Technical Guidance Series

CIEEM Chartered Institute of Ecology and Environmental Management

In association with amphibian and reptile conservation

Competencies for Species Survey: Natterjack Toad

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1. Introduction

The purpose of this document is to set out the knowledge, skills and experience required to survey, disturb or to carry out research works (hereinafter referred to generically as 'survey') for the natterjack toad, *Epidalea calamita*, in a professional capacity. To be undertaking such work, CIEEM would consider attainment of the criteria outlined in this guidance to be a minimum for an individual to competently survey for natterjack toads. The Institute aims to drive up standards in the ecological profession for the benefit not only of ecologists but also of the public.

This document does not provide guidance on the techniques to be employed in carrying out survey activities: references to published sources of guidance on survey methods are listed in Section 5.

2. Status

The natterjack toad has a localised distribution in the UK, and has undergone substantial historical declines due to habitat loss and fragmentation. The remaining strongholds are dune systems and upper saltmarshes along the coasts of Merseyside, Cumbria and Dumfriesshire; with smaller and more isolated coastal populations in Lincolnshire, Norfolk, Suffolk, Kent, Dorset, Denbighshire, Flintshire, Cheshire and Lancashire. There are a few lowland heathland populations in Hampshire and Surrey. There are also coastal populations in County Kerry, southwest Ireland. Natterjacks are absent from Northern Ireland. The few inland populations in southeast England represent a great reduction from their historical range, largely due to loss of heathland. In coastal areas, their range has shrunk due to urbanisation and loss of habitat due to other land-use changes.

The natterjack toad is a 'pioneer-opportunist' which relies upon sparsely-vegetated habitats with shallow, ephemeral ponds. There are around sixty populations in the UK, with only about 3,000 breeding females in total (ARC 2009). The natterjack toad is a UK BAP Priority Species, with a long-standing reintroduction programme, and intensive conservation efforts. Inbreeding depression has contributed to the decline of some isolated populations, and chytrid fungus has been cited as another possible cause of declines. Although declining in the north of its European range, the natterjack toad is listed as a species of least concern on the IUCN Red List because it is locally abundant across much of its range.

3. Legislation and Licensing

Legislation

Natterjack toads are protected under the following legislation. This outline of legislation is not comprehensive and the appropriate legislation should always be consulted for a definitive list of offences.

COUNTRY	LEGISLATION GIVING PROTECTION	SCHEDULE OR ANNEX LISTING
England	Conservation of Habitats and Species Regulations 2010 Wildlife and Countryside Act 1981 (as amended)	Schedule 2 Schedules 5
Wales	Conservation of Habitats and Species Regulations 2010 Wildlife and Countryside Act 1981 (as amended)	Schedule 2 Schedules 5
Scotland	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)	Schedule 2
Republic of Ireland	European Communities (Natural Habitats) Regulations 1997 (as amended) Wildlife Act 1976 (as amended)	First schedule Schedule 5

Licensing

The following Statutory Nature Conservation Organisations (SNCOs) are responsible for issuing licences to permit actions that would otherwise be illegal under the relevant legislation:

COUNTRY	SNCO
England	Natural England
Wales	Natural Resources Wales
Scotland	Scottish Natural Heritage
Republic of Ireland	National Parks & Wildlife Service

A *survey licence <u>is</u> required:* for any survey work using techniques likely to disturb natterjack toads at any site where there is a reasonable likelihood that they are present. *e.g.* terrestrial searches or netting.

A *survey licence is <u>not</u> required*: for non-intrusive surveying such as listening for the natterjack toad's distinctive call, or for spawn string counts.

In the event that a natterjack toad is encountered *e.g.* when conducting a spawn string count, an unlicensed surveyor must cease survey work, unless they are in the presence of a surveyor with an appropriate licence.

It is the role of the appropriate licensing authority to define the criteria for issuing such licences as may be required for survey work, therefore, attainment of the skills set out is no guarantee that a licence will be obtained; other criteria will need to be considered.

4. Knowledge, Skills and Experience

To independently and competently undertake survey of natterjack toads an individual would be expected to possess all of the following knowledge, skills and experience.

A surveyor needs to recognise their level of attainment along a continuum. Those without the breadth and depth of the knowledge, skills and experience that CIEEM consider a minimum, should always work with, or seek advice from, an adequately experienced individual.

Knowledge

Individuals should have a knowledge and understanding of:

a. conservation status;
b. distribution;
c. threats to populations, species range and species survival;
d. natterjack toad ecology, breeding biology and behaviour;
e. known ecological requirements (*e.g.* ponds and terrestrial habitats);
f. legal protection;
g. licensing and permissions;
h. appropriate survey seasons;
i. current relevant guidance on survey methods and standards;
j. survey methods used to survey for natterjack toads (*e.g.* catching and handling and indirect methods such as spawn counts, tadpole and metamorph estimation, terrestrial searches, call identification and torchlight survey) and the strengths, weaknesses and limitations of these methods;
k. range of factors that might lead to bias in the survey results, and false negatives;
l. factors affecting surveying (*e.g.* temperature/weather conditions);
m. biosecurity procedures and disease transmission risks, in particular chytrid fungus;
n. sources of information on known occurrence and distribution of natterjack toads (including NBN Gateway, local biological/environmental records, county atlases and local contacts/Amphibian and Reptile Group(s));
o. metadata standards / data sharing; and
p. health and safety issues associated with surveying for natterjack toads.

Skills

Individuals should have skills and experience enabling them to:

a. confidently identify natterjack toads in all life stages, including adult males' breeding calls;
b. confidently distinguish natterjack toads from other native and non-native amphibian species that may be present;
c. assess habitat suitability of a site for natterjack toads;
d. scope fieldwork appropriately;
e. plan and implement sound scientific surveys;
f. select suitable temperature and weather conditions for survey;
g. carry out visual surveys;
h. make spawn or animal counts and classify population size classes;
i. interpret and analyse survey data (recognising any constraints on survey results);
j. take appropriate biosecurity precautions; and
k. take appropriate health and safety precautions.

If surveys involve netting or using refugia, individuals should also be able to:

a. survey ponds for natterjack toads (all appropriate life stages) using a net;
b. survey terrestrial habitat for natterjack toads using refugia;
b. legally and humanely handle natterjack toads; and
c. effectively record biometric data from live toads.

Practical Experience

Whilst some of the knowledge and skills set out in this guidance can effectively be gained from personal study, vocational training and structured education, applicants for natterjack toad survey licences would be expected to have gained practical experience (over a number of survey seasons) under the direct supervision of an experienced and licensed natterjack toad surveyor. Individuals planning to apply for their own natterjack survey licence should have the following specific experience:

a. performing surveys of natterjack toads across all life stages (spawn to adult), including capture and biometric measurement, in compliance with the *Natterjack Toad Conservation Handbook* (Beebee & Denton 1996); and

b. survey of at least 10 different breeding ponds, ideally at several different sites, under supervision of a natterjack toad licence-holder; and survey over at least five different occasions, spanning the breeding season April to July.

This experience should be fully recorded and documented in a portfolio which can be presented to the statutory authorities when a licence is applied for.

5. Reading

The following references are essential reading for those wishing to gain the necessary knowledge, skills and experience to survey for natterjack toads.

Beebee T and Denton J (1992) An evaluation of survey methods for studying natterjack toads (*Bufo calamita*) outside the breeding season. *Amphibia-Reptilia* **13**: 365-374.

Beebee T and Denton J (1996) *Natterjack Toad Conservation Handbook*. English Nature, Peterborough.

HCT (2009) *Natterjack Toad Species Action Plan*. The Herpetological Conservation Trust., Bournemouth.

The Herpetological Conservation Trust (undated) Natterjack Toad Survey Guidelines. The Herpetological Conservation Trust, Bournemouth.

Natural England (2011) *Standing Advice Species Sheet: Natterjack toads*. Natural England, Sheffield.

6. Acknowledgements

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