

# Noctule

## *Nyctalus noctula*



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The Noctule is our largest bat and a woodland specialist, living mainly in woodpecker holes and rot holes. Noctules have broad brown ears and distinctive golden or reddish-brown suede-like fur. The noctule is a relatively widespread species found in much of England, Wales and south-west Scotland.

### Protection under the law

All bats in Britain and their roosts are protected by domestic and international legislation. The Noctule is protected by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Noctule is listed under Annex IV of the Habitats Directive, making it a European Protected Species. It is illegal to take, injure or kill a bat or disturb it in its roost, whether in trees or other structures. It is illegal to damage or destroy a roost even if the bats are not occupying the roost at the time. If work on trees or woodlands cannot be avoided, appropriate bat surveys should be

undertaken before any work starts, to assess whether bats could be present and the potential risk to them from any tree/woodland work.



Noctule distribution in United Kingdom

(Map taken from 4th Report under Article 17 on implementation of the Habitats Directive in the UK, JNCC 2019)

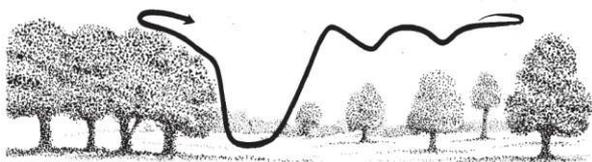
### Lifecycle

Female Noctules will begin to form their maternity colonies from May, utilising tree holes like woodpecker holes. The young, known as pups are born in June/July when a female gives birth to a single pup. The young are left in crèches while the mothers go off to feed. The maternity colonies will frequently change roosts, with the mothers carrying the smaller young between roosts during lactation. Juvenile bats can fly and forage for themselves by six weeks old. During the maternity period, males tend to live a solitary existence or form small bachelor groups. Mating takes place in the autumn and the hibernation period starts

during the cold winter months when the temperature drops.

## Habitat

Noctules are fast, high fliers able to travel long distances (a typical nightly foraging radius of 4km). They forage over open countryside and will benefit from open parkland and wood pasture. They also forage over large waterbodies and broadleaved woodlands because of the abundance and diversity of insects supported by these habitats. They have a characteristic flight pattern, flying high in the open, well above the tree-top level, taking repeated steep dives down to catch their prey. Food is caught and eaten on the wing. Moths and beetles (mainly chafer and dung beetles) are this species main source of food.



Noctules predominantly roost in trees and are associated with woodlands that have a high proportion of standing deadwood or trees that support tree holes that are used as roosts. The roost features used are mainly woodpecker holes in broadleaved trees as well as rot holes. Noctules rarely use buildings but will roost in bat boxes. During the maternity season, roost switching will occur frequently, so it's important to retain a cohort of suitable roost trees with tree holes within the territory of the colony. Winter roosts are found in trees, (normally tree holes of significant size to house a small group of bats), in woodlands, parkland and wood pasture. Noctules will occasionally hibernate in buildings, bat boxes and rock crevices.



## Reasons for decline

- The loss of deciduous woodland and intensive woodland and land management are likely to have caused the decline of this woodland specialist.
- Woodland and tree management that removed dead, dying, or damaged trees would be another factor, together with the fragmentation of key habitats leading to the loss of linear commuting routes across the wider countryside.
- The loss of suitable foraging habitats as a result of modern intensive agricultural practices and the reduction in prey species due to pesticide use are also likely factors for the species decline.



## Habitat management

Woodland management for the conservation of Noctules requires retention of a high proportion of standing deadwood or trees that support tree holes as well as the provision of wood pasture and parkland in the wider landscape.

**Woodland** – woodland management should seek to encourage characteristics of ancient or semi-natural broadleaved woodland with high numbers of mature and over-mature trees, particularly if the woodland is within a known roost area. Trees favoured include oak and Beech but any mature, deciduous tree can support a suitable roost hole. In managed woodlands, i.e. sites that are actively logged, it is important to retain small patches of old-growth woodland connected by wildlife corridors. These old-growth patches will provide suitable roosting opportunities for the Noctule. In addition, keep standing and fallen deadwood which will provide both roosting and foraging

opportunities. Maintain open areas in woodlands for the Noctule to forage in.

**Woodland rides and glades** – manage rides, glades, and woodland edges in a way that will improve insect diversity and activity. Consider using rotational cutting of these areas so that herb-rich layers are encouraged. Ensure pinch points and scalloped edges are incorporated into the management of rides and glades to encourage greater insect diversity and provide connection to adjacent woodland blocks.

**Wood pasture** – within a wood pasture environment, mature and veteran trees should be left alone to age and decline naturally so they continue to provide a range of potential roost features. Other trees should be allowed to mature and develop old-growth naturally and a diverse age structure across the pasture should be encouraged. Tree surgery on trees found in wood pastures should be a last resort i.e. to reduce the collapse of a tree or to reduce the weight of the crown. If possible consider other methods like erecting fencing around the tree to protect the public from any falling branches. If work cannot be avoided, appropriate bat surveys should be undertaken by a professional ecologist. Wood pastures are important foraging grounds for the Noctule, particularly if grazed by livestock, so maintaining pastoral areas and retaining areas of permanent grassland with livestock would be beneficial.

**Beyond the woodland, general advice** – management should focus on protecting networks of mature hedgerows, tree lines, woodlands, wood pasture, parkland meadows and wetlands, particularly within a 2km radius of any known roost site. This will support the bats in accessing those habitats quickly and easily.

**Wildflower-rich meadows** and other unimproved grasslands should be maintained or restored.

**Arable margins** – consider expanding unsprayed field margins and minimising the use of pesticides. These can enhance the productivity of moths and support Cockchafer beetles.

**Hedgerows** – maintain a network of tall, bushy hedgerows. Hedgerow trees can provide suitable roosts and a foraging resource as the bats head out from their roost woodland to feed.

**Other types of habitats** - increase the availability and quality of wetland habitats, including waterbodies like ponds, streams, rivers and lakes. Increase riparian habitat alongside rivers and streams with native shrubs and broadleaved trees. These will be commuting corridors and foraging grounds.



## Survey method

The Noctule can be surveyed in the field using bat detectors to hear and record echolocation calls. This can be achieved using a static detector which will record the bat calls overnight. Placing detectors in woodlands, parkland and wood pasture will achieve the best results. Recorded calls can be analysed later using sound analysis software. The [National Bat Monitoring Programme Field Survey](#) is another way to survey the Noctule. By taking part in this survey you can help Bat Conservation Trust find out how the Noctule is faring across the UK.

The Back from the Brink Ancients of the Future project is led by Buglife in partnership with Plantlife and the Bat Conservation Trust.

