

Reptiles (all species)

There are six native reptile species found in England; three snakes (adder, smooth snake, grass snake) and three lizards (slow-worm, common lizard and sand lizard). All six species will use road verges and other features of the soft estate, with different habitats of particular importance to different species:

Adders (*Vipera berus*) are found in a wide variety of habitats, including moorland, heathland, dunes, bogs, open woodland, field edges, hedgerows, marshy meadows and saltmarsh.

Smooth snakes (*Coronella austriaca*) are largely confined to sandy heathlands.

Grass snakes (*Natrix natrix*) are generally found in wetlands, as their prey consists mainly of frogs and toads.

Slow-worms (*Anguis fragilis*) prefer well-vegetated habitats with extensive ground cover, and are often found in damp locations. They occur in pastures, glades in woods, scrub, heathland, and on embankments, hedge banks, in gardens and ex-industrial sites.

Common lizards (*Lacerta vivipara*) are found in a variety of habitats, including open woods, field edges, heathland, bogs, grassland, sand dunes, sea cliffs, hedge banks, railway embankments and even gardens, and are also often found on ex-industrial sites.

Sand lizards (*Lacerta agilis*) are generally restricted to a small number of coastal sand dunes, with some plant cover, and sandy heathland. On heathland they tend to be found in dense old heather stands.

UKBAP Priority Habitats, that fall within the soft estate, and are of particular relevance are ancient and/or species-rich hedgerows, lowland heathland, calcareous grassland and all woodlands.

Current status

National status

There are two different levels of legal protection for reptiles. Slow worm, adder, grass snake and common lizard are protected from killing, injuring and sale only under the Wildlife and Countryside Act (1981, as amended).

Sand lizard and smooth snake and their respective habitats are fully protected, being subject to the full provisions of Schedule 5 of the Wildlife and Countryside Act 1981 (1981, as amended) and the Conservation (Natural Habitats &c.) Regulations (1994). Sand lizard is the only reptile species listed as a Priority Species in the UK Biodiversity Action Plan.



Species	Status and distribution
Adder	Widespread and locally common, notably in the southwest, but less common and even rare over much of central, eastern and northwest England. Population has declined over much of England.
Smooth snake	Only occurs in Dorset, Hampshire, Surrey and West Sussex (an introduction). Considered endangered and declining.
Grass snake	Widespread and locally common in England, except in the north. Declines reported from SW and NW England and West Midlands.
Slow worm	Widespread and locally common in England (particularly southwest), considered absent from many parts of NW England. Declining slightly in England, notably the East Midlands.
Common lizard	Widespread in England, with declines reported, notably in southern and eastern England.
Sand lizard	Endangered. Only found in Dorset, Surrey, Hampshire (re-introduction), West Sussex (re-introduction), Devon (re-introduction), Cornwall (re-introduction), North Wales (re-introduction) and Merseyside.

Status on the network

There are numerous references to reptiles in the Highways Agency network ecological information. These are primarily sites identified as providing suitable habitat for reptiles. Network Managers should be aware that the rarest (and most comprehensively protected) species: smooth snake and sand lizard, occur primarily in network areas 2 and 3, with a small population of sand lizards also in part of area 15.

Current factors affecting the species

Habitat loss and fragmentation

Road construction can have a significant effect on all six reptile species through habitat loss, fragmentation and incidental mortality during construction. In particular, coastal zone roads may significantly increase the level of fragmentation of sand lizard and smooth snake populations. Existing roads may also represent continuing barriers to dispersal and re-colonisation.

Inappropriate habitat management

Inappropriate management of road verges may be a factor affecting reptiles, particularly the regular mechanical cutting of road verges. Slow worm, adder and common lizard are the species most likely to be affected.

Current action

Reptile surveys are carried out as part of the Environmental Assessment process for new schemes and thus avoidance or mitigation can be proposed at an early stage.

The Nature Conservation Advice Note (DMRB Volume 10) provides some advice on reptiles.

The JNCC publication "*Herpetofauna Workers' Manual*" and English Nature's Species Conservation Handbook include information on habitat management for reptiles, and various survey and mitigation procedures. EN has also published the Sand Lizard Conservation Handbook.

Objectives

The aim of the Highways Agency Species Action Plan for reptiles is to enhance the value of the soft estate for all reptile species, as appropriate,

and to mitigate any potential effects of new schemes on reptiles.

	Objective	Proposed actions
A	To avoid impacts of new road schemes or improvements on reptiles.	6
B	To mitigate unavoidable impacts on reptiles and/or their habitat.	7
C	In particular, to protect sand lizards and smooth snake populations and their habitat from any impacts associated with new schemes, improvements, or maintenance work.	5, 6
D	To raise the awareness of HA staff, Managing Agents and consultants regarding the significance of reptiles in the network.	1, 2, 9
E	To safeguard and enhance known reptile populations in the soft estate.	3, 4, 5, 8
F	To safeguard habitat features in the soft estate likely to be of value to reptiles.	7
G	To develop a greater knowledge of the distribution of reptiles in the soft estate.	3

Proposed action

The following table lists the actions required to achieve the objectives set out in this Plan. For some of the actions, potential partners have

been assigned as likely sources of cooperation. Targets are provided to give an indication of the timescale for the proposed action.

	Action	Potential partners	Target
	<i>Policy, guidance and advice</i>		
1	Publish Advice Note on reptiles (already in preparation).	-	2002
2	Provide detailed information in DRMB/TRMM on the management of highway vegetation for the benefit of reptiles.	-	2004
	<i>Research and monitoring</i>		
3	Compile a list of sites at which reptiles have been recorded within or adjacent to the soft estate. Include all records on the Environmental Database.	LBRCs	2004
4	Collate information relating to habitat features within the soft estate likely to be of particular value for reptiles. Agree a standard methodology for surveying road verges for reptiles.		2004
5	Monitor all translocation sites as part of infrastructure costs.	Froglife	Ongoing

	Action (continued)	Potential partners	Target
	<i>Mitigation and Management</i>		
6	For all new road schemes and road improvements, include search for records of reptiles in desk study at stage 1 and targeted surveys at stage 2. Early identification of this constraint may allow impacts to be avoided. Wherever possible, retain all existing features of importance for reptiles.	-	Ongoing
7	Where impacts of new schemes and road improvements on reptile habitat are unavoidable, consider the options for habitat recreation, improvement and enhancement to include the creation of hibernacula, suitable basking and egg-laying sites at 30 locations and consider mitigation of fragmentation by maintaining "green links" across roads.	-	2012
8	Consideration should be given to ensuring that all maintenance operations follow best practice guidelines for reptile conservation particularly in terms of timing and operation.	-	Ongoing
	<i>Communications and publicity</i>		
9	Information on reptiles should be included in environmental training for HA staff and Managing Agents.	-	2003

Links with other plans

This plan should be read in conjunction with the HAPs for boundary features and heathland.

A number of LBAPs have produced SAPs for reptiles.

Grass Snake - 6 LBAPs
 Adder - 9 LBAPs
 Sand Lizard - 5 LBAPs
 Slow Worm - 3 LBAPs

No reptiles are considered Regional Biodiversity indicators in any of the English Nature Regions.

Lead partners

The joint lead partners for the sand lizard in the UKBAP are English Nature and The Herpetological Conservation Trust.