

10. Opportunities for Reptiles in Specific Land Use Regimes



This boundary bank is ideal reptile habitat in itself and provides connectivity between two otherwise separated, occupied habitat patches (Paul Edgar)

10.1. Farmland



Unfarmed corners can be managed to provide refuges for reptiles (Chris Gleed-Owen)

Most of lowland Britain comprises farmland. Cropped fields and improved pasture offer little habitat for reptiles, but hedgerows, ditches and ditch banks, stone walls, meadows, orchards, field margins, ponds and manure heaps can all provide habitat for the widespread reptiles and their prey.

The potential of linear features both to support wildlife and to create habitat networks can be exploited to the benefit of reptiles. South-facing banks and hedgerow edges and sunny field margins can be managed sympathetically for reptiles to provide linked habitat networks.

Hedgerows and field margins have the potential to form the type of habitat interface favoured by reptiles, effectively mimicking a woodland/grassland interface:

- Field margins should be managed as rough grassland or scrub.
- Grassland areas should be maintained by winter cutting every one to three years.
- Hedgerows or woodland should be allowed to develop soft edges through scrub growth.
- Scrub should be managed by the removal of individual bushes or bramble patches as required to maintain a scattered scrub habitat (a mix of rough grassland and scrub).

Environmental Stewardship options to benefit reptiles are given in the appendix.



Hedgerow and field boundary with little potential for reptiles (Tony Blunden)



Hedgerow and field margin (up to left of mown track) suitable for reptiles (John Baker)

10.2. Forestry

Historically, some prime reptile habitat (especially heathland) has been converted to forestry plantation. Reptiles often persist in these areas, which have great potential for them. Recent policy on *When to convert woods and forests to open habitat in England* (Forestry Commission, 2010), encourages open habitat creation when this would significantly benefit key species. This should improve the value of wooded areas for reptiles.

Reptiles can be found in large numbers on forestry re-stock sites before the crop matures to generate extensive shade (up to around 15 years, but probably with highest favourability at around five years). Clear-felled or thinned sites can also be of value to reptiles. Generally speaking, little active management of such areas is needed to improve conditions for reptiles. Any invasive ground works, such as scarification or brash-raking, need careful

attention to avoid harming reptiles. It is best to undertake such tasks whilst the habitat is still in a poor state for reptiles, e.g. immediately after clear-felling, rather than waiting for a few years when the area may be colonised by reptiles.



Woodland edges and rides can provide excellent reptile habitat (Paul Edgar)

Due to the requirement for open, insolated sites, closed-canopy plantations provide limited opportunities for reptiles. In contrast, woodland edge can provide excellent habitat. Forestry rides can provide habitat in themselves and their potential to link habitat patches (such as glades, clearings or habitat beyond the plantation) should be considered.

The sunny side of a ride is the most useful to reptiles. Maintaining wide rides, or open borders on the sunny side of rides, can benefit reptiles. Narrow, shaded rides can be improved by removing shading trees. This also creates an effective fire-break with minimal loss of timber crop and increases the amenity value of the footpath, by creating open vistas.



Woodland ride widened to create reptile habitat (Jim Foster)

Human passage along woodland rides often maintains a footpath and keeps immediately bordering vegetation short. However, if vegetation overgrows a path, it can be kept open by annual, winter mowing. Ride edges should be mown on a longer interval, to allow a taller vegetation sward to develop, but to control scrub. Scrub should be managed so as to create a gradual transition between woodland and open ride.



Creating scalloped bays on the south side of a woodland block by felling small areas will increase useful edge habitat (Jim Foster)

In some areas windrows are created by forestry operations. Windrows comprise tree stumps, or other unwanted timber, bulldozed from felled areas to form long mounds of timber arisings mixed with soil and leaf litter. Windrows create excellent habitat features for reptiles and are often used as hibernation sites. Hence, they should be managed with reptiles in mind. Existing windrows should not be destroyed without checking for the presence of reptiles. Windrows being newly created, either through conventional forestry operations, or through habitat restoration projects, should be located with thought for reptile usage. A new windrow should:

- Be sited in a sunny location.
- Run in an east-west orientation, to provide a long, south-facing side.
- Be located away from areas of high public usage, such as footpaths.
- Be close to, or contiguous with, other reptile habitat.

10.3. Transport corridors

Land associated with roads, railways, canals and footpaths has great potential to create linear habitat for reptiles, linking other sites.

South-facing roadside embankments on well-drained soils can provide excellent reptile habitat. Within areas subject to routine maintenance, some vegetation cutting must be carried out as necessary for reasons of safety/visibility. However, other areas, subject to routine swathe cuts, should be mown only annually (minimum height of 15 cm), during winter, hence providing cover for reptiles and their prey during the active season.



This road verge in the New Forest, where vegetation has been allowed to create a structurally diverse habitat on a sunny bank, is ideal for reptiles (Jim Foster)

Outside areas subject to the above routine maintenance:

- Vegetation should be allowed to create structurally diverse habitat.
- Tree planting, for screening purposes, should be confined to the top of embankments, leaving the rest of the area as either scattered scrub or grassland.
- Tree planting and management should aim to provide scalloped edges to plantations, creating sheltered bays of warm microhabitat.
- Plantation edges should be managed to create gradual transitional zones between woodland and open grassland.
- Bays created by scalloping should be managed as grassland (cut on one- to three-year cycles) or scattered scrub (selected patches cut periodically).

Canal towpaths and their immediate borders require frequent maintenance mowing. However, beyond 0.5 m from the path herbaceous vegetation can be allowed to create tall swards. On the nearside of the path this can provide cover for grass snakes (and water voles) at the water's edge. On the



A tall grass sward and the windbreak created by the screening scrub/trees provide habitat for large numbers of viviparous lizards (John Baker)

offside, where space allows, small meadows can be maintained with transitional zones into bordering hedges. The herbaceous vegetation should be maintained by annual winter mowing to a sward height of 5-10 cm, and then left to grow.



The *Cotoneaster* planting scheme on this road verge offers very little scope for reptiles to find the variation in vegetation structure they require for thermoregulation (Jim Foster)



Herbaceous vegetation along the towpath of Birmingham and Fazeley Canal, cut annually in winter, provides cover for grass snakes at the water's edge and creates a useful transitional zone along the hedgerow (Paul Wilkinson)

10.4. Golf courses

In general, management of roughs as grassland and scrub will meet the needs of reptiles. Grassland should be cut on an annual basis during the winter (less often in some areas to allow tussocks formation) and areas of scattered scrub should be allowed to develop.

At Royal Birkdale and Hesketh Golf Club courses, habitat creation measures have been taken to benefit sand lizards. Bare sand, essential for egg-laying (see 9.4 *Sand lizard egg-laying sites*) but sometimes absent from golf course roughs has been incorporated by the strategic placement of sand piles. South-facing dune banks provide habitat within the golf courses and sand patches are maintained within these. When sand has been moved during course improvements, it has been used to benefit sand lizards by strategic creation of new habitat patches, linking occupied areas within the golf courses and creating linkage with sand lizard populations outside the course boundaries.



Course modifications created this marram grass covered bank, linking sand lizard habitat on Royal Birkdale Golf Course with a neighbouring SSSI (John Newton)



A mosaic of bare sand and vegetation cover provides sand lizard habitat within the rough of Hesketh Golf Course (John Newton)

10.5. Gardens and allotments

All native reptiles have been found in gardens and in some areas these are now an important habitat for them. The species most likely to be found here are the slow-worm and grass snake. The widely-ranging grass snake is more likely to be a garden visitor than a resident. Grass snakes are especially attracted to garden ponds which provide them with amphibian and fish prey, and they may also use compost heaps as egg-laying sites.



Grass snakes are attracted to garden ponds to feed on amphibians and fish (Tony Phelps)

A key factor in determining whether reptiles use a particular garden is its proximity to other reptile habitat. Reptiles may colonise gardens adjacent to external reptile territory, such as rough grassland, allotments, railway and road embankments or heathland.

Adopting wildlife gardening principles will generally benefit reptiles; for example, creating a wildflower meadow, growing native plant species and minimising use of chemical pesticides. However, there are other, specific features of gardens that can be of benefit to reptiles:

- A diverse vegetation structure can provide a mix of insulated basking sites and nearby cover.
- Rockeries can provide good habitat for reptiles; the rocks and low-growing mats of vegetation provide cover and basking sites.
- Compost heaps or bins are invaluable to reptiles, especially grass snakes and slow-worms. The compost heap should be in a sunny location. The larger the heap the better. Having two heaps/bins allows slow-worms to be transferred from one heap to another as matured compost is removed.



Compost heaps can be attractive to slow-worms and provide grass snakes with egg-laying sites (Jim Foster)

To help reptiles in gardens:

- Create a wildlife pond, to attract amphibians, which are the prey of the grass snake.
- Allow areas of lawn to grow long to provide cover, for example along the sunny base of a hedge.
- Create log or brash piles to act as refuges.
- Do not disturb compost heaps used as grass snake egg-laying sites from June to September, or during the winter.
- If space allows, place reptile survey refuges in sunny locations. Reptile refuges are described in the section *13. Survey and Monitoring*. In the garden, roofing slates or paving slabs provide visually less intrusive refuges than those commonly used in surveys.
- Garden netting should be used with care, or avoided. Stretching netting over a log pile or rockery may help common lizards to escape from cat predation. However, the mesh of any netting should be larger than four cm, and kept taught, as snakes can become fatally entangled in smaller gauge netting.

More information can be found in the booklets *Reptiles in Your Garden* (Natural England) and *Dragons in Your Garden* (Amphibian and Reptile Conservation).

Allotments often support reptiles and hence in developed areas these may be key reptile sites. Some of the features of allotments, which are warm, sunny sites, often supporting numerous compost heaps, sheets of corrugated iron, plastic sheeting and debris, make them attractive to reptiles. If an allotment is adjacent to a reptile habitat corridor, such as a railway line or river, then this increases the likelihood that it will support reptiles.

Even small areas within allotments managed sympathetically can enhance a site for reptiles. The following steps may be beneficial:

- Set aside areas for wildlife, rather than cultivation. These are best sited at the edges of the allotment.
- Monitor compost heaps to check for the presence of reptiles.
- Leave heaps used as grass snake egg-laying sites undisturbed (June to September).
- Create a pond on the allotment.

10.6. Churchyards

Churchyards are widely recognised as potential oases for wildlife within developed or rural areas. In general, they are relatively undisturbed sites and usually free of agro-chemical application. Subject to sympathetic management, they can provide habitat for a wide range of species, including reptiles. Reptiles may benefit from basking sites and refuges provided by gravestones, and they may thrive under wildlife management regimes already applied to some churchyards. However, some specific measures are particularly beneficial:

- Allowing some areas of grass to grow long will increase the cover available for reptiles and their prey.
- Long grass areas should be cut during the winter, when reptiles are inactive.
- Grass cuttings should be removed by raking and stacked to create a grass heap, which could provide additional habitat for slow-worms and a potential egg-laying site for grass snakes (see 9.3 *Grass snake egg-laying heaps*).



Churchyard vegetation in a plot due to be cut (by hand scythe) over winter. The grassy sward supports ant-hills, which provide additional microhabitat diversity (John Baker)

Habitat management in churchyards should always be carried out with community consultation and care should be taken to respect the wishes of those visiting graves. In general, areas of tended graves should be managed more formally than less-frequented parts of the churchyard, which provide the greatest opportunity for wildlife-orientated management.

10.7. Utility sites

Sites such as water treatment works and electricity sub-stations often encompass areas of grassland, which are generally kept mown short. The potential of these relatively undisturbed sites to support wildlife is great but rarely exploited.

Grassland that is unlikely to be disturbed by future development within the utility site should be identified and demarcated for wildlife usage. This area, or areas, should then be managed as grassland or scattered scrub. Grassland should be cut during winter on a one- to three-year cycle and the cuttings raked and stacked to form a potential grass snake egg-laying site.

Reduction in the intensity of grassland management should result in cost savings to the site owners.

Vegetation management under power lines (wayleave clearance) is undertaken to ensure that trees do not come into contact with them. The maintenance of relatively open habitat can potentially be beneficial to reptiles. The management of such land should follow the principles set out earlier for grassland and scrub/tree management.

Wayleave clearance can also provide important wildlife corridors by linking habitats that would otherwise be fragmented by dense vegetative cover.



Wayleave clearance under power lines can create open habitats favourable to reptiles (Jim Foster)