

NATTERJACK TOAD

Bufo calamita

Hampshire Biodiversity Partnership

1 INTRODUCTION

The Natterjack toad *Bufo calamita* is listed in the UK Biodiversity Steering Group report as a priority species for conservation action. A UK Species Action Plan was published as part of Tranche 1 of the UK Biodiversity Action Plan⁴.

The Natterjack toad colony in NE Hampshire is the only native colony in southern Britain². The presence of this species in Hampshire is therefore significant at the County, Regional, National and International level. The Natterjack toad is a priority species in the Biodiversity Action Plan for Hampshire³.

2 CURRENT STATUS

2.1 Ecology and Habitat Requirements

The Natterjack toad is smaller than the common toad *Bufo bufo* and can be recognised by the yellow stripe which runs down the centre of the back and the golden irises of the eyes. It feeds on invertebrates and has relatively short back legs which enables it to run after its prey.

The Natterjack toad is adapted to early successional habitats and needs large areas of bare ground or very short vegetation. In Britain it is found in just three types of habitat; sand dunes, merse (upper saltmarsh) and heathland¹.

The Natterjack toad is one of the best adapted of all European amphibians to dry conditions as it can burrow well to avoid the extremes of temperature and dryness encountered on sand dunes and heathland. For breeding, it relies on unshaded, sparsely vegetated, ephemeral pools where its tadpoles can develop rapidly in warm shallow water. The males have a loud reeling call to attract females from a wide area. As an adaptation to breeding in ephemeral pools Natterjack toads can have a prolonged breeding season.

2.2 Population and Distribution

The Natterjack toad is a western European species, indigenous in 17 countries¹. Its world range is from Spain and Portugal in the south to Latvia and Estonia in the north. In the southern part its range it is found in many different habitats and is almost ubiquitous. Further north it becomes more locally distributed, and in countries around the North and Baltic Seas it is more or less confined to lowland heath and some coastal localities. Populations have been declining within the northern part of its range².

The Natterjack toad is restricted to about 50 sites in Britain². The strongholds are Northwest England and south-west Scotland (Sefton Coast, Cumbria and Dumfriesshire) but it is also found in a few scattered locations in eastern and southern England and North Wales.

2.3 Important Sites

The Natterjack toad was formerly widely distributed and abundant on many of the heathlands in Surrey, Northeast Hampshire and Northwest Sussex. In Hampshire it occurred at Blackmoor, Woolmer, Shortheath, Kingsley, Slab Common, Oakhanger, Bordon and Selborne. All but one of these colonies were extinct by the middle of the 20th century¹.

The one site, which still supports a Natterjack toad colony in Hampshire, continues to be the focus of conservation efforts. Sites for re-introductions in Hampshire are likely to be found at or near the historical sites.

2.4 Protection

The species is listed on Appendix II of the Bern Convention and Annexe IVa of the EC Habitats Directive. It is protected by Schedule 2 of the Conservation (Natural Habitats, etc.) Regulations 1994, and Schedule 5 of The Wildlife and Countryside Act 1981.

3 CURRENT FACTORS AFFECTING THE NATTERJACK TOAD

Habitat has been lost directly to development both housing and industrial, golf courses and other leisure industries, as well as to forestry and agriculture. It has also been lost through plant succession, where changes in land use have led to neglect of Natterjack toad habitat.

Beach cleaning operations, driving of motor vehicles along the shore and other shore activities prevent the formation of embryo dunes and therefore the dynamic process of sand dune formation. No new habitat is created to compensate for the loss of habitat as older dunes become fixed and covered with scrub, in the absence of sufficient grazing pressure and natural blowouts.

Sea defence schemes not only prevent the tidal inundation of upper saltmarsh pools but also disrupt flushing of the remaining saltmarsh by fresh water from the land, disrupting the natural cycle of sediment deposition that creates new saltmarsh and dune.

When populations are isolated as a result of habitat fragmentation, Natterjack toads are presumably more vulnerable to permanent local extinction, since natural re-colonisation cannot occur. Colonies are particularly vulnerable when the site is small and the population level low. Genetic isolation may be a problem for this species.

Acidification is a problem on heathland sites where the water is poorly buffered. Breeding ponds are lost in various other ways such as natural succession, infilling, eutrophication, water abstraction and drainage.

The displacement of Natterjack toads by other amphibians, notably the common toad, is a major problem brought about by habitat change. The predation of tadpoles by aquatic invertebrates and great crested newts becomes a serious issue when ponds are over-deepened.

4 CURRENT ACTION

4.1 National

This species has been the subject of conservation action by both statutory and voluntary organisations (notably the British Herpetological Society) for over thirty years.

A Species Recovery Programme, funded by English Nature and the Countryside Council for Wales, was completed in June 1995. This included habitat management, research, and translocation to 13 formerly occupied and other suitable sites.

The Herpetological Conservation Trust has now taken on this work. The current Action Plan runs from December 1995.

Working towards Favourable Conservation Status

The Natterjack toad is listed on Annexe IVa of the EC Habitats and Species Directive. It is also a typical species found on Annexe I habitats, including coastal sand dunes and heathlands. An underlying aim of the Directive is to restore such species to a Favourable Conservation Status (FCS) across the EC. Conservation measures undertaken in Britain should contribute to this wider objective. The Habitats Directive states that conservation status will be taken as favourable when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitat.
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future.

- There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis.

The status of the Natterjack toad in Britain will be considered favourable and making an appropriate contribution to FCS in Europe when all the following measures have been met:

- The species is found in representative sites throughout its recent historical range (based on the known and presumed distribution from one hundred years ago to the present day).
- The species is common and widespread in key habitats in the core of its distribution.
- Populations at all sites are viable and breeding and are sufficiently robust to be able to re-populate areas naturally following events that lead to a de-population.
- Connections exist between the majority of populations in key areas to allow movement and re-population over time.
- Appropriate habitat management, for example grazing, is in place to sustain the populations' status to ensure their long-term survival as viable components of the habitat.
- Appropriate habitat and species protection measures are in place to allow strict control of activities that could adversely affect the populations, in order to ensure that there is no net reduction in status.
- Monitoring protocols are established which demonstrate achievement of the above objectives.

Favourable Conservation Status in Britain should be achieved by 2025 and a monitoring programme to measure progress to this goal should be established by the end of 2003.

The aim will be to sustain all existing populations and, where appropriate, restore each population to its size in the 1970s. (Sustain means to maintain through habitat management, and ideally the re-establishment of the processes, which formerly maintained the habitat.)

There is also a need to maintain a register of all sites in the UK which should be updated annually with information provided by the large number of contributors.

The number of populations should be expanded within the Natterjack toad's former range by carrying out at least five further translocations by 2005. (A target of five sites was selected since this represents an approximate increase of 10%, and it is an achievable target. The target of five

translocations will help to consolidate the existing range and re-establish former range. However a more ambitious target is likely to be needed by 2025 to restore a range that is representative of the Natterjack toad distribution of c. 100 years ago.

There is a need to raise awareness of the species, its different habitats and its conservation needs notably amongst landowners, local residents, regulatory bodies and general public.

4.2 Local

The Hampshire the Natterjack toad site has been managed since the 1970s and much has been achieved since then. Many statutory and non-statutory organisations, and individuals have

given time and resources to the conservation work.

The Herpetological Conservation Trust is currently managing the site, with the support of other organisations, under licence from the MoD. Some primary management work still needs to be completed. Secondary management work is being undertaken and grazing by cattle, is being explored in an attempt to manage the site in a sustainable way.

Attempts to re-introduce the species to nearby sites in Surrey have proved largely unsuccessful.

5 OBJECTIVES

The overall aim of this Plan is to increase the population and distribution of Natterjack toad in Hampshire and thereby contribute toward achieving Favourable Conservation Status for this species throughout Europe. This broad aim translates in to specific objectives set out below. Where feasible, objectives have been allocated targets against which achievement can be measured. The 'Proposed Action' table in section 6 identifies the action to be taken to meet these objectives.

	OBJECTIVES	PROPOSED ACTIONS
A	Increase the population size of the native Natterjack toad population. a) Continue to manage the terrestrial habitat in the Natterjack area. b) Continue to manage the breeding pools and create new ones where suitable.	2-5, 7
B	Increase the range of the native Natterjack toad population. Create habitat links between the Natterjack toad area and other areas of suitable habitat.	1, 2, 7, 8, 13
C	Work towards a sustainable form of management for Natterjack toad habitat. Continue with the present grazing regime and seek to modify it as necessary.	6
D	Increase the range of the species in NE Hampshire. Survey to identify suitable re-introduction sites and then if appropriate initiate translocation programmes in line with JNCC policy and IUCN guidelines.	1, 2, 9-12
E	Increase awareness of the status and importance of the species and its habitat, without attracting undue attention to the site.	14-18

6 PROPOSED ACTION

The following table lists the actions required to achieve the objectives set out in this Plan. Each action has been assigned to one or more 'Key Partners'. Key Partners are those organisations that are expected to take responsibility for the delivery of the actions assigned to them, according to the targets set in this Plan. Other organisations may also be involved in the delivery of action, and they have been indicated in the 'Others' column.

Key to symbols in Action Table:

- ◆ To be completed by the indicated year. Work can commence at any time before the due date, at the discretion of the Key Partner.
- ◆⇒ Design or production of a plan/strategy to be completed by this year and then followed by its implementation.
- ➡ To start by the indicated year and usually followed by ongoing work. A start arrow in year 2003 can indicate a new action, or a new impetus to existing work.
- ⇌ Work that has already begun and is ongoing.

	ACTION	DELIVERY BY		YEAR						MEETS OBJ.
		Key Partner	Others	2003	2004	2005	2006	2008	2010	
<p>◆ = complete by ➡ = start by ⇌ = ongoing ◆⇒ = design by and implement</p>										
Site and Species Policy and Protection										
1	Develop species protection policies for incorporation into Local Plans/Unitary Development Plans to assist the conservation of the species and to ensure that there are no net losses of potential or actual sites through development or other planned activities.	EN, LAs HWT, HCT		⇌	⇌	⇌	⇌	⇌	⇌	B, D
2	Ensure that the Natterjack toad, and its habitat requirements, are addressed in all appropriate Local Biodiversity Action Plans, conservation management proposals and agri-environmental schemes.	HCC, FC EHDC DEFRA	HCT HWT	⇌	⇌	⇌	⇌	⇌	⇌	A, B, D
3	Ensure that all key sites are protected by statutory designation and ensure that an appropriate area of habitat is protected.	EN, HCT HWT		⇌	⇌	⇌	⇌	⇌	⇌	A
Site and Species Management -										
4	Undertake secondary clearance of the terrestrial habitat (scrub and bracken) at sites with Natterjack toad.	HCT, DE BTCV	EHDC EN, HHP	⇌	⇌	⇌	⇌	⇌	⇌	A
5	Manage the existing breeding pools and create additional ones where appropriate.	HCT, DE	EHDC EN, HHP	⇌	⇌	⇌	⇌	⇌	⇌	A
6	Maintain grazing on sites with Natterjack toad.	HCT Grazier	DE, MoD HHP, HGP	⇌	⇌	⇌	⇌	⇌	⇌	C

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7	Clear mature pines from the eastern edge of the Natterjack toad site to provide better linkage of all parts of the site.	DE, MoD	HCT, HHP					➔	◆	A, B
8	Clear secondary woodland and scrub to link the Natterjack toad area to the ETR Range.	HCT Contractor	EHDC EN, HHP				◆➔			B
9	Maintain captive breeding colony of Woolmer stock Natterjack toads.	Wildlife for All	HCT	➔	➔	➔	➔	➔	➔	D
10	Subject to the provisions contained in Section 5 Objective D of this Plan, undertake one translocation to a site in NE Hampshire.	HCT							◆➔	D
Research, Survey and Monitoring										
11	Survey for suitable re-introduction sites in NE Hampshire.	HCT	HHP HARG HGP, HWT	➔	➔	➔	➔	➔	➔	D
12	Monitor the breeding success of the native Natterjack toad population.	HCT	HARG volunteers	➔	➔	➔	➔	➔	➔	D
13	Monitor to establish the current range of the Natterjack toad at the native colony.	HCT	HARG volunteers					◆➔	➔	B
Communication, Awareness and Promotion										
14	This species is relatively well known by name, but too rare to be encountered in the wild. It is not a good display animal but a captive collection is valuable for promoting the conservation of the species.	Marwell Zoo	HCT	➔	➔	➔	➔	➔	➔	E
15	Undertake an annual reptile and amphibian walk for members of the Local Hampshire Wildlife Trust group.	HCT, HWT		➔	➔	➔	➔	➔	➔	E
16	Publish short articles / information about Natterjack toads in Hampshire. Respond positively to requests for articles or information about Natterjack toads.	HHP, HGP MoD	HCT	➔	➔	➔	➔	➔	➔	E
17	When appropriate, talk about Natterjack toads with members of the general public.	HCT, HWT		➔	➔	➔	➔	➔	➔	E
18	Ensure that all information about Natterjack toads is passed to a central UK register of sites on an annual basis	HCT	HARG volunteers	➔	➔	➔	➔	➔	➔	E

KEY TO ORGANISATIONS:

DE	Defence Estates
DEFRA	Department of the Environment, Food and Rural Affairs
EHDC	East Hampshire County Council
EN	English Nature
FRCA	Farming and Rural Conservation Agency
FWAG	Farming and Wildlife Advisory Group
HARG	Hampshire Amphibian and Reptile Group
HCC	Hampshire County Council
HGP	Hampshire Grazing Project
HHP	Hampshire Heathlands Project
HWT	Hampshire Wildlife Trust
LAs	Local Authorities
MoD	Ministry of Defence

REFERENCES

- 1 Beebee Trevor and Denton Jonathan (1996) *the Natterjack toad Conservation Handbook*. English Nature.
- 2 Beebee T.J.C. and Buckley J. (2001) *Natterjack toad (Bufo calamita) Site Register for the UK 1970 – 1999 inclusive*. Unpublished report by University of Sussex and The Herpetological Conservation Trust.
- 3 Hampshire Biodiversity Partnership. July 2000. **Volume 2 – Biodiversity Action Plan for Hampshire**. Species Action Plans – Individual. Hampshire.
- 4 UK Biodiversity Steering Group. 1995. Biodiversity: The UK Steering Group Report. **Volume 2: Action Plans**. HMSO: London.

This is one of many Habitat, Species and Topic Action Plans being prepared by the Hampshire Biodiversity Partnership. It will be monitored by the Partnership and fully reviewed.

This species action plan has been prepared by The Herpetological Conservation Trust on behalf of the Hampshire Biodiversity Partnership.

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