
**Precautionary Working Method Statement
and Biodiversity Enhancement Layout**

Yew Tree House, Church Lane, Finningham

for

Mr and Mrs A Strickland

13 March 2024

Client

Mr and Mrs A Strickland

Planning authority

Mid Suffolk District Council

Time limit of reliance

Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.

Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).

Document	Precautionary Working Method Statement and Biodiversity Enhancement Layout
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Signed disclosure

The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.

Nathan Duszynski, ACIEEM

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1. INTRODUCTION

1.1. Greenlight Environmental Consultancy Ltd. has been commissioned to compile evidence to discharge planning conditions (Application Number: DC/23/01300, Mid Suffolk District Council, March 2023). The proposed development is located at Yew Tree House, Church Lane, Finningham, Suffolk, IP14 4JB (grid reference: TM 06650 69470).

1.2. Condition 5 states:

“Prior to the commencement of development, a Precautionary Working Method Statement for mobile species shall be submitted to and approved in writing by the local planning authority. This will contain precautionary mitigation measures and/or works to reduce potential impacts to amphibians and small mammals during the construction phase. The measures and/works shall be carried out strictly in accordance with the approved details and shall be retained in that manner thereafter.

Reason - To conserve Protected and Priority species and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 (Priority habitats & species).”

1.3. Condition 6 states:

“A Biodiversity Enhancement Layout, providing the finalised details and locations of the enhancement measures shall be submitted to and approved in writing by the local planning authority. The enhancement measures shall be implemented in accordance with the approved details prior to first beneficial use of the hereby approved development and all features shall be retained in that manner thereafter.

Reason - To enhance Protected and Priority Species and allow the LPA to discharge its duties under the s40 of the NERC Act 2006 (Priority habitats & species).”

2. CONDISTION 5 – PRECAUTIONARY WORKING METHOD STATEMENT

Purpose and conservation objectives

- 2.1. The purpose of this report is to provide detailed information on the construction, design and location of mitigation and enhancements identified within the Ecological Impact Assessment by Norfolk Wildlife Services (2023).
- 2.2. The conservation objectives include:
 - i. Mitigation and compensation for potential impacts on protected and priority species/habitats.
 - ii. Maintaining the favourable conservation status of protected species.
 - iii. Providing a net gain in biodiversity, as is encouraged by the National Planning Policy Framework (NPPF, 2023).
- 2.3. All site operatives, including contractor and sub-contractor staff, will be provided with this report and sign/date the induction form in Appendix H acknowledging they have read this document.

Habitats

- 2.4. The development will require the removal of a small area of hardstanding and lawn. No impacts are expected on habitats from the proposed developments.
- 2.5. As a precautionary measure, the following mitigation will be implemented to avoid impacts on habitats from the proposed works:
 - i. Construction works carried out in accordance with British Standards Institution (2012), BS 5837:2012, Trees in relation to design, demolition and construction – recommendations, to protect trees which are to be retained and their root protection areas.

Bats

- 2.6. The following mitigation will be implemented to avoid impacts on bats from the proposed works:
 - i. A soft roof strip and demolition of the walls will be undertaken by hand. In the highly unlikely event that any bats are found, works will cease immediately, and a licenced bat worker contacted to advice on how to proceed.

- ii. Any lighting schemes will follow guidance from the Bat Conservation Trust (GN08/23) and CIE 150:2017. Warm-white (<3,000K) lights with UV filters (where necessary) will be installed away from roosting locations and linear features. Lighting units will feature a beam angle <70°, connected to movement sensors and feature baffles, hoods, louvres and horizontal cut off units at 90° where necessary.

2.7. As enhancements, the following will be implemented:

- i. One standalone bat box on a suitable mature tree along the watercourse (Greenwood's Ecohabitats three crevice bat box – Appendix B for examples, Figure 1 for location).

Birds

2.8. Any works affecting bird nesting habitat such as management of scrub, hedgerows, trees or buildings would ideally need to be conducted outside the main nesting season. If work is planned during the bird nesting season (between 1st March and 31st July), then a precautionary check of all habitats will be conducted by a qualified ecologist immediately prior to starting any work. If any nesting birds are found, an appropriate protection zone from the nest will be required and will be maintained until the young have fledged.

2.9. As enhancements, the following will be implemented:

- i. One small bird box on a suitable mature tree on or adjacent the site (Schwegler 1B – Appendix B for example, Figure 1 for location).

Herpetofauna (amphibians and reptiles)

2.10. As a precautionary measure, the following mitigation will be implemented to avoid impacts on amphibians and reptiles from the proposed works:

- i. Vegetation on site will be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.
- ii. In the unlikely event that any GCN or reptiles are found, work will cease immediately and a licenced ecologist contacted to remove any GCN or reptiles to safety.
- iii. Construction materials will be stored off the ground on pallets and waste materials in skips, to prevent providing shelter for animals and subsequent harm when materials are moved.
- iv. Any excavations will have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations will be checked each morning works are scheduled for, to remove any animals trapped.

Hedgehogs, badgers and other mammals

- 2.11. General mitigation to protect wildlife during the construction period are as follows:
- i. Lighting of the construction site at night will be minimised as far as practicable, to reduce the risk of possible disruption to nocturnal animals such as bats and badgers.
 - ii. To maintain potential hedgehog routes within the site and between the site and further habitats, any fencing installed will be porous and provides access openings for hedgehogs (see Appendix C for examples).

Responsible persons

- 2.12. The client is the developer and landowner of the site and it will be their responsibility to ensure the safeguarding of the mitigation, enhancements and any post-development management, maintenance and monitoring.

Aftercare and long-term maintenance

- 2.13. The model of bat and bird boxes have been selected for their design and material, which will ensure the boxes will be protected from weather and attacks from other animals.
- 2.14. If the bat and bird boxes experience any damage, they will need to be repaired or replaced.
- 2.15. Bird boxes will need to be cleaned at the end of each bird nesting season; the main nesting seasons lasts from March to August, so it is recommended boxes are cleaned in October to ensure all nests are unoccupied. However, swift boxes do not require cleaning.

3. CONDITION 6 – BIODIVERSITY ENHANCEMENT LAYOUT PLAN

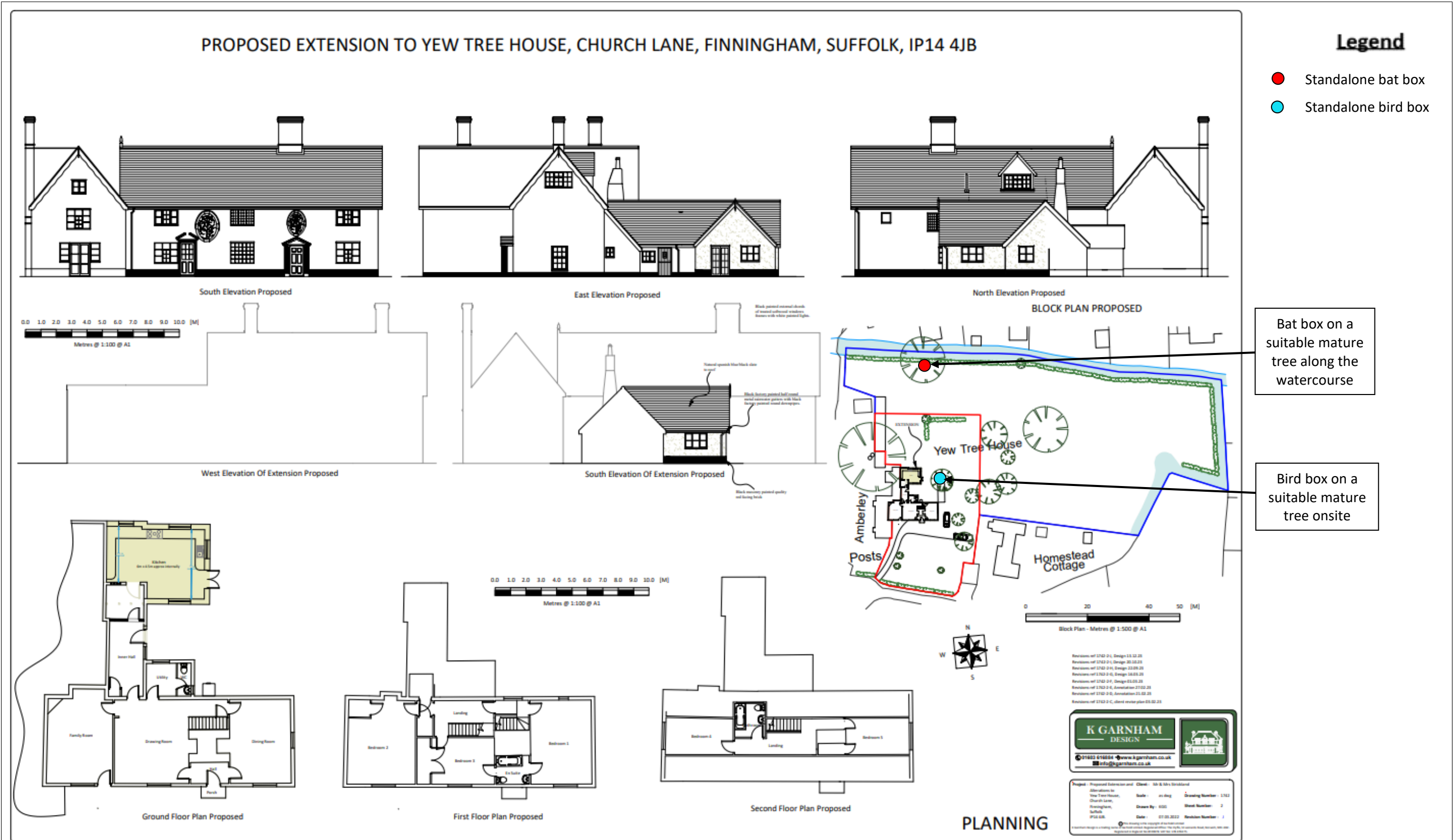


Figure 1
Location of enhancement layout features onsite.
Image © K Garnham Design accessed 04/03/24

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Appendix A Legislation

European Protected Species

The main piece of legislation relating to nature conservation in Great Britain is **The Wildlife and Countryside Act 1981 (as amended)**. This Act is supplemented by provision in **The Countryside and Rights of Way (CROW) Act 2000** and **The Natural Environment and Rural Communities Act 2006 (in England and Wales)**. This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds, their nests and eggs.

The Countryside and Rights of Way Act 2000 strengthens the protection given to SSSIs. It revises the procedures for the notification of SSSIs and for the consenting of operations which may damage the special interest of a SSSI. Local authorities have a duty to take steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of SSSIs. The act also strengthens the existing provisions of the Wildlife and Countryside Act 1981 for the enforcement of wildlife legislation, including a new offence of "recklessly" destroying or damaging the habitats of certain protected species.

UK wildlife is also protected under **The Conservation (Natural Habitats &c.) Regulations 1994** (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2017, these Regulations, together with subsequent amendments, were consolidated into **The Conservation of Habitats and Species Regulations 2017**.

The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

National Planning Policy - National Planning Policy Framework (NPPF)

Section 15 of the National Planning Policy Framework 2021 (NPPF): Conserving and enhancing the natural environment states that 'planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on and providing net gains for biodiversity.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat'.

Implications of legislation and policies

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

Great Crested Newts

Great crested newts are protected under both English and European law. It is an offence to kill, injure, disturb or take great crested newts or to damage or destroy their places of shelter, whether the animals are present or not.

Reptiles

Reptiles such as common lizard, slowworm, grass snake or adder are protected under Section 9 of the Wildlife & Countryside Act (1981) as amended. The legislation makes it illegal to deliberately or recklessly kill or injure any native reptile. This protection therefore requires that reasonable effort be made to avoid harm to reptiles during developments on land occupied by reptiles.

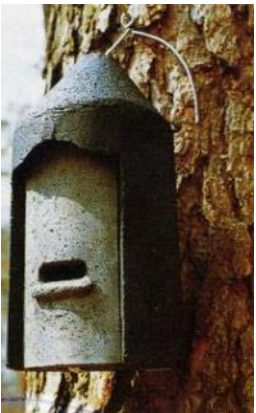

Natural England Licensing - EPS Mitigation Licensing

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).

Appendix B

Examples of bat and bird boxes

(images sourced from www.nhbs.com and www.manthorpe.co.uk)

<p style="text-align: center;">Standalone bat box 2F Schwegler Bat Box (General purpose)</p> 	<p style="text-align: center;">Standalone bat box Greenwood's Ecohabitats three crevice bat box</p> 
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Recommendations for installing bat boxes:

(Sourced from Bat Conservation Trust www.bct.org)

Ideally, several boxes should be put up facing in different directions to provide a range of conditions.

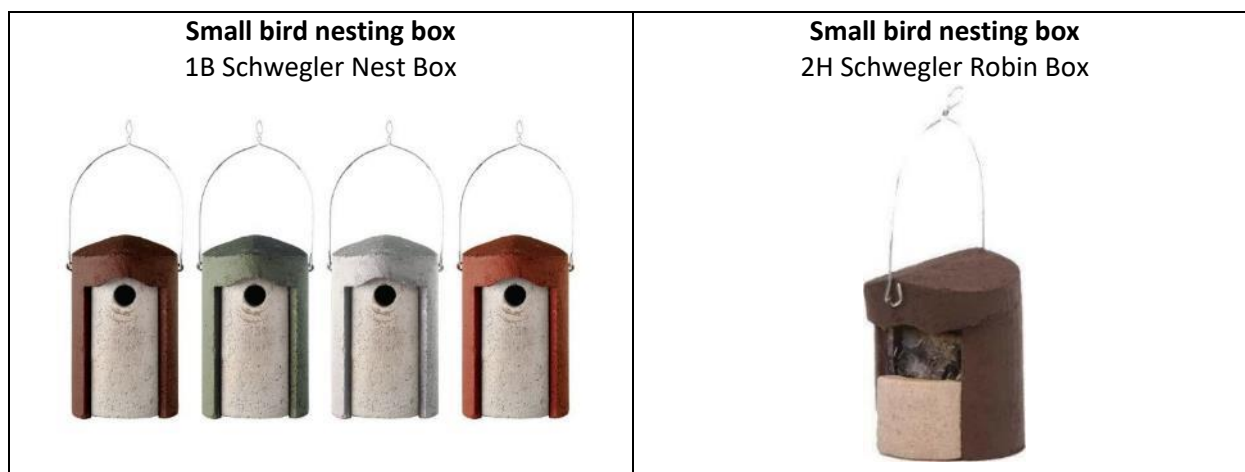
Locate boxes:

- Where bats are known to feed close to hedges and treelines (some bats use a treeline or hedgerow for navigation, putting boxes near these features may help the bats find the box).
- On trees: boxes should be placed on the trunk of a mature tree, where there is a clear flight line/accessible entrance.
- On buildings: boxes should be placed as close to the eaves as possible.
- As high as possible (ideally, at least 3 to 4m above the ground, where safe installation is possible).
- In sunny places, sheltered from strong winds (usually between south-west and south-east).

Make sure the boxes are secured.

Boxes can be installed on trees using adjustable ties to avoid damaging the trees. Otherwise, timber screw bolts or nails can be used. Aluminium alloy nails are less likely to damage saws and chipping machinery.

Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chittering noises from inside on warm afternoons and evenings are signs of occupation.



Recommendations for installing bird boxes:

(Sourced from British Trust for Ornithology www.bto.org and Manthorpe www.manthorpe.co.uk)

The highest priority when siting a nest box must be to provide a safe and comfortable environment in which birds can nest successfully.

Tips for putting up a nest box:

- Boxes should be sited 1-3m from the ground, ideally on tree trunks but can be placed on the side of a shed or wall. Avoid areas where foliage obscures the entrance hole.
- Don't place boxes too close to another nest box of the same type, as this may promote aggressive behaviour between neighbours.
- Shelter your nest box from prevailing wind, rain and strong sunlight. The box should face between north and east, and angled vertically or slightly downwards to prevent rain entering.
- Make sure cats cannot get into the box.
- Keep nest box away from bird feeders.
- Use galvanized or stainless steel screws or nails. If fixing boxes to trees, galvanised wire can be used to tie the box to the trunk or hang it from a branch. Make sure to regularly inspect these fittings (every two or three years) to ensure the box remains securely attached.



Tips for putting up house sparrow terraces and swift bricks/boxes:

- Locate ≥ 5 m high on the gable wall of the property and above the level of the insulation zone.
- Where possible, install in locations that are unlikely to receive large amounts of direct sunlight during the hottest times of the day, ideal places include below the overhang of the verge and barge board.

Appendix C

Examples of hedgehog friendly fencing

(images sourced from www.quercusfencing.com and www.jackson-fencing.co.uk)

Quercus Fencing	Jacksons-Fencing
<p data-bbox="236 409 780 443">Hedgehog friendly oak woven fencing panels</p> 	<p data-bbox="869 405 1402 468">Hedgehog friendly gravel board for use with slotted posts</p> 

Recommendations for installing hedgehog friendly fencing:

(Sourced from Hedgehog Street www.hedgehogstreet.org)

A hedgehog friendly fence should have a gap measuring at least 13cm by 13cm in the gravel board. These gaps allow any hedgehog to pass through but are too small for nearly all pets.

At least one hedgehog friendly fence panel should be located on each side of your garden, to provide unimpeded access.

Almost all fencing materials can be made hedgehog friendly, but may require DIY adaptations. Please note that some concrete gravel boards contain metal rods running along the length of the boards to provide strength and rigidity, and cannot be cut. To overcome this, a gap can be left between the gravel board and post to provide the required gap.

Appendix D

Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus spp.</i> (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate oak (d)	<i>Quercus robur</i>
Rowan (f; d)	<i>Sorbus aucuparia</i>
Pears (f; d)	<i>Pyrus spp.</i>
Silver birch (d)	<i>Betula pendula</i>
Small-leaved lime (d)	<i>Tilia cordata</i>
White willow (d)	<i>Salix alba</i>
Wild cherry (f; d)	<i>Prunus avium</i>
Walnut (d)	<i>Juglans regia</i>

Shrubs	
Blackthorn (f; d)	<i>Prunus spinosa</i>
Buckthorn (f; d)	<i>Rhamnus catharticus</i>
Crab apple (f; d)	<i>Malus sylvestris</i>
Dog rose (f; d)	<i>Rosa canina</i>
Dogwood (f; d)	<i>Cornus sanguinea</i>
Field maple (d)	<i>Acer campestre</i>
Guelder-rose (f; d)	<i>Viburnum opulus</i>
Hawthorn (f; d)	<i>Crataegus monogyna</i>
Hazel (d)	<i>Corylus avellana</i>
Holly (e)	<i>Ilex aquifolium</i>
Honeysuckle (f; d)	<i>Lonicera periclymenum</i>
Spindle (f; d)	<i>Euonymus europaeus</i>
Wild privet (f; se)	<i>Ligustrum vulgare</i>
Yew (f; e)	<i>Taxus baccata</i>

Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochoeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Primrose	<i>Primula vulgaris</i>
Red clover	<i>Trifolium pratense</i>
Selfheal	<i>Prunella vulgaris</i>
Sweet violet	<i>Viola odorata</i>
Wild daffodil	<i>Narcissus pseudonarcissus</i>
Yarrow	<i>Achillea millefolium</i>

Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Yellow oat-grass	<i>Trisetum flavescens</i>

Appendix E

Protected Species Identification

Bats

There are 18 UK bat species and thus it is not possible to provide specific species identification in this report. However, the information detailed below will provide a basic overview of potential signs.

Droppings

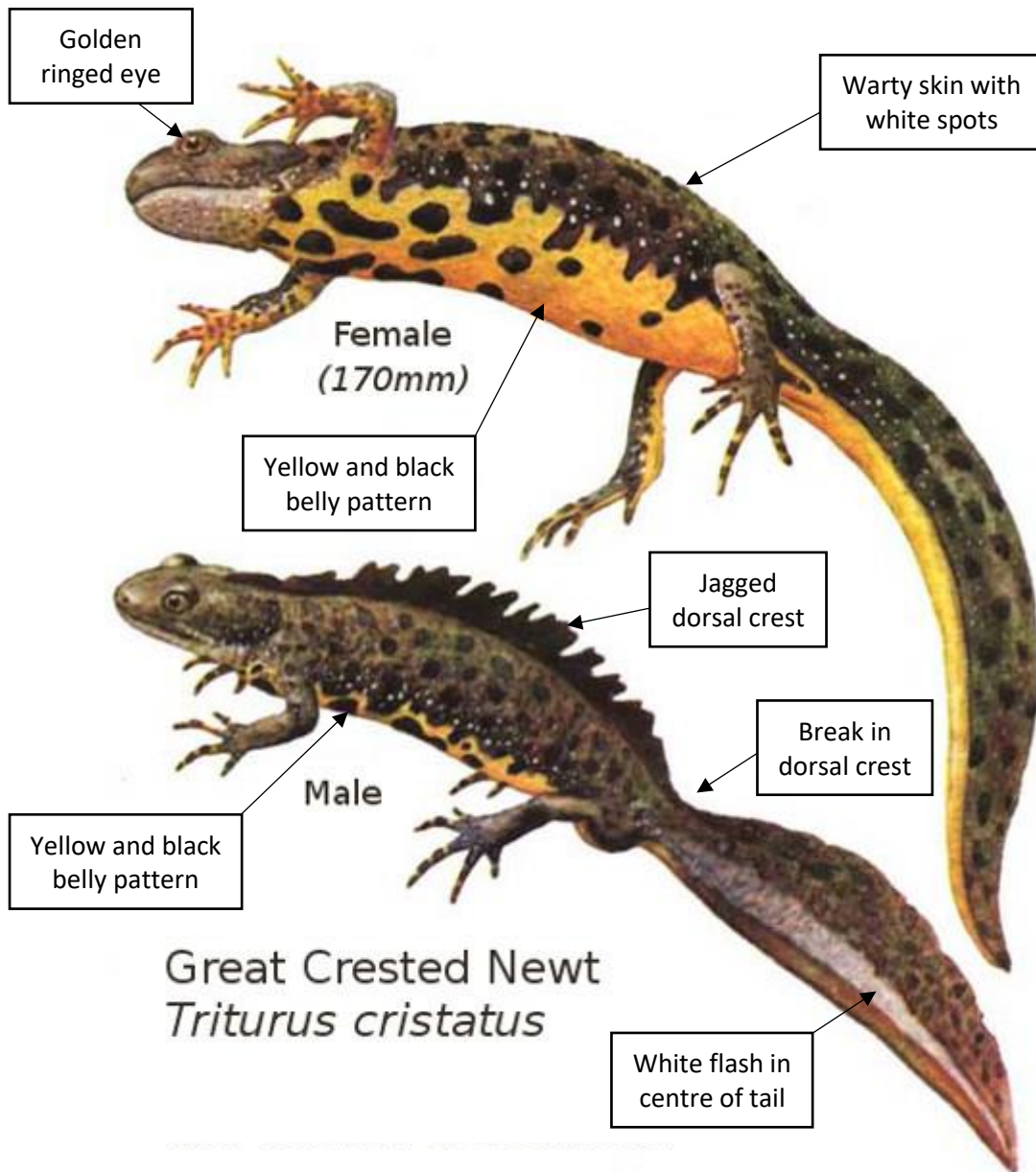
Bat droppings can look very similar to mouse droppings (dark and shaped like grains of rice), but can easily be distinguished from rodent droppings by performing a 'crumble test', where a dropping is rolled between your finger and thumb. If it crumbles under only a little pressure, it's a bat dropping. If it remains solid, it's a rodent dropping. All bats in the UK are insectivores, so their droppings are made up of dried insect remains.

Most commonly bat droppings accumulate underneath the roost, and below access points into their roost. In buildings, bat droppings might be found in the loft or close to the eaves.



Source: Bat Conservation Trust (2023).

Great Crested Newt Identification



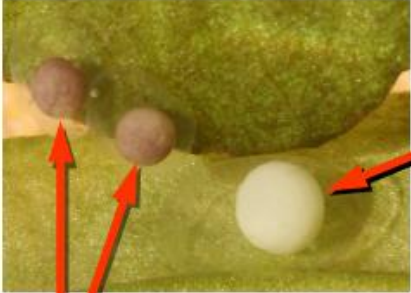
Source: Smith, B. (2015) *Great crested newts*.

Newt Eggs and Larvae

Amphibian and Reptile Groups of the UK
www.arguk.org

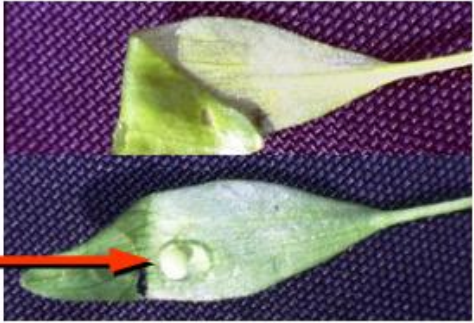
Newt eggs

Newt eggs are usually wrapped, singly, in vegetation. Leaves folded around great crested newt eggs are particularly conspicuous. To identify, unfold the leaf. Identification of undeveloped eggs is easiest.



Great crested newt eggs are white, sometimes with a tint of green or orange.


Eggs of smooth and palmate newts cannot be distinguished by eye, but they are smaller than great crested newt eggs and are grey or beige when newly laid.




Several great crested newt eggs folded into a single blade of flote grass, to give a concertina effect.

Newt larvae

Examine well-developed larvae (late May to July, or to August for great crested newts).




Great crested newt larvae (above) have long toes and blotches of dark pigmentation on tail fins. Grow to approximately 5 cm.



Palmate and smooth newt larvae (above) are indistinguishable in the field—but do not have the long toes or spotted tail fins of great crested newt larvae. Grow to approximately 3 cm.


Young newts usually leave the water in late summer or autumn, although sometimes they remain as larvae over the winter (smooth newt right).




Source: Amphibian and Reptile Conservation (2009) *Newt Egg and Larvae*.

Reptiles

Reptile Identification

amphibian and reptile conservation 

 ARG UK

Viviparous lizard

Adults 13-15 cm. Coloration and markings variable. Background colour generally brown.

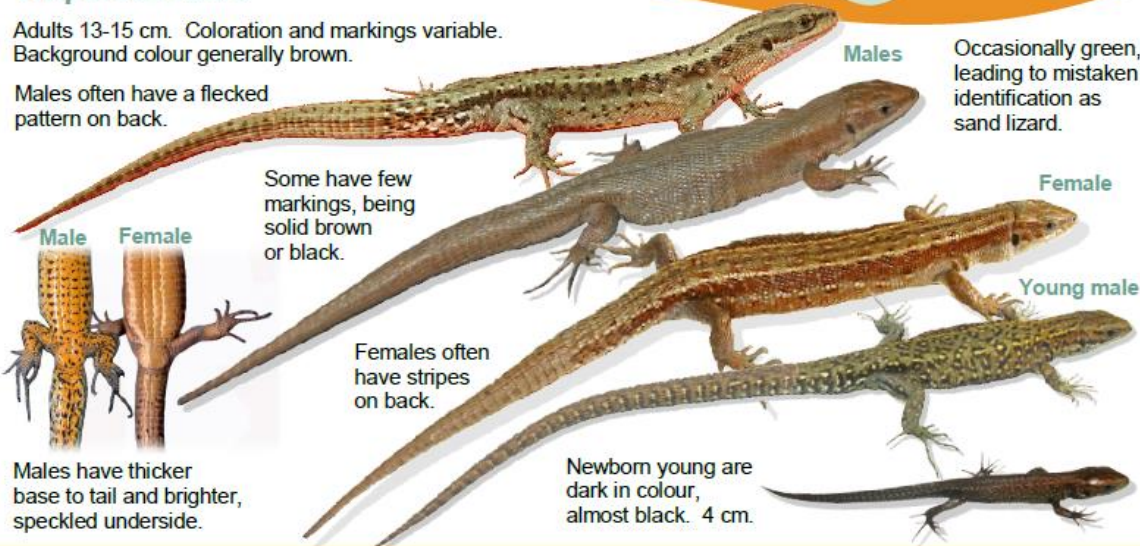
Males often have a flecked pattern on back.

Some have few markings, being solid brown or black.

Females often have stripes on back.

Males have thicker base to tail and brighter, speckled underside.

Newborn young are dark in colour, almost black. 4 cm.



Males Occasionally green, leading to mistaken identification as sand lizard.

Female

Young male

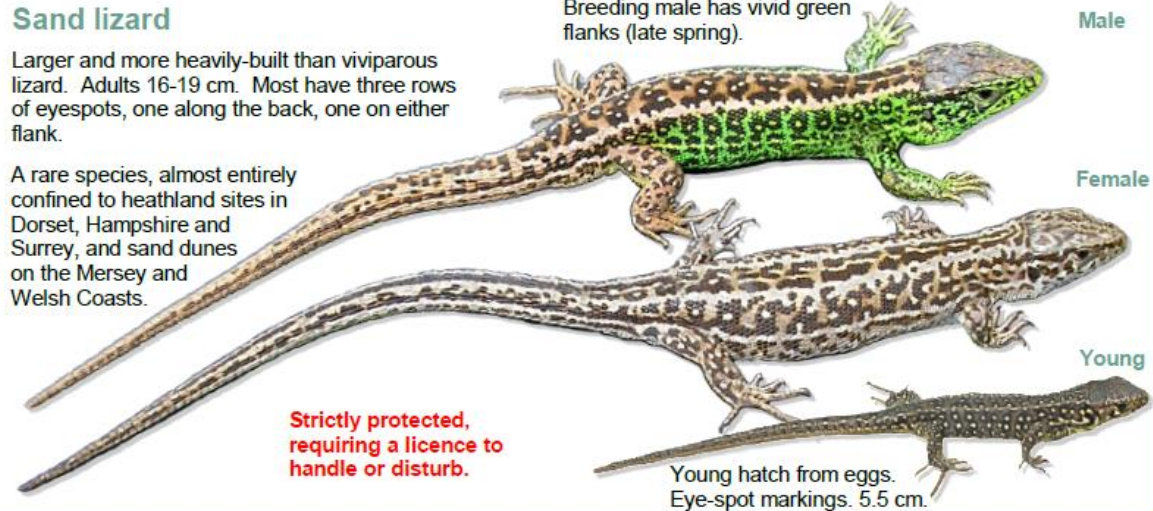
Sand lizard

Larger and more heavily-built than viviparous lizard. Adults 16-19 cm. Most have three rows of eyespots, one along the back, one on either flank.

A rare species, almost entirely confined to heathland sites in Dorset, Hampshire and Surrey, and sand dunes on the Mersey and Welsh Coasts.

Strictly protected, requiring a licence to handle or disturb.

Breeding male has vivid green flanks (late spring).



Male

Female

Young Young hatch from eggs. Eye-spot markings. 5.5 cm.


Wall lizard

A non-native species found at relatively few, but an increasing number of, sites mainly in southern England.

Some have bright green mottling on the back, others are brown.

Grows to 17-18 cm, but most of length is tail. Body length 6 cm.

Prefers south-facing, vertical habitat such as walls and cliffs.




Slow-worm Adults 35-40 cm. Generally grey or brown, very rarely black. Small, shiny scales, giving a metallic appearance.

Blue spots on some (usually males).

The most common reptile in the UK, found in a variety of habitats, including gardens. Spends most of its time underground or in vegetation litter. Most likely to be found underneath objects lying on the ground, or in compost heaps.


Young have similar markings to the females, but better defined.



Male

Female

Females have darker coloured flanks and often a black line running along the back.



New-born 7-10 cm, usually with a black spot on the head.

Grass snake Adults 70-100 cm, occasionally some females growing larger.

Body colour ranges from bright green to dark olive, but mostly the latter. Darker specimens can appear black from a distance. Truly black grass snakes are rare.

Cream, yellow or white collar behind the head, bordered to the rear by black marks.

Most have black bars on the flanks, some also have black spots on the back.

Eggs 2.5 cm long, in clutches of 10-40, usually stuck together. Several clutches may be laid together (usually in decomposing material such as a compost or manure heap).

May pretend to be dead as defensive behaviour.

Note chequered black markings on pale underside.

Hatched egg shells. These are very persistent and may remain up to a year after hatching.

Hatchlings (here with 2p coin) 16-20 cm with similar markings to adults. Appear late August to September.









Smooth snake Grows to 45-55 cm, slender.
 Males predominately brown, females grey. Dark butterfly shape on top of head. Pairs of spots, sometimes fused as bars, running along back. Black line running through eye.


Female



Male




Young 14-16 cm, resemble adults but with better defined markings.



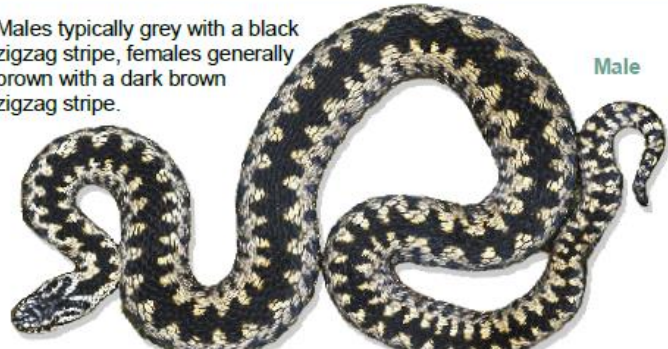
Restricted to heathlands in Dorset, Hampshire and Surrey. **Strictly protected, requiring a licence to handle or disturb.**

Adder A stocky snake, adults 40-70 cm.

Female




Male



Males typically grey with a black zigzag stripe, females generally brown with a dark brown zigzag stripe.

Young New-born 16 cm. Some young are brick-red, others have similar coloration to adults.




Coloration is variable. Black adders are found in some areas. Males often have a brown background colour in early spring.

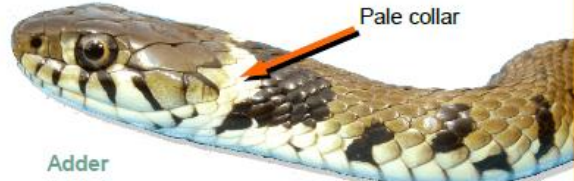
Wide distribution, but restricted to specific habitats (heathland, down, scrub, woodland edge and road, rail and flood defence embankments).

Head profiles


Slow-worm




Grass snake



Smooth snake



Adder




Pale collar


Line through eye

Vertical pupil

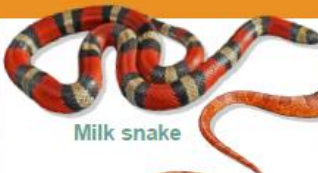
Non-native snakes

Non-native grass snakes (with two yellow stripes along the back) are established in a few locations.






The **Aesculapian snake** is established in two locations.



Milk snake




Corn snake

Many species are kept as pets. Escaped or released snakes are occasionally encountered. Expert identification may be needed.

Reptile sloughs

Reptiles periodically shed (slough) their skins, to allow for growth and to replace ageing tissue. The shed (sloughed) skins can be useful in identifying species.

Lizards Skin sloughed in fragments, often much smaller than shown here.




Large scales on underside.

Viviparous lizard (left) **Sand lizard** (right)

Dorsal (back) patterning evident. Small, bead-like scales on back. Large scales on ventral surface (underside) – but single scales not spanning the width of the body.

Slow-worm

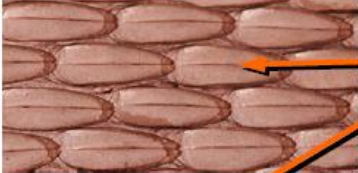
Fragments of skin may be rolled up, like a removed sock.



Uniformly sized scales on dorsal and ventral surfaces.


Snakes

Large ventral scales spanning the width of the body.



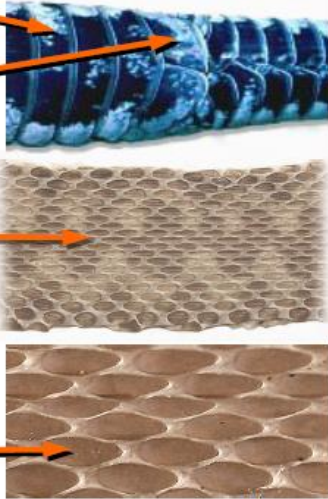
Grass snake

- Keel on dorsal scales.
- Divided anal/pre-anal scale.
- Large plates on head (e.g. behind eye).



Adder

- Dorsal zigzag pattern usually visible, especially against a light background.
- Keel on dorsal scales.
- Large plates, but also small scales, on head (e.g. behind eye).
- Undivided anal/pre-anal scale.



Smooth snake

- No obvious markings on slough and no keel on dorsal scales.



Sexing snakes Male snakes have relatively longer tails than do females – hence males have more ventral tail (sub-caudal) scales. These can be counted on sloughed skins.

Adder		Grass snake		Smooth snake	
Male	Female	Male	Female	Male	Female
32-46	24-38	61-73	49-64	50-64	43-57

Source: Beebee, TJC and Griffiths, RA (2000). *Amphibians and Reptiles. A Natural History of the British Herpetofauna.* The New Naturalist Library.

Further information Howard Inns (2011). *Britain's Reptiles and Amphibians.* WILDGuides.

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Source: Amphibian and Reptile Conservation (2019) *Reptile Identification*.

