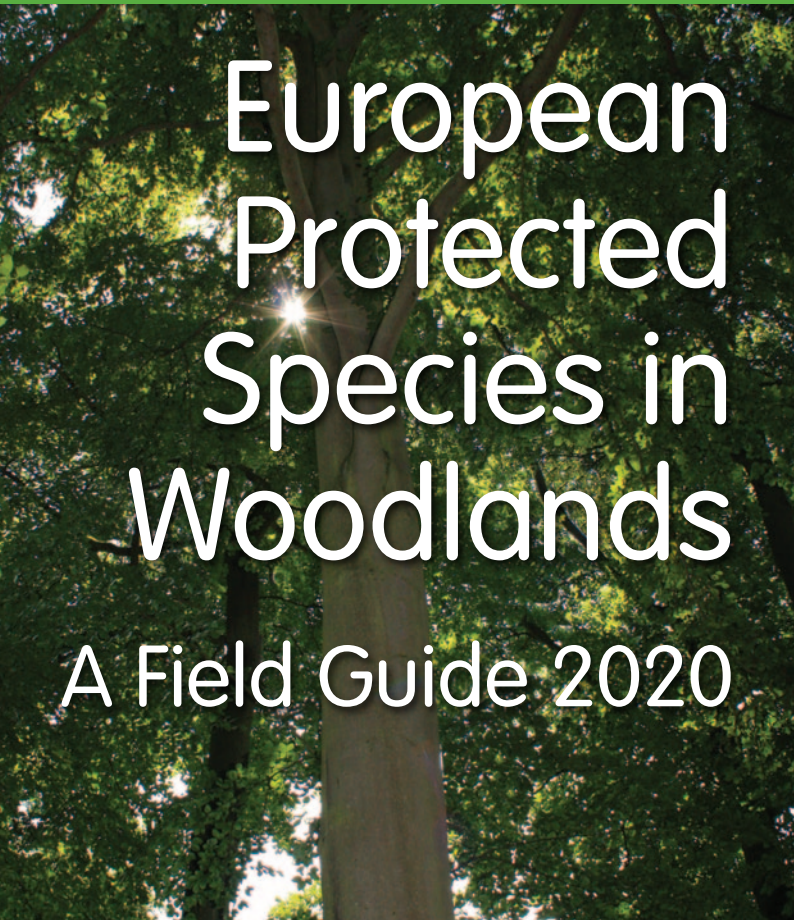
Forestry Commission
England



European Protected Species in Woodlands

A Field Guide 2020

Bats

Dormice

Otters

Great Crested Newts

Smooth Snakes and Sand Lizards

This field booklet is meant as an aid for field workers in England. It does not replace the Forestry Commission England Good Practice on managing woodlands with European Protected Species (EPS) in England which remains the core advice when working in woodlands that either do, or may contain such species. Practitioners must familiarise themselves with the contents of the Good Practice, before commencing work. Failure to do so may increase the risk of prosecution in the event that an offence is inadvertently committed.

Bats

This field booklet is meant as an aid for field workers. It does not replace the Forestry Commission England Good Practice on managing woodlands with bats in England which remains the core advice when working in woodlands that either do, or may contain this European Protected Species. Practitioners must familiarise themselves with the contents of the Good Practice, before commencing work. Failure to do so may increase the risk of prosecution in the event that an offence is inadvertently committed. The Good Practice can be viewed by following the web page link: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697600/England-protected-species-bats.pdf

Bat Conservation Trust

How bats use woodland

Foraging

- insects associated with native trees, understorey and ground flora;
- rides, wet woodland and deadwood, glades and water courses also important for foraging.

Commuting

- tree lines, hedges and woodland offer protection;
- allow bats to move between roosts and feeding areas;
- fragmentation of landscape is a serious issue for bats including if a gap of greater than 20 metres within woodland blocks is created.

Roosting

- woodland trees can provide roosting opportunities;
- particularly mature and veteran trees;
- tree stem sizes of <20cms and trees of <80 years old are less likely to be used by bats BUT any tree with suitable features could be used.

Bat life cycle

January	Hibernating
February	Starting to be active
March	Feeding on warmer nights
April	Females looking for maternity roosts
May	Pregnant females in maternity roosts
June	Young born
July	Mothers suckling young
August	Young flying and feeding
September	Young leaving maternity roosts – Mating
October	Mating – Building up fat for the winter
November	Hibernating
December	Hibernating

When are bats most vulnerable?

Summer (May – August)

- females form maternity roosts;
- dependent young present.

Winter (November – February)

- bats in hibernation and cannot react quickly to threats;
- arousal from torpor energetically expensive.

March/April and September/October are the least vulnerable times for bats.

Looking for roost potential

Trunk cavity

Looking for roost potential

Basal cavity

Looking for roost potential

Hole in decay

Looking for roost potential

Flaking bark

Favoured roosting site for barbastelles.

Looking for roost potential

Knot hole

Daubenton's bats roost here.

Looking for roost potential

Woodpecker hole

Favoured by Bechstein's bats and noctules if rot has extended upwards.

Looking for roost potential

Splits

Looking for roost potential

Cavity in branch

Looking for roost potential

Old growth ivy

If thick enough ivy may provide suitable cavities for roosting.

Interior (closed) Vs Edge specialists

When flying in woodland, bat species can loosely be divided into interior and edge/open specialists.

Interior specialists

- roost and forage in woodland interior in more cluttered and shady woodland areas;
- broad winged allowing slow and controlled flight.

Bechstein's bat

Edge/open specialists

- edge specialists will use more open areas, glades and woodland rides;
- narrow winged allowing faster flight.

Noctule

Bat species and woodland use

Woodland habitats are important for all UK bat species; for roosting, foraging and/or commuting.

Species	Tree roosts	Foraging preference
Barbastelle *Barbastella barbastellus*	Prefers crevices (flaking bark/splits /cracks)	Edge/open habitat
Bechstein's bat *Myotis bechsteinii*	Prefers cavities (woodpecker holes)	Woodland interior
Noctule *Nyctalus noctula*	Prefers cavities (woodpecker holes and rot holes)	Open habitat
Leisler's bat *Nyctalus leisleri*	Prefers cavities (rot holes)	Open habitat
Alcathoe bat* *Myotis alcathoe*	Prefers cavities (fissures or small cavities)	Woodland interior
Brown long-eared bat *Plecotus auritus*	Some use (can use cavities low on trees)	Woodland interior/edge habitat
Natterer's bat *Myotis nattereri*	Some use	Woodland interior/edge/ open habitat
Daubenton's bat *Myotis daubnetonii*	Some use	Edge habitat

Species	Tree roosts	Foraging preference
Whiskered* *Myotis mystacinus*	Occasional use	Edge/open habitat
Brandt's bat* *Myotis brandtii*	Occasional use	Edge/woodland interior
Common pipistrelle *Pipistrellus pipstrellus*	Occasional use	Edge habitat
Soprano pipistrelle *Pipistrellus pygmaeus*	Occasional use	Edge habitat
Nathusius' pipistrelle *Pipistrellus nathusii*	Occasional use	Edge habitat
Lesser horseshoe *Rhinolophus hipposideros*	No use	Cluttered interior
Greater horseshoe *Rhinolophus ferrumequinum*	No use	Open/edge habitat
Grey long-eared *Plecotus austriacus*	No use	Open/edge habitat
Serotine *Eptesicus serotinus*	No use	Open habitat

Preferred use: Trees are the main roost type for this species.
Some use: Regularly roosts in trees but also uses other structures.
Occasional use: Mainly roosts in other structures but trees used occasionally, e.g. by single/small numbers of bats.
No use: Do not roost in trees.
*Information for these species is limited. Further refinement of current knowledge needed.

Legal protection

In England the main pieces of legislation that protect bats are:

- Wildlife and Countryside Act (1981) (as amended);
- Conservation of Habitats and Species Regulations 2017.

It is an offence to…

- deliberately capture, injure or kill a bat;
- intentionally or recklessly disturb a bat while it is occupying a structure or place used for shelter or protection;
- damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- deliberately disturb bats;

It is an offence to…

- possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat;

- intentionally or recklessly obstruct access to a structure or place used by a bat for protection or shelter.

To avoid breaching legislation follow good practice advice and keep a record of your decisions.

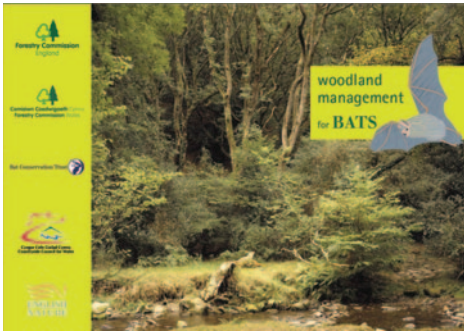
https://www.gov.uk/guidance/manage-and-protect-woodland-wildlife

Woodland management – good practice

Woodland management should aim to:

- protect all existing confirmed roosts sites and retain a buffer of trees/understorey around these roosts;
- retain most potential roost sites – risk based approach;
- ensure a succession or continuity of roosts for the future;
- create a good network of habitats used for feeding and avoid isolating any areas;
- create structure and suitable foraging habitat;
- retain standing deadwood.

More information:



Woodland management for bats

https://www.forestresearch.gov.uk/research/woodland-management-for-bats/

The UK Forestry Standard

https://www.gov.uk/government/publications/the-uk-forestry-standard

Guidance
Version 1
14 October 2013

Guidance on managing woodlands with bats in England

1. Background and purpose of document

The Habitats Directive aims to conserve various species of plant and animal which are rare across Europe. And it requires Member States to provide legal protection for these species. Many of the protected species which are found in the UK (European Protected Species, or EPS) are either associated with or can be found in woodland, for instance dormice, otters, all species of bat, great crested newts, smooth snakes and sand lizards. The EU Directive was transposed into UK law by the Habitats Regulations in 1994 and as the Conservation of Habitats and Species Regulations 2010. The Regulations have increased the protection afforded to EPS and does not include the 'incidental result' defence under which many forestry operations were carried out.

The Forestry Commission (FC) and Natural England (NE), with assistance from relevant conservation organisations, have produced a suite of guidance to help you understand the legislation and to use good practice to operate within the law, avoid the need for licensing and breach EPS. Following the guidance will show that you have taken all reasonable steps to comply with the Regulations. This document is one of a series providing guidance for woodland managers and operators. It focuses on the 17 species of bat known to breed in England (see:

http://www.bats.org.uk/pages/uk_bats.html).

Guidance is given on routine and on-going forestry and woodland operations and activities. For more unusual operations, such as development, construction or land use change (i.e. removal of forest) you should seek further advice from the FC as this may require a different approach and need more expert advice should be sought for more unusual or intensive operations in woodlands e.g. mass removals or motor rallying.

This guidance should be used in conjunction with wider guidance on forestry and woodland management, and should not be followed in isolation. If the guidance has been followed and your decisions focused on this documented, but you nevertheless do inadvertently cause damage, disturbance or harm to these protected species, a prosecution is unlikely to be considered to be in the public interest. However, you are reminded that it remains your responsibility to ensure all your actions do comply with the law.

Sources of more detailed information on conserving the species are given in the further reading section.

FC England good practice guide on managing woodlands with bats in England

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697600/England-protected-species-bats.pdf

Assessing roost potential

Survey in winter when trees have dropped their leaves. Easier to look for signs of roosts:

- follow up surveys in summer to reveal signs of activity;
- categorise high – low value;
  - likely/confirmed roosts
  - potential roosts.
- is management required? Seek further advice.

Information on surveying for bats in trees and woodland can be found in the BS8596: Surveying for Bats in trees and woodland – Micro Guide for non-specialists.

https://shop.bsigroup.com/forms/Bat-Microguide--BS-8596--BSI-Group/

Further information can be found on a free web-hosted publication called the Bat Tree Habitat Key.

http://battreehabitatkey.co.uk/

When is an EPS licence required?

If the proposed woodland operations cannot be avoided or modified and do not follow good practice, then contact the Forestry Commission as an EPS licence may be required.

A licence will be required if:

- felling a tree with a confirmed bat roost;
- carrying out tree surgery that would affect a confirmed bat roost;
- conducting operations that would significantly disturb bats in hibernation and maternity colonies;
- felling buffer trees around a known roost site (as this can affect the suitability of a roost);

Further information and more intensive surveying for bats may be required if proposed woodland operations include:

- felling a large proportion of potential roost sites.

If in doubt – ask the Forestry Commission!

Emergency procedure

Where bats or signs of a roost are discovered during works…

STOP and seek advice from the contacts below

Gently contain bat (using gloves) if necessary.

Further information and useful contacts

FC England Good Practice at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697600/England-protected-species-bats.pdf

- **Natural England**
  (0300 060 3900)
  www.naturalengland.org.uk

Bat Conservation Trust can also help

- National Bat Helpline (0345 1300 228)
  www.bats.org.uk

Bat Conservation Trust

Notes

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Dormouse

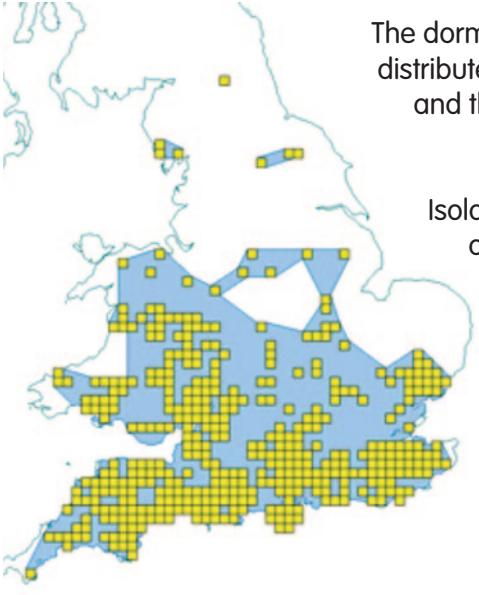
Muscardinus avellanarius

This field booklet is meant as an aid for field workers. It does not replace the Forestry Commission England Good Practice on managing woodlands with dormice in England which remains the core advice when working in woodlands that either do, or may contain this European Protected Species. Practitioners must familiarise themselves with the contents of the Good Practice, before commencing work. Failure to do so may increase the risk of prosecution in the event that an offence is inadvertently committed. The Good Practice can be viewed by following the web page link:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/806960/PROTOCOL_Dormouse__May_2019_v4.0_FINAL.pdf

Description

- dormice are small mammals;
- head-body length 60-90mm;
- tail 55-80mm;
- weight 15-30g;
- hibernation weight 40g;
- rich golden brown colour;
- well furred tail.

Where to find them



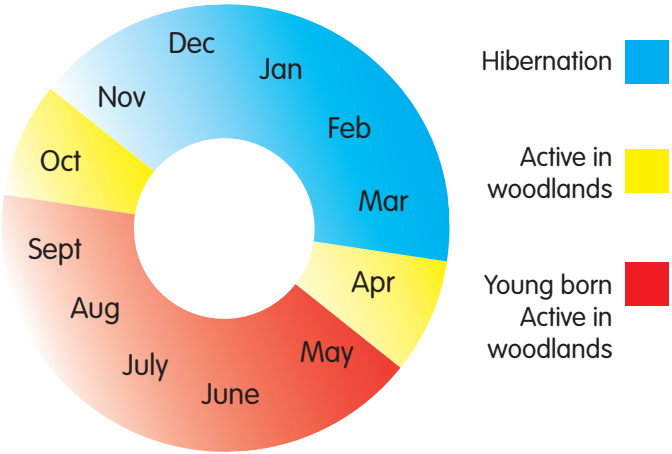
The dormouse is patchily distributed across Wales and the southern half of England.

Isolated populations occur in northern England but absent elsewhere.

Dormouse life cycle

The dormouse may live up to 6 years

- in April they build their summer nests in tangled vegetation or in tree holes;
- first litters born May or June;
- second litter is possible August or September;
- litter size will vary between 2-7 young;
- hibernates November-March deep in tree hollows or in shallow depressions on the ground in a woven nest.



Habitat needs

The dormouse has specialised habitat requirements. Features of a favourable habitat include:

- habitat structure showing arboreal pathways formed by sprawling branches and climbing plants, such as honeysuckle or bramble;
- tree and shrub variety to provide a succession of food during the part of the year dormice are active.

Mixed species rich habitat favoured by dormice.

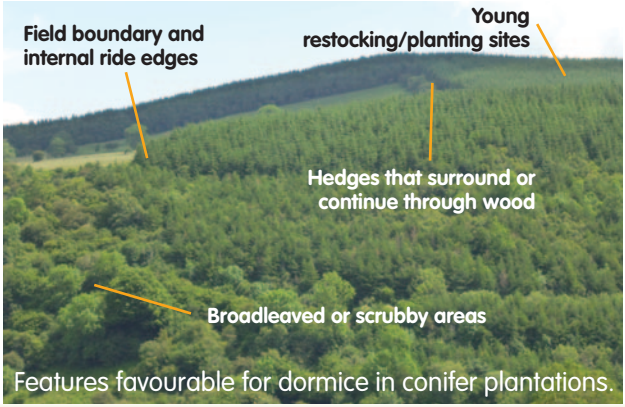
How dormice use woodlands

Although some studies have indicated that ancient semi-natural woodland is the best habitat for dormice, recent studies and experience have also demonstrated the importance of successional habitat and actively managed woodland.

Dormice are good climbers and forage in the canopy for a variety of foods from flowers, catkins, tree seeds, berries and honeydew from aphids.

Edible seeds, such as hazel, sweet chestnut and beech are important.

They also use conifer plantations where bramble, low shrubs, willow herb and boundary hedges occur.



Features favourable for dormice in conifer plantations.

How to survey for dormice

It is hard to find evidence of dormice in all situations that they occur in. Their nests are particularly difficult to spot.

© Nigel Hand

© Tom Fairfield

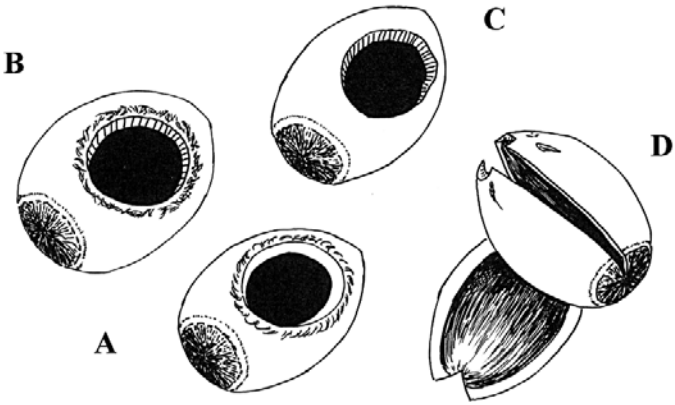
© Tom Fairfield

Nest boxes and nest tubes can be used to confirm that the species is present.

Surveys involving nest boxes and tubes require licences from Natural England.

For further information see:
https://www.gov.uk/government/publications/survey-or-research-licence-for-protected-species

The nibbled nut



Where hazel nuts occur the dormouse opens the nut in a distinctive way, turning the nut to give a smooth inner edge (A) compared to the chiselled woodmouse (B) or bankvole (C) opened nut. Squirrels will cleave the nut into two (D).

Legal protection

In England the main pieces of legislation that protect dormice are:

- Wildlife and Countryside Act (1981) (as amended);
- Conservation of Habitats and Species Regulations 2017.

It is an offence to…

- deliberately capture, injure or kill a dormouse;
- intentionally or recklessly disturb a dormouse while it is occupying a structure or place used for shelter or protection;
- damage or destroy a breeding or resting place of a dormouse;

It is an offence to…

- possess or advertise/sell/exchange a dormouse (dead or alive) or any part of a dormouse;

- intentionally or recklessly obstruct access to a structure or place used by a dormouse for protection or shelter.

To avoid breaching legislation follow good practice advice and keep a record of your decisions.

When is an EPS licence required?

A licence will be required if good practice cannot be followed.

If in doubt – ask!

Good practice

For the latest advice on good practice and advice on EPS licencing for dormice please refer to the FC England EPS webpages at: https://www.gov.uk/guidance/manage-and-protect-woodland-wildlife

If you intend to work in favourable dormouse habitat (note this may only be a small portion of your woodland) – use the habitat checklist (table 1) in the good practice to determine this.

In unfavourable habitat for dormice, operations can proceed at any time of year, unless there is obvious evidence that dormice are present.

Different recommendations apply when working in favourable dormouse habitat depending on the:

Type of operation you wish to carry out:

- Clear felling, coppicing, thinning, extraction, stacking, ground preparation, weed control, ride and open ground management.

The size and isolation of the woodland in which operations are to be carried out:

- Small and isolated woodland (defined as being <20 ha in size and >500 m from adjacent woodlands or hedgerows) or;

- Large woodland (defined as being either a single woodland >20 ha in size or a series of connected woodlands i.e. non-isolated woodlands covering at least this area).

Type of woodland to be worked:

- Ancient Semi-Natural Woodland or other woodland type.

Time of year the operations are planned for:

- The least restrictions apply in mid-September to end of October; the most apply in May to mid-September.

Consult the good practice for further information.

Woodland management to improve habitat for dormice

Woodland management should aim to:

- protect existing dormouse habitat;
- retain potential dormouse habitat;
- control or exclude livestock or deer to ensure adequate under-storey and ground vegetation;
- improve connections between areas of habitat within the woodland unit by developing a network of connecting strips/belts of scrub or retaining and promoting canopy contact ('pinch-points' or 'bridges') over rides;
- create a network of woodland habitat across the landscape, linking isolated woodland by creating new woodland and dense hedges.

Further information and useful contacts

FC England Good Practice at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/806960/PROTOCOL_Dormouse__May_2019_v4.0_FINAL.pdf

Bright, P., Morris, P. & Mitchell-Jones, T (2006) **Dormouse Conservation Handbook. Natural England**.

- **Natural England**
  (0300 060 3900)
  www.naturalengland.org.uk

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Otter

Lutra lutra

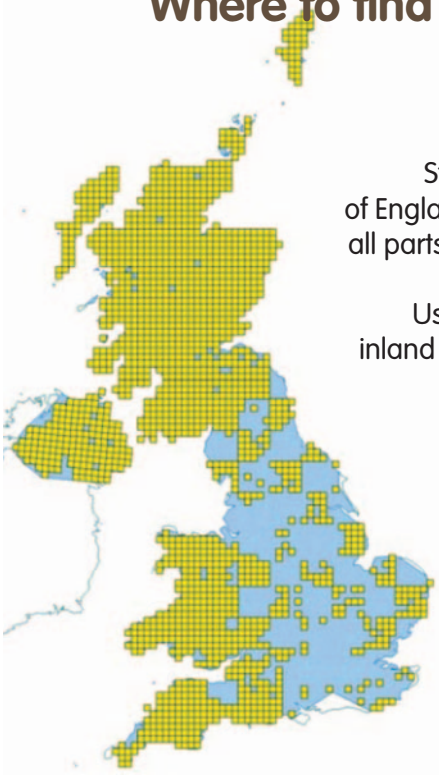
This field booklet is meant as an aid for field workers. It does not replace the Forestry Commission England Good Practice on managing woodlands with otter in England which remains the core advice when working in woodlands that either do, or may contain this European Protected Species. Practitioners must familiarise themselves with the contents of the Good Practice, before commencing work. Failure to do so may increase the risk of prosecution in the event that an offence is inadvertently committed. The Good Practice can be viewed by following the web page link: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697603/england-protected-species-otter.pdf

Photo Credit: Geoff Liles

Description

- semi-aquatic mammal;
- head – body length 60-90cm;
- tapering tail 37-47cm;
- body weight 6-12kg.

Where to find them



Widespread and recovering species.

Still scarce over much of England but re-colonising all parts of its former range.

Uses both coastal and inland freshwater habitats.

Home ranges very large: up to 50km for males and 24km for females including watercourses that run through woodlands.

Otter life cycle

The otter can breed in any month of the year.

1 – 5 young are born which stay with the female for up to 12 months.

Breeding den is used for 3-4 months for rearing the young.

Most females do not breed until 3 years old.

Average lifespan 3-7 years.

Habitat needs

Fish stocks within any watercourse are the most limiting factor for otters.

Breeding may be tied to seasonal factors such as fish migration in rivers and coastal areas.

Feeding predominately done at night, although coastal activity tied to the ebb and flood of the tide to exploit the movement of fish.

Home range may hold more than 30 holts together with a series of temporary resting sites.

How otters use woodlands

Otters may travel through woodlands using any network of watercourses and hunt wetlands, ponds or lakes for amphibians and fish.

Tree features and mammal burrows may offer resting sites and holts.

Where adjacent to good feeding opportunities woodlands may be used for breeding.

Holt, breeding or resting site features

- hollows under tree roots;
- log or rock piles;
- bramble domes;
- scrub thicket (incl. Rhododendron);
- grass and sedge tussocks;
- flood debris stick piles;
- vegetated islands in ponds or lakes;
- badger setts and other burrows;
- redundant drainage pipes.

How to survey for otters


Tracks

Field signs surveys for tracks and spraints

- spraints are black and tarry and usually full of fish bones with a characteristic sweet 'jasmine tea' scent;
- mink scats are similar in size but consist of fur and feather and have an unpleasant scent;
- tracks and spraints may be found around the entrances and within holt features.


Otter spraint and mink scat

The inspection of an occupied otter holt will require a licence from Natural England.

For further information see: https://www.gov.uk/government/publications/survey-or-research-licence-for-protected-species

Assessing risk

Forestry operations can be harmful to otters but through careful design and planning these risks can be minimised. Heavily disturbed woodlands or those isolated from watercourses are unlikely to be regularly used by otters.

Consider risk of harm and disturbance to animals or damage to holts or breeding sites when working close to wet/marshy areas, watercourses and lakes (i.e. watercourses/water features).

A buffer of 100-200m around a breeding site and 30m around a holt will reduce impact on otters but travelling routes (usually along watercourses) will need retention.

Destruction of holts is possible under licence (may need to replace with artificial holt).

Timing of operations close to watercourses/water features

	Jan	Feb	Mar	Apr	May	Jun
Felling						
Thinning						
Scrub cutting						
Ride mowing						
Stacking						
Track construction						
Pond works						

	Jul	Aug	Sep	Oct	Nov	Dec
Felling						
Thinning						
Scrub cutting						
Ride mowing						
Stacking						
Track construction						
Pond works						

Requires care

Avoid

Timing: no completely safe time as breeding possible throughout the year – need for walkover surveys to inform buffer areas and minimise risk.

Legal protection

In England the main pieces of legislation that protect otters are:

- Wildlife and Countryside Act (1981) (as amended);
- Conservation of Habitats and Species Regulations 2017.

It is an offence to…

- deliberately capture, injure or kill an otter;
- intentionally or recklessly disturb an otter while it is occupying a structure or place used for shelter or protection;
- damage or destroy a breeding or resting place of an otter;

It is an offence to…

- possess or advertise/sell/exchange an otter (dead or alive) or any part of an otter;

- intentionally or recklessly obstruct access to a structure or place used by an otter for protection or shelter.

To avoid breaching legislation follow good practice advice and keep a record of your decisions.

When is an EPS licence required?

A licence will be required if good practice cannot be followed.

If in doubt – ask!

Good practice

Any mechanised operation: Surveys to inform buffer zones (100-200m around a breeding site and 30m around a holt) in which operations should be avoided.
Felling: Outside buffer zones, scattered compartments better than block felling as mosaic habitat retained. Maintain bulk of cover close to watercourses/water features.
Direction: Fell away from watercourses/water feature to retain riparian buffers and minimise disturbance. Select extraction routes that avoid disturbing any scrub areas, fallen trees and deadwood.
Thinning: Phase operation close to watercourses/water features over several years. Brash piles can assist in creation of resting sites for otters. Only remove if within 1-2 months of felling.
Stacks: Do not create close to watercourses/water features; remove within 1-2 months if this is not possible.
Mowing and swiping regimes: Low risk operation but consider the risk of damage to otter breeding sites or resting places, and harm or disturbance of otters when close to watercourses/water features.
Scrub cutting: Any area for scrub cutting close to a watercourse/water feature should be assessed for otter resting/breeding sites. Where resting/breeding sites are present the clearance may need to be done under licence and replacement cover provided.
Track construction or other ground-works: Locate any new paths or recreational infrastructure at least 100m from potential resting place or breeding site. Minimise the number of water crossings.

Good practice (cont)

Following the FC England good practice should enable you to work without an EPS licence. Write down reasoning and plans – checklists available to assist with this.

Consider habitat enhancements.

Woodland management to improve habitat for otters

Woodland management should aim to:

- protect and retain riparian habitat with potential holt features;
- create ponds and buffer strips along watercourses, providing access under/through fences if present;
- maintain dense cover such as thickets, weedy young plantations, log piles, groups of windblown trees that are close to water and in areas that relatively undisturbed by humans or are ungrazed by stock.

Further information and useful contacts

FC England Good Practice at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697603/england-protected-species-otter.pdf

Liles G (2003) **Otter Breeding Sites, Conservation and Management**. Conserving Natura 2000 Rivers – Conservation Techniques Series No.5 Natural England.

- **Natural England**
  (0300 060 3900)
  www.naturalengland.org.uk

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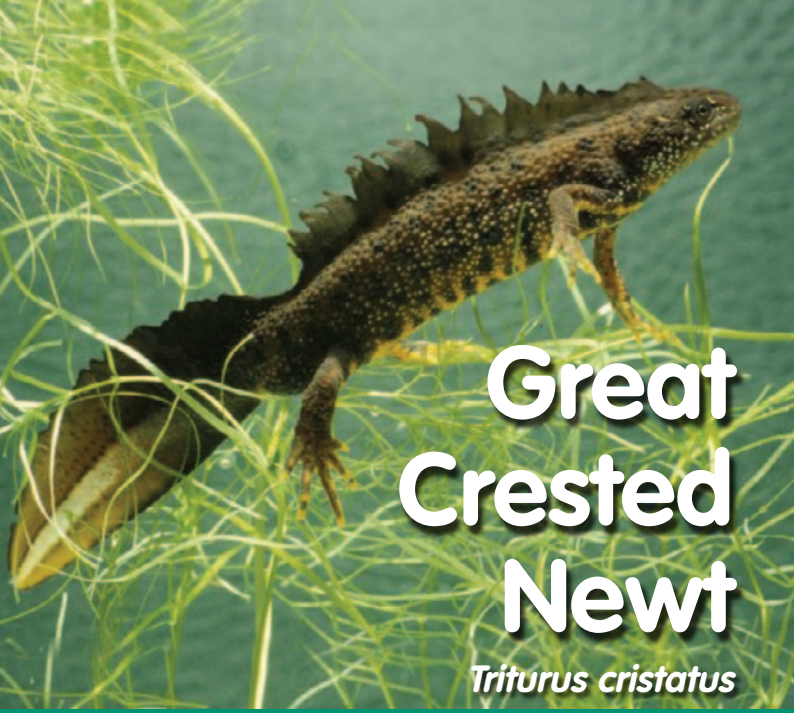


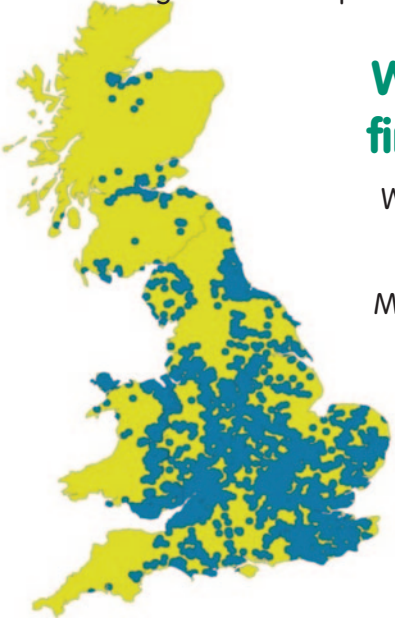
Great Crested Newt

Triturus cristatus

This field booklet is meant as an aid for field workers. It does not replace the Forestry Commission England Good Practice on managing woodlands with great crested newts in England which remains the core advice when working in woodlands that either do, or may contain this European Protected Species. Practitioners must familiarise themselves with the contents of the Good Practice, before commencing work. Failure to do so may increase the risk of prosecution in the event that an offence is inadvertently committed. The Good Practice can be viewed by following the web page link: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697602/england-protected-species-newt.pdf

Description

- large newt up to 15cm;
- black or dark brown colour with rough, 'warty' appearance;
- males develop a large jagged crest during the spring;
- irregular black blotches cover the bright orange belly;
- juveniles and tadpoles may be heavily spotted (note feathery gills around the head, distinguishing them from frog and toad tadpoles).



Where to find them

Widespread across Britain but local in Scotland.

Most numerous in lowland England and Wales but absent or rare in Cornwall and Devon.

The species commonly occurs where there are clusters of ponds.

Great crested newt life cycle

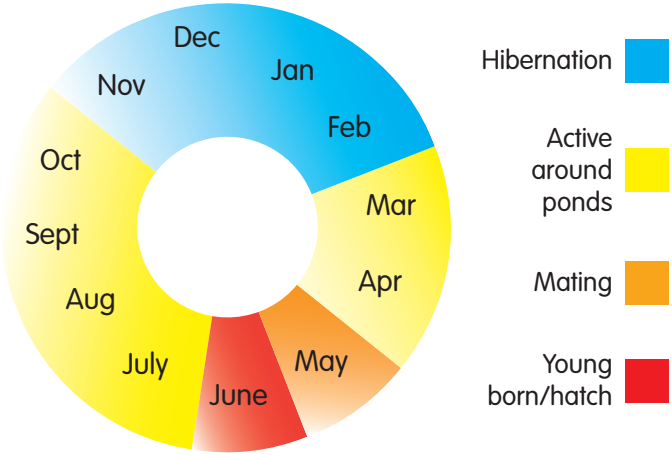
Adult newts emerge from their overwintering sites on warm nights (>4 °C) February/March/April and gradually head to their breeding ponds.

Mating takes place in May and one female can lay up to 250 eggs over the breeding season.

Eggs hatch in May and June and newt tadpoles known as efts can be found in the ponds until end of August when they move onto land.

Most adults have left the ponds by July but remain around in the vicinity until November when both adults and juveniles seek hibernation sites.

Hibernate November to February.



How the great crested newts use woodlands

Where forestry incorporates suitable pond habitats for newt breeding the species may venture into the woodland for foraging or use any rides and other linear features to move between ponds.

Woody debris, fallen trees and log piles may provide day time concealment opportunities as well as locations for hibernation.

Woodland and dense vegetation protects the ground from exposure and freezing for hibernating great crested newts.

Breeding habitat

Favourable breeding ponds are within size range (50m^2 to 750m^2) and have a neutral or slightly alkaline pH (6.5-8.0).

Ponds should have shallow edges with abundant vegetation and no fish.

Connectivity between suitable ponds and associated terrestrial habitat is important to maintain long term populations.

Foraging habitat

Terrestrial foraging within 250m of ponds.

Prethicket/first thin stages offer good foraging habitat.

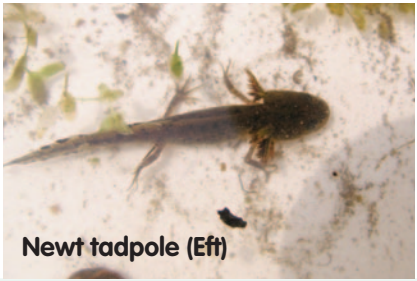
Most stay within 250m of pond but dispersal between ponds may exceed 1.5km.

The newts forage both on land and within ponds for earthworms, spiders, insects, tadpoles and even other newts.

How to survey for great crested newts

All survey techniques require licences from Natural England

- torchlight searches for adults (best April-July on warm, dry and calm nights);
- egg searches among floating or submerged vegetation (late April-end May);



Newt tadpole (Eft)

- hand netting for newt tadpoles/efts in late summer;
- bottle trapping for adults and efts (April-August);
- pit fall trapping and refugia searches adjacent to ponds (March-October).

Assessing risk

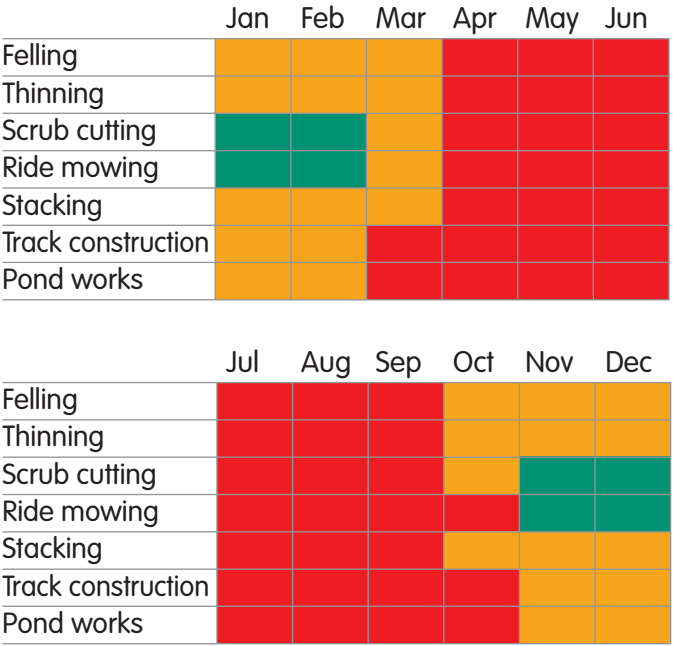
Where great crested newts are known, phasing work in key areas of habitat around ponds will reduce overall impact on the newt populations, dispersal routes also need to be retained.

Long term survival requires the movement of newts between a cluster of ponds which can be spread across several square kilometres.

Although dispersal between ponds may exceed 1.5km, great crested newts use habitat within 250m of the pond, with highest usage within 100m of the pond.

Winter working must ensure that hibernation sites are retained.

Timing of operations when carried out close to ponds



Legal protection

In England the main pieces of legislation that protect great crested newts are:

- Wildlife and Countryside Act (1981) (as amended);
- Conservation of Habitats and Species Regulations 2017.

It is an offence to…

- deliberately capture, injure or kill a great crested newt;
- intentionally or recklessly disturb a great crested newt while it is occupying a structure or place used for shelter or protection;
- damage or destroy a breeding or resting place of a great crested newt;

It is an offence to…

- possess or advertise/sell/exchange a great crested newt (dead or alive) or any part of a great crested newt;

- intentionally or recklessly obstruct access to a structure or place used by a great crested newt for protection or shelter.

To avoid breaching legislation follow good practice advice and keep a record of your decisions.

When is an EPS licence required?

A licence will be required if good practice cannot be followed.

If in doubt – ask!

Good practice

Felling and thinning: Phase any work near a pond used by great crested newts over several years, so that within key areas of habitat only 25% of the area is affected in any one year. Where possible extract material using a forwarder rather than a skidder.

Stacking: Avoid stacking timber close to a pond used by great crested newts unless such stacks are to be left solely as habitat. If stacking timber in close proximity to ponds, avoid key areas of habitat and remove the stacks within a few weeks and certainly before October.

Site preparation: Any operations to be undertaken as soon after harvesting as possible (ideally within a few months). Do not rake or burn brash, or scarify areas within key areas of habitat near breeding ponds.

Mowing regimes: Modify the ride and glade mowing programme in key areas of habitat to ensure only a small proportion of the grassland habitat is cut in any one year.

Track construction or other ground-works: Avoid undertaking such activities within key areas of habitat.

Good practice (cont)

Following the FC England good practice should enable you to work without an EPS licence. Write down reasoning and plans – checklists are available to assist with this.

Consider habitat enhancements.

Woodland management to improve habitat for great crested newt

Woodland management should aim to:

- protect all existing confirmed breeding ponds;
- create a good network of habitats used for feeding and breeding and avoid isolating any areas;
- create and maintain open woodlands with a diverse understorey and shrub layer structure as suitable foraging habitat;
- maintain suitable resting places and hibernation sites (dense undergrowth; timber and log piles; crevices or voids between tree roots or under turf and rocks; mammal burrows).

Further information and useful contacts

FC England Good Practice at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697602/england-protected-species-newt.pdf

Langton, Beckett & Foster (2001) **Great Crested Newt Conservation Handbook.** Froglife.

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Notes

Notes

Smooth Snake & Sand Lizard

Coronella austriaca
Lacerta agilis

This field booklet is meant as an aid for field workers. It does not replace the Forestry Commission England Good Practice on managing woodlands with smooth snake or sand lizard in England which remains the core advice when working in woodlands that either do, or may contain these European Protected Species. Practitioners must familiarise themselves with the contents of the Good Practice, before commencing work. Failure to do so may increase the risk of prosecution in the event that an offence is inadvertently committed. The Good Practice can be viewed by following the web page link:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697604/england-protected-species-snake.pdf

Where to find smooth snakes

Smooth snake: Britain's rarest and most secretive reptile, now found naturally only on heathlands in Dorset, Hampshire and a few sites in Surrey.

Smooth snakes have also been restored to additional sites in Surrey, west Sussex and Devon.

Many of the sites on which it occurs are also inhabited by the sand lizard.

Description – sand lizard

- stocky lizard up to 20cm;
- males have striking green flanks during the breeding season;
- both sexes have two strong, dark brown dorsal stripes;
- juveniles show strong eye spots along back.

Where to find sand lizards

Sand lizard: only occurs naturally on protected heathland sites in Surrey, Dorset, Hampshire and the protected Merseyside dunes systems.

Sand lizards have also been reintroduced to protected dune sites in north and west Wales, Kent, west Sussex, Devon and Cornwall.

Both reptiles emerge from hibernation in April-early May.

Mating takes place around June.

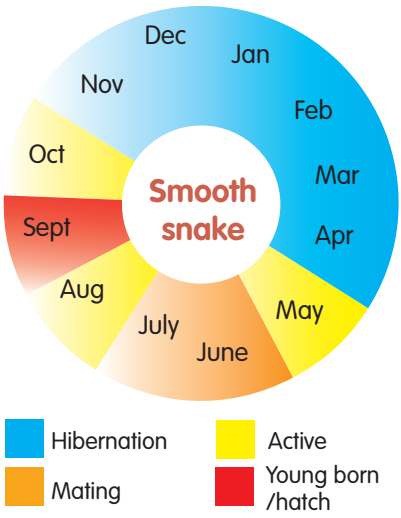
Sand lizards lay eggs in exposed sand between late August and September.

Smooth snakes give birth to live young in September.

Hibernation before frosts of October/ November in dry underground sites such as mammal burrows.

Both species show poor powers of dispersal and daily movements are often limited to less than 100 metres.

Life cycle



Habitat needs

Both reptiles are dependent on well managed heathland (and dune habitat in the case of the sand lizard).

Unlike sand lizards the smooth snake rarely basks in the open.

Smooth snakes are non-venomous and feed on other small reptiles and small mammals, which are captured and constricted in the coils of its body.

Sand lizards prey on a variety of invertebrates from spiders, grasshoppers, bugs and ants to beetle larvae and flies.

Both can have quite limited distribution even within the sites that they occur on. These areas of concentrated usage by smooth snake and sand lizards are known as foci.

How smooth snakes and sand lizards use woodlands

Where forestry is adjacent to heathland or dune habitats both smooth snakes and sand lizards may venture into the edge habitat or open rides especially if vegetated by heathers and heaths.

Mammal burrows, woody debris and log piles may provide basking or concealment opportunities for these reptiles as well as locations for hibernation.

Habitat features for smooth snakes and sand lizards

For both species the presence of mature heather and a sandy substrate are important habitat features.

Woody debris and large flat stones are also important for basking and concealment.

How to survey for smooth snakes and sand lizards

Visual searches and refuge surveys are best used in combination.

Visual encounter surveys are best for sand lizards and require inspecting likely habitat in warm, calm and dry conditions (air temp 10-20°C).

Smooth snakes are difficult to find basking and are best found under refuges.

Corrugated iron or roofing felt tiles can be laid to attract the snakes.

Refuge surveys require a licence from Natural England. For further information see https://www.gov.uk/government/publications/survey-or-research-licence-for-protected-species

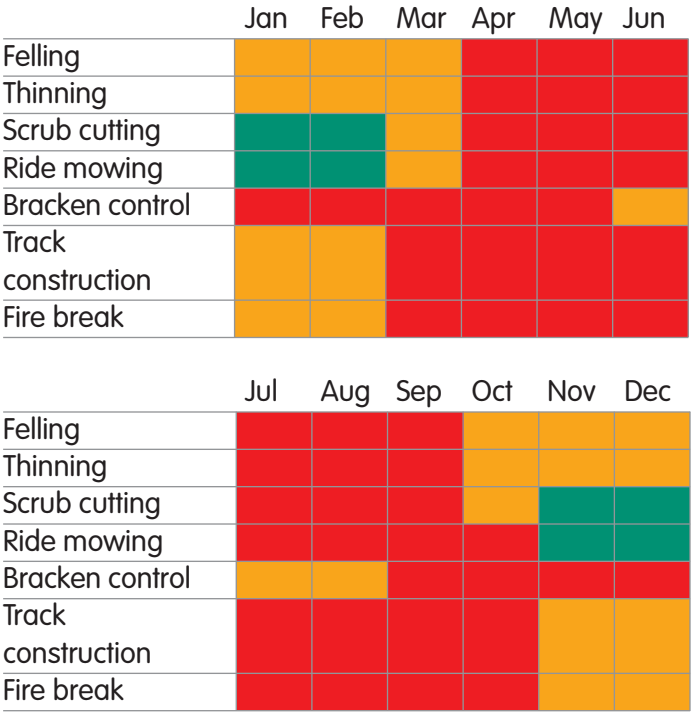
Assessing risk

A number of forestry operations can be harmful to these reptiles and their habitat but through careful design and planning these risks can be minimised.

Avoid works within 30 metres of foci (areas of concentrated usage including breeding and resting sites).

Avoid works outside 30 metre buffer between March to October; winter working is best provided hibernation sites are retained.

Timing of operations close to sand lizard and smooth snake foci



Legal protection

In England the main pieces of legislation that protect smooth snakes and sand lizards are:

- Wildlife and Countryside Act (1981) (as amended);
- Conservation of Habitats and Species Regulations 2017.

It is an offence to…

- deliberately capture, injure or kill a smooth snake or sand lizard;
- intentionally or recklessly disturb a smooth snake or sand lizard while it is occupying a structure or place used for shelter or protection;
- damage or destroy a breeding or resting place of a smooth snake or sand lizard;

It is an offence to…

- possess or advertise/sell/exchange a smooth snake or sand lizard (dead or alive) or any part of a smooth snake or sand lizard;

- intentionally or recklessly obstruct access to a structure or place used by a smooth snake or sand lizard for protection or shelter.

To avoid breaching legislation follow good practice advice and keep a record of your decisions.

When is an EPS licence required?

A licence will be required if good practice cannot be followed.

If in doubt – ask!

Good practice

Felling/thinning: Harvester/forwarder least damaging. Avoid operating either machine within 30 metres of a known foci.

Direction: Avoid felling trees on areas of scattered heathland vegetation.

Pattern: Patchwork of operations is better for reptiles than single large areas of working.

Stacks: Do not stack on heathland or open sand patches or within 30 metres of a known foci. Where necessary, move within 6 weeks to avoid species colonising.

Ground preparation: Only undertake within one year of felling operation and only then when essential, and not within 30 metres of a known foci. No work later than one year.

Coppicing: Low risk activity if carried out by hand in the winter. Brash piles can create habitat; removing trees can reduce shading of foci.

Bracken spraying: Spot-spray to minimise use of tractor mounted herbicide spraying.

Track construction/maintenance: Locate any new paths or recreational infrastructure at least 30 metres from known foci; avoid maintenance during period of egg laying and egg incubation.

Mowing: Restrict to areas of managed short sward only.

Good practice (cont)

Following the FC England good practice should enable you to work without an EPS licence. Write down reasoning and plans – checklists available to assist with this.

Consider habitat enhancements.

Woodland management to improve habitat for smooth snakes and sand lizards

Where these species occur, felled woodland could be restored to heathland to extend existing habitat and create corridors.

Creating scalloped bays on the south side of rides and woodland blocks will increase useful edge habitat.

Windrows create excellent reptile habitat and may be used as hibernation sites.

Within plantation woodlands, create and maintain grassy glades, clearfelled or young restock sites and open pine stands.

Further information and useful contacts

FC England Good Practice at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697604/england-protected-species-snake.pdf

Edgar P, Foster J & Baker J (2010) **Reptile Habitat Management Handbook**. Amphibian and Reptile Conservation, Bournmouth.

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