



# Reptiles

## Ecology

Six species of reptile – three lizards and three snakes, are native to Britain. The lizard species are the Common Lizard, the Sand Lizard and the Slow-Worm. The snakes are the Grass Snake, Adder and Smooth Snake.

Reptiles cannot generate their own body heat and need to raise their body temperatures using external heat sources, principally by basking in the sun. This determines their behaviour. They are active in warm weather, but avoid prolonged exposure to the sun on very hot days. They are mainly inactive at night, though Adders are known to occasionally hunt after dark in warm weather. They hibernate from October to March when the weather is too cold for activity.

Snakes can occupy ranges of several kilometres. Often they move to wetter habitats during the summer. They usually return to the same hibernation areas each year. Grass Snakes mainly eat amphibians while Adders and Smooth Snakes mainly eat reptiles and small mammals.

Lizards have smaller ranges. Common Lizards and Sand Lizards spend much time basking, while Slow-Worms stay under cover. All three species eat invertebrates.

## Habitat

Reptiles may be found in a range of habitats, both in urban and rural areas. Reptiles are generally less abundant in intensively managed farmland, highly built-up settings and in upland areas.

Species	Appearance and characteristics
Adder	Up to 55cm. Males grey and females reddish brown; both sexes with dark zig-zag pattern on back. Live young. Venomous.
Common Lizard	Up to 14cm long, brown with spotted and striped markings on the back. Live young.
Grass Snake	Up to 100cm. Olive green, brown or grey body, with black bars down the sides. Usually has a yellow or white 'collar' behind the head. Lays eggs.
Sand Lizard	Up to 20cm long. Males green flanks and patterned back; females grey/brown with distinctive spots. Lays eggs.
Slow Worm	Legless lizard, up to 35cm long. Males uniform grey-brown; females brown with dark sides and a black line along the back. Live young.
Smooth Snake	Up to 55cm in length, grey or grey/brown, with dark top to head and dark spots, blotches or bars along the back.

Species	Habitat and distribution
Adder	Heaths, moors, meadows, woodland glades and urban fringe. Scarce.
Common Lizard	Throughout England in a range of different habitats, including grasslands, woodland edges, brownfield sites, heaths and dunes. Often seen on linear features, e.g. hedgerows and stone walls.
Grass Snake	Most frequently seen snake species in urban areas. Often found close to ponds, lakes and rivers.
Sand Lizard	Only found on heathland and dunes in southern England, mainly Dorset, and on the Sefton Coast in Merseyside. Found throughout England on a wide variety of habitats, it is the most frequent reptile in urban areas.
Slow Worm	Found throughout England on a wide variety of habitats, it is the most frequent reptile in urban areas.



<p><b>Smooth Snake</b></p>	<p>Our rarest reptile with the most restricted distribution. Found only on the heathlands of southern England, from Surrey to Dorset.</p>
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## Conservation Status

There is a significant variation in conservation status from widespread and locally abundant (Slow Worms) to severely restricted (Sand Lizard). However, even the common species have undergone declines in some areas.

All six species are listed as a Priority Species on the UK Biodiversity Action Plan (UK BAP).

## Legislation

### Slow Worms, Adders, Common Lizards and Grass Snakes

Common reptiles, i.e. Slow Worm, Adder, Common Lizard and Grass Snake, receive partial protection under the Wildlife and Countryside Act 1981 (and amendments) whereby it is an offence to:

- intentionally or recklessly kill or injure any of these four species.

### Sand Lizard and Smooth Snake

Sand Lizard and Smooth Snake are listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (Conservation Regulations) and as such receive protection under Regulation 41 of these Regulations, which, among other things, makes it an offence to:

- Deliberately capture or kill a Sand Lizard or Smooth Snake;
- Deliberately disturb a Sand Lizard or Smooth Snake;
- Damage or destroy a breeding site or resting place of a Sand Lizard or Smooth Snake.
- Under the Conservation Regulations, disturbance of Sand Lizard or Smooth Snake includes in particular any disturbance which is likely to:

- Impair their ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate;
- Significantly affect the local distribution or abundance of the species in question.

In the case of *Vivienne Morge vs. Hampshire County Council* (2010), the Supreme Court has defined deliberate disturbance as 'an intentional act knowing that it will or may have a particular consequence, namely disturbance of the relevant protected species.'

Since 2007 it is no longer a valid defence to show that the killing, capture or disturbance of a species covered by the Conservation Regulations or the destruction or damage of their breeding sites or resting places was the incidental and unavoidable result of an otherwise lawful activity.

Sand Lizard and Smooth Snake are also listed under Schedule 5 of The Wildlife and Countryside Act 1981 and therefore receive protection under Section 9 of this Act (as amended by the Countryside and Rights of Way Act 2000). Among other things, this legislation makes it a criminal offence to:

- Intentionally kill, injure or take a Sand Lizard or Smooth Snake;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a Sand Lizard or Smooth Snake uses for shelter or protection;
- Intentionally or recklessly disturb any Sand Lizard or Smooth Snake whilst it is occupying a structure or place that it uses for shelter or protection.

## Licence Application

European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed:

- The development is for reasons of overriding public interest;
- There is no satisfactory alternative; and



- The favourable conservation status of the species concerned will be maintained and/or enhanced.
- Licenses are applicable to Sand Lizard and Smooth Snake only.

## Planning Policy

Guidance on the consideration that local planning authorities should give to nature conservation interests is contained in Planning Policy Statement 9. Planning authorities may refuse planning permission on grounds of the predicted impact on protected species like reptiles. Areas known to be of significance for reptiles may be excluded from development by appropriate allocation in Local Plans. Designations of various kinds, both statutory and non-statutory, may further protect individual sites.

Although the presence of reptiles does not always preclude a land parcel from development, planning and licensing controls may limit the extent of disturbance, the timing of activities, and may well stipulate compensatory measures. Planning conditions and legally binding arrangements such as Section 106 agreements (Town and Country Planning Act 1990) are often used to this end.

Under Regulation 9(5) of the Conservation Regulations, Planning Authorities also have a legal duty to 'have regard to the requirements of the Habitats Directive in the exercise of their functions'. As demonstrated by the case of Woolley vs. Cheshire East Borough Council and Millennium Estates Ltd (2009), this means that they must consider the 3 Habitats Directive tests (see Licence Application section above) when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for developments that would impact on Sand Lizard or Smooth Snake must demonstrate that the 3 tests will be passed.

## Reptile Surveys

The presence of reptiles may affect the programming of work and the scope of development. Reptile surveys to establish likely presence or absence should therefore be considered at an early stage if sites incorporate suitable habitat.

Reptiles surveys can be undertaken at any point between March and September when reptiles are active, however the best results are obtained in the spring.

In the majority of instances, surveys involve the setting out of artificial refugia, which attract basking reptiles and those seeking cover. The refugia are normally a range of torch-on roofing felt and corrugated roofing products a minimum size of 50 x 50cm. Prior to the survey commencing they are left to bed down in suitable habitat for a 1 to 2 week period. This technique is not effective for Sand Lizards, which avoid the use of refugia. Instead, visual searches of suitable habitat are employed.

The likely presence/absence of reptiles can be determined by the collection of 7 days worth of data. Population size and distribution can be established using a minimum of 15 days worth of data.

## Impacts

Development is a significant threat to the conservation of reptiles, as it is a cause of habitat loss and fragmentation, which usually results in the death and injury of reptiles. Over the last 50 years many areas that used to be home to reptiles have been lost to development, agriculture and forestry. Changes in land use, intensified management, persecution, collection, fires, fragmentation of habitats and increased use of open space by the public can also reduce reptile populations.

Reptiles are likely to be threatened and the law potentially breached by such activities as: clearing land, digging foundations, cutting vegetation to a low height, laying pipelines, driving machinery over sensitive areas, storing construction materials in sensitive areas and removing rubble, wood piles and other debris.



## Mitigation

In the first instance attempts should be made to avoid impacts. This can be achieved by the alteration of development layouts to avoid key areas, as well as the capture and exclusion of reptiles.

The aim of any strategy should be:

- 1) to protect reptiles from any harm that might arise during the development work
- 2) to ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate the reptile population, either on-site or at an alternative site, with no net loss of local reptile conservation status.

Mitigation and compensation to achieve the above may involve:

- keeping the reptiles on site, i.e. changing the layout so that areas used by reptiles are not developed
- moving reptiles to areas within the site which are to be retained, enhanced and managed for conservation purposes, whilst developing remaining areas
- moving (translocating) reptiles away from the development site to another specially prepared area of suitable habitat (receptor site).

Translocation of reptiles off site should only be considered as a last resort. It is also worth noting that finding a suitable off-site receptor site is often a time consuming exercise that is fraught with difficulty. Ideally, sites should not already support reptiles, however in some instances sites with reptiles present can be enhanced to accommodate additional numbers.

The timing of work is crucially important, because of the seasonal nature of reptile behaviour. Translocation can only take place between March and September, sometimes extending into October provided the weather is mild. The minimum capture effort is dependent on species present and population size. Translocations can often take an entire season and it is therefore sensible to establish at an early stage whether reptiles are present on a site that is proposed for development.

This information was accurate, to the best of our knowledge, at the time of publication (07/06/2011). These notes are intended as guidance only. Professional advice from an ecological consultant should be sought in relation to protected species and development. Surveys, impact assessment and the design of mitigation strategies must be considered on a site-specific basis.