



Myotis Bats

Biodiversity Action Plan



Background

There are three species of bat of the genus *Myotis* present on the Isle of Man: Whiskered bat *Myotis mystacinus*, Natterer's bat *Myotis nattereri* and Daubenton's bat *Myotis daubentonii*. The first records on the Island for the first two species were obtained in the 1940s. Daubenton's bat was first recorded on the Calf of Man, caught in mist nets in 1961 and 1978, while on the main Island two were found roosting under a bridge in 1990. In 1979, R. Wagstaffe, former Keeper of Natural History at Liverpool Museum, reminisced that about 40 years previously he had visited the Isle of Man on holiday and, in a church tower (with external steps) near Douglas, saw 20 – 30 clusters of bats hanging from the ceiling. One cluster was put in a net which was found to contain 700 Natterer's bats, a number of Whiskered bats and a few brown long-eared bats. In his summary of the conservation of bats in Europe, Bob Stebbings later reported (1988) that these bats had been gassed by a UK pest control company although Larch Garrad (ms notes) says that this occurred in the tower of Braddan New Church. In any event, 3 barrow-loads of dead bats were removed and Stebbings (1988) speculates that this represented most of the Natterer's bats present on the Isle of Man.

Since the formation of the Manx Bat Group, however, records of all three species have accumulated and they can be encountered in low numbers anywhere in the lowland districts of the Island, although Daubenton's bat (see below) is most frequently encountered in the vicinity of still or slow-moving waters.

Description



Whiskered

Whiskered bat: The whiskered bat is small, with shaggy, golden-tipped, dark grey or brown fur, and a grey belly. Its flight is fast and fluttering. It is very similar in appearance to the Brandt's bat, but is slightly smaller

Natterer's Bat: Medium in size, the Natterer's bat has a pink face with long, slightly curved ears. It has pale brown-grey fur on its back and white fur on its belly. This bat has a wingspan of 24–30cm. It has pinkish limbs that are clearly visible through its pointed wings, earning it the name the 'red-armed bat'. Its tail has short, stiff bristles along the membrane.



Natterer's



Daubenton's

Daubenton's bat: Daubenton's bats have brown fur, black wings and a pink face. Their undersides are a pale, silvery colour. They have large feet covered with stiff bristles. They weigh up to 15g (slightly less than a robin) and have a wingspan of around 25cm.

British Isles Distribution


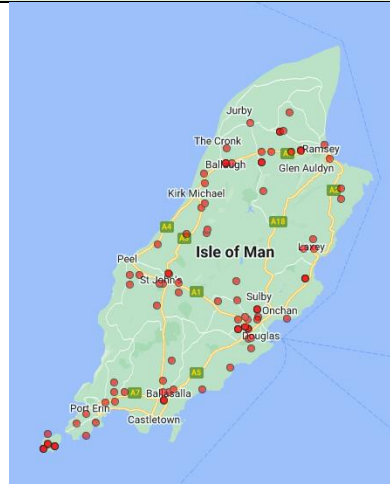
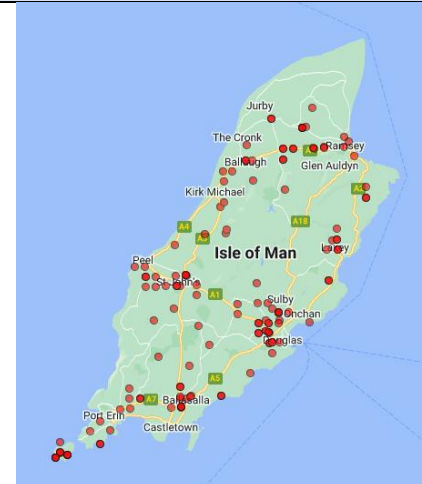
Whiskered bat: England, Wales and southern Scotland with a western bias although very sparse in Northern Ireland

Natterer's bat: England, Wales and Scotland to Perth-Dundee line with outliers around Aberdeen and Inverness, sparse in Northern Ireland

Daubenton's bat: Throughout UK, though somewhat sparse in western Scotland



Isle of Man Distribution

Whiskered bat	Natterer's bat	Daubenton's bat
		
<small>NBN Atlas Isle of Man, Map data © Google 2023</small>		

Habitat

Whiskered bat: Woodlands, orchards, riparian, grasslands with hedgerows or woodland edges, scrub

Natterer's bat: Broadleaved woodlands, riparian, hedgerows

Daubenton's bat: Riparian, ponds, lakes, reservoirs, broadleaved woodland

Ecology

Whiskered bat	Natterer's bat	Daubenton's bat
<p>Diet: Catches on the wing (hawker) and off surfaces (gleaning) feeding on small moths, flies, and spiders. Considerable differences in prey selection between colonies, suggesting the species adapts depending on prey availability.</p>	<p>Diet: High in flies, particularly dung flies and midges. Feed on the wing (hawking) and off surfaces (gleaning).</p>	<p>Diet: Prey on species with aquatic larval stages, especially midges and caddisflies. Moths, beetles, and mayflies are also taken, but in smaller quantities.</p>
<p>General Ecology: An agile flyer adapted to foraging in cluttered environments. Found in a wide variety of habitats, but generally avoids urban and arable areas. Frequently caught in mist nets along linear features, such as tall hedgerows, woodland edge, and smaller waterways enclosed by trees. Foraging distances have been recorded up to 3.5km from maternity roosts. Hibernation sites include underground tunnels, icehouses, and caves. Generally considered a sedentary species and no long-distance movements have been recorded in Europe.</p>	<p>General Ecology: The Natterer's bat is commonly associated with trees, particularly broadleaved woodlands, tree-lined river corridors, trees in parklands, and hedgerows adjacent to pastures. They have been observed foraging over grass and thistles on roadsides, in the open over pastures and meadows, and using mature Corsican pine plantations in Scotland. Most commonly recorded species at swarming sites in the UK, with large catchment areas (20-60km radius). Winter roosts may be found in underground sites such as canal and railway tunnels, caves, mines, and ice houses.</p>	<p>General Ecology: Favour foraging in riparian habitat over still water, primarily grabbing (gaffing) insects from the surface of the water with their feet or mouth. They will also catch insects aerially (hawking). Select feeding sites, preferentially, with woodlands on the waters bank.</p>



Whiskered bat	Natterer's bat	Daubenton's bat
<p>Breeding: Maternity roosts are in buildings, although they are sometimes found in trees and bat boxes. Frequently visit swarming sites such as cave entrances in autumn, which likely plays a role in their mating displays.</p>	<p>Breeding: Maternity roosts are located in trees, bat boxes, and buildings (barns, churches, and old dwelling houses). Tend to be situated within 500m of woodland, the size of the woodland does not appear to be important.</p>	<p>Breeding: Maternity roosts are common in the trees of broadleaved woodlands; however, they are also known to roost in solitary trees, bat boxes, buildings, bridges, and other artificial structures. Commonly found close to riparian habitats. Roosts tend to be sexually segregated during the maternity season and poorest quality habitat is almost exclusively used by males. In southern England, roosts are sexually segregated, but not spatially segregated. Offspring of all-female maternity colonies have a high probability of being fathered by bats caught at swarming sites. However, mating does occur in maternity roosts when sexes are mixed.</p>

Commuting

Myotis bats don't like travelling in the open, and if forced to do so will fly very low bringing them into the reach of predators, therefore, unbroken hedgerows and tree lines known as travel corridors are important as well as waterways

Legal protection

- All Myotis species appear in Appendix II of the [Berne Convention \(Convention on the Conservation of European Wildlife and Natural Habitats\)](#). This requires that they be strictly protected against deliberate killing, capture, damage/destruction of breeding bats and breeding sites, disturbance, trading (including parts and derivatives). In the Isle of Man this is achieved through the provisions of the Wildlife Act 1990 which lists all bats on Schedule 5, making it an offence to intentionally or recklessly kill, injure or take any bat. In addition, it is an offence to damage, destroy, or obstruct, or disturb any bat while it is occupying a structure or place which it uses for that purpose. Penalties can be imposed of £10,000 per offence.
- They are also on Appendix II of the Bonn Convention on the Conservation of Migratory Species of Wild Animals, under which signatories are encouraged to draw up agreements to restore/maintain species' conservation status through management and other appropriate measures. Through the United Kingdom, the Isle of Man is also party to the Eurobats Agreement, set up under the Bonn Convention, to protect all 51 European bat species through legislation, education, conservation measures and international co-operation

Reason for BAP

Unknown recovery from historic population crash in the face of threats listed below.

Threats

- Lack of knowledge of roosts and feeding areas resulting in threats listed below continuing to operate.
- Disturbance at their roosts
- Loss of or damage to maternity roosts - mainly due to renovation or alteration of buildings.
- Loss of or damage to hibernation roosts - through entrances to underground sites such as mines and caves being blocked for safety reasons, and increased recreational use of such sites.
- Obstruction of roost access.
- Artificial lighting.
- Toxic chemicals - particularly those used in the treatment of roof timbers.
- Loss, damage and fragmentation of foraging habitat - particularly woodland, old hedgerows and tree lines.
- Reduced insect prey abundance - due to the intensification of farming, increased grazing of woodlands and water's edge habitats, and the increased use of pesticides.
- Toxic effect of persistent insecticides in the food chain.
- Avermectins – persistent antiparasitic drugs which kill insects feeding on the dung from treated livestock, eg dung flies, an important food source for Myotis bats.

Aims

- Education and engagement
- Establish current population and range
- Maintain the current population and range
- Expand the current range through natural recolonisation and landscape enhancement in suitable areas

Linked BAPS

Habitats

- Deciduous woodland
- Riparian habitat
- Hedgerows
- Open water bodies
- Urban/Industrial
- Hard cliffs



Delivery Options	Active	Challenges
○ Continue to monitor and work towards confirming and identifying roost locations	Yes	Resources for better equipment Access permissions
○ Funded research project to identify roosts, population size and significant feeding areas on the IoM	No	Resources
○ Enhanced protection under the Wildlife Act 1990	No	Resources Requires Political Agreement
○ ASSI designation of significant Myotis bat roosts and feeding areas where appropriate	No	Identification of significant roosts Resources Requires Political Agreement
○ Improved habitat connectivity/travel corridors in the range of known roosts to enable extension of range. Delivered through AES.	No	Willingness of farmers/landowners Insufficient financial incentives
○ Non-ivermectin farming in the feeding range of known roosts. Delivered through AES.	No	Willingness of farmers/landowners Insufficient financial incentives
○ Increasing prey availability in the feeding range through farming without pesticides and creating strips of insect rich habitat in sheltered areas. Delivered through AES.	Partial	Willingness of farmers/landowners Insufficient financial incentives
○ Hedgerow management (cutting less regularly allows the hedgerow to flower and fruit and this increases the associated invertebrates). Delivered through AES.	No	Willingness of farmers/landowners Insufficient financial incentives
○ Enhancement of existing roosts	No	Insufficient information could be delivered with willing owners.
○ Creation of purpose-built roosts	No	Land/property availability Resources
○ Creation of suitable roosts within known existing range	No	Land/property availability Resources
○ Targeted publicity campaign for sea kayakers to report any sightings of bats in sea caves immediately with accurate grid references	No	Achievable
○ MBG to liaise with Laxey Mines Research Group to enable research into the use of mines and adits by bats	No	Achievable
○ Monitor and respond to planning applications	Yes	
○ Annual review and update of this document	By January 2025	

Delivery Plan	
Action	Lead
Form a Steering Group to action this BAP between Manx Bat Group and DEFA's Agri-Environment Scheme delivery partner (MWT).	MBG
Investigate options for landscape enhancement for Myotis bats through the Agri-Environment Scheme with willing farmers and land managers and implement where appropriate.	Steering Group and MWT/DEFA
Create suitable roosts within the dispersal area of the current known area of distribution.	Steering Group and MBG
Train and engage volunteers to assist with researching the distribution and population size of Myotis bats. Additional static bat detectors required and individuals trained to analyse calls.	Steering Group and MBG
When opportunities arise engage British Isles and UKOST based bat groups to assist in investigating the distribution and population size of Myotis bats.	Steering Group and MBG
Investigate the options available for a dedicated funded research project	Steering Group