

11. Species Management

This handbook focuses on habitat measures, yet species management is sometimes needed for effective reptile conservation. Only an outline is given here: the issues and methods are more specialised than habitat measures, and are relevant to relatively few sites. For detailed advice, readers are invited to contact Amphibian and Reptile Conservation or statutory agencies.

11.1. Reintroductions

Reptiles are good candidates for reintroduction programmes. They have been lost from many isolated sites, where they have low chances of re-colonising because of their limited dispersal abilities. To regain their former range, then, it is often necessary to release animals into suitable areas. Reintroductions are not to be undertaken lightly, however. They need to be carefully planned, implemented and monitored. General principles are given by JNCC in *A Policy for Conservation Translocations of Species in Britain* (McClellan, 2003). All reptile proposals should follow this guidance. The key points are that the reintroduction must be:

- Consistent with the conservation status of the species concerned.
- At a site where the species no longer occurs, but has conditions suitable for supporting a viable population, or is capable of being modified to such a state.
- At a site where the landowner is sympathetic to the reintroduction, and there are no serious foreseeable threats to the reptiles.
- Implemented using appropriate stock, taking into account disease, genetic and other important issues.
- Implemented such that there is minimal detrimental impact at both donor and release sites.
- Planned taking advice from the relevant statutory agency and specialist groups at the local and national levels.

Reintroductions have been carried out very successfully for sand lizards in Britain, with approximately 50 populations established through releases of captive-bred stock. This has helped re-establish the range of the sand lizard, a species lost from many areas over the last century. A smaller number of smooth snake reintroductions have also been done, with good indications of success. These

have used translocated wild-caught snakes. Further reintroductions, managed by Amphibian and Reptile Conservation, are planned.

There have been relatively few reintroductions for the widespread species. These have often not closely followed good practice, or been well monitored, so it is difficult to assess their effectiveness. However, reports from several projects indicate that populations have been successfully established by translocating wild lizards and snakes.

There is some potential for further reptile reintroductions in the UK, where natural colonisation is unlikely, especially for the widespread species. Site managers looking after large, unoccupied but apparently suitable sites could consider a reintroduction. The first steps would be to look through the JNCC policy, to ensure that the proposal matches with guidance, and to speak to local and national specialist organisations, and the relevant government agency.

The sand lizard reintroduction programme, managed by Amphibian and Reptile Conservation, involves releases at a schedule of carefully selected sites. At the time of writing, the captive rearing programme has no further need to expand, as the level of reintroductions largely matches habitat availability.

11.2. Reinforcement and genetic management

Reinforcing declining populations, (adding individuals) is rarely advisable. If a population is in decline, more often than not there will be some factor, often related to habitat, that needs remedying. Adding further individuals will not normally rectify this. Indeed, it may mask the underlying problem.

Reinforcement is normally advisable only when a population has declined to a critically low level, and requires additional individuals to increase viability as a holding measure, while the underlying causes of decline are urgently addressed.

Small, isolated reptile populations may be at risk from genetic impoverishment. Over multiple generations, the combination of small population size and lack of gene flow from nearby populations can lead to inbreeding depression. It is not yet clear

whether this is a problem facing British reptiles, though there are some reasons to suspect it is. The best conservation response is to 'de-fragment' the population, so that there is exchange of animals (and hence genetic material) with nearby populations.

Where restoring population linkage is not feasible, it may be an option to translocate animals from another site into the population at risk. This practice has disadvantages, though, not least the risk of outbreeding depression. Before any translocation, there should be a firm assurance that inbreeding is a genuine problem. Genetic management is a very new practice, as yet largely untested in the UK. Given the degree of uncertainty in this subject area, it is not advised without careful investigation, and the statutory agency should be consulted for advice. A project has recently started to attempt genetic rescue for the natterjack toad, at a site in Lincolnshire. The results of such studies will help to assess whether it should become a more widespread tool.

11.3. Invasive reptile species management

Some non-native, invasive species pose threats to native animals. A range of non-native reptiles has been introduced to the UK, and their impacts are poorly understood. Such introductions are illegal and further releases are to be strongly condemned. The conservation response to invasive species releases depends on the circumstances. Whilst their presence is undesirable from a nature conservation perspective, it is not feasible to remove all non-native populations. The high priority candidates for removal are:

- Recent introductions, detected at the stage when there are still few animals present in a small area, and hence removal is straightforward.
- Introductions of species known or suspected to pose a high risk to native species, for example by competition or disease.

For queries about what to do in response to finding non-native species, site managers can contact Amphibian and Reptile Conservation or the statutory agency. The website alienencounters.org.uk gives further details, including identification advice.



The wall lizard *Podarcis muralis* is the most abundant non-native reptile established in Britain. Its impact on native lizards is not fully understood, but establishment of wall lizards at new sites should be discouraged and eradication considered where there may be threats to native lizards (Tracy Farrer)