>  <p>NBN Gateway</p>	
<p>Echolocation:</p> <p>Lowest frequency: 30kHz Highest frequency: 80 kHz Peak intensity: 50 kHz Average call duration: 0.005 seconds Description: Quiet to medium-loud, rapid series of more irregular clicks. Softer than Daubenton's.</p> <p>Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).</p> 			

Whiskered bat		<i>Myotis mystacinus</i>	 Matt Hobbs
Description: A small bat (body length 35-48mm), with a wingspan of 190-225mm. 4-8g. Tragus straight and sharp. Dark grey or brown, golden tips on back and greyish underneath. Adult forearm length: 30-37mm. Straight calyx 1/2 length of tail. Very similar to Brandt's bat.			
Droppings: 6-9mm long, 2-2.3mm wide. Medium texture, not tapered at either end. Often found below ridges or vertical structures (e.g. chimneys) in circular clusters. 	Flight description: Emerges about 30 mins after sunset. Moderate speed hawking (catching prey on the wing). Fast straight flight at head height along habitat edges.	Lifespan: Can live up to 24 years.	Life cycle: Mating in autumn, continues into winter. Maternity colonies established late spring when a single young is born per female. Weaned at 6 weeks, although females will crèche young after 3 weeks.
Roost locations: Trees, timber-framed barns, stone buildings and bat boxes. In loose crevices. Hibernation roosts are underground.			Habitats: Woodland, parkland and farmland
UK conservation status: Common and widespread. Oxfordshire: Frequent in woodland areas. Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5			
Echolocation: Lowest frequency: 32.7 kHz Highest frequency: 89 kHz Peak intensity: 45 kHz Average call duration: 0.004 seconds Description: Medium-loud, rapid series of irregular clicks (resembling machine gun). similar to Daubenton's but not as regular and often slower). Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>). 		<div><div>KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow</div><div></div></div>	

<p>Brandt's bat</p>	<p><i>Myotis brandtii</i></p>		
<p>Description: A small bat (body length 38-50mm), with a wingspan of 210-255mm. 4.5-9.5g. Tragus straight (but with a slightly convex outer edge) and sharp. Dark grey or brown, golden tips on back and greyish underneath. Adult forearm length: 31-39mm. Straight calyx 1/2 length of tail.</p> <p>Very similar to Whiskered bat.</p>	<p>Droppings: 6-9mm long, 2-2.3mm wide. Medium texture, not tapered at either end. Often found below ridges or vertical structures (e.g. chimneys) in circular clusters.</p> 	<p>Flight description: Emerges about 30 mins after sunset. Moderate speed hawking (catching prey on the wing). Fast straight flight at head height along habitat edges.</p>	<p>Lifespan: Can live up to 20 years.</p> <p>Life cycle: Mating in autumn, continues into winter. Maternity colonies established late spring when a single young is born per female. Weaned at 6 weeks, although females will crèche young after 3 weeks.</p>
<p>Roost locations: Trees, timber-framed barns, stone buildings and bat boxes. In loose crevices. Hibernation roosts are underground.</p>		<p>Habitats: Woodland, parkland and farmland</p>	
<p>UK conservation status: Common and widespread (although slightly less so than Whiskered).</p> <p>Oxfordshire: Frequent in woodland areas (under-recorded)</p> <p>Legislation:</p> <ul style="list-style-type: none"> ◆ Habitat regulations 2010 Schedule 2 ◆ Wildlife and Countryside Act 1981 Schedule 5 		 <p>KNOWN RECORDS</p> <p>Oxfordshire:</p> <p>1995-2005 Present = pink</p> <p>2005-2015 Present = red</p> <p>Great Britain and Northern Ireland:</p> <p>1995-2015 Present = yellow</p> 	
<p>Echolocation:</p> <p>Lowest frequency: 33 kHz Highest frequency: 89 kHz Peak intensity: 45 kHz Average call duration: 0.004 seconds Description: Medium-loud, rapid series of irregular clicks (resembling machine gun). Similar to Daubenton's but not as regular and often slower).</p> <p>Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).</p> 			

Bechstein's bat		<i>Myotis bechsteinii</i>	 Matt Hobbs
Description: A medium bat (body length 43-53mm), with a wingspan of 250-200mm. 7-13g. It is big and has long ears for a <i>Myotis</i> . Tragus straight with a rounded tip. Pale to reddish brown fur, greyish underneath. Pink face. Adult forearm length: 38-47mm. Straight calyx 1/2 length of tail.			
Droppings: 9-12mm long, 2.5-3.5mm wide. Medium to coarse texture. Found in tree roosts.	Flight description: Emerges about 30 mins after sunset. Moderate speed hawking (catching prey on the wing). Flies at different heights in vegetation with slow fluttering flight, very agile even in	Lifespan: Can live up to 21 years.	Life cycle: Mating in autumn, continues into winter. Maternity colonies established late spring when a single young is born per female. Weaned at 6 weeks. Maternity roosts often change their location frequently.
			
Roost locations: Largely in trees, especially woodpecker holes, although sometimes behind loose bark or in crevices. Hibernation roosts similar, although occasionally underground.			Habitats: Woodland (particularly ancient woodland) and farmland. Typically sensitive to lighting.
UK conservation status: Very rare, South Wales and South England. Oxfordshire: Rare, with restricted range.		<div></div> <div></div> <div></div> <div><div>KNOWN RECORDS Oxfordshire: 1995-2005 Present = pink 2005-2015 Present = red Great Britain and Northern Ireland: 1995-2015 Present = yellow </div></div>	
Legislation: <ul style="list-style-type: none">◆ Habitat regulations 2010 Schedule 2◆ Wildlife and Countryside Act 1981 Schedule 5◆ Section 41 NERC Act 2006			
Echolocation: Lowest frequency: 28.4 kHz Highest frequency: 131 kHz Peak intensity: 50 kHz Average call duration: 0.002 seconds Description: Very quiet, rapid series of irregular clicks. Typical echolocation sonogram (from Brooks, A. <i>The Bats of Britain and Europe</i>).			
