Stag Beetle
Lucanus cervus
Species Action Plan

1. Introduction
This beetle is considered Nationally Scare in Great Britain. It was selected as a priority UK BAP species and subsequently listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

2. Current Status
2.1 Ecology and habitat requirements
Stag beetles are Britain's largest terrestrial beetle: males can be up to 70mm long; females are smaller, without the characteristic male 'antlers', designed to ward off other male stag beetles. Both sexes have a shiny black head and thorax and their wing cases are chestnut brown. The larvae spend between three and a half and five years as white grubs underground in the decaying roots and stumps of deciduous trees before emerging as fully-grown adult insects. The majority of adults live for only a few weeks in the summer in order to mate, although a few may survive the winter until the following year. Males are most likely to be seen in flight on warm summer evenings between May and August while they look for a mate.

Habitats used by the stag beetle include urban areas such as parks, allotments and gardens and old landscapes with networks of hedgerows, as well as broadleaved woodland and pasture woodland. Stag beetles seem to use many types of wood; they have been reported on *Quercus* sp. oak, *Fraxinus excelsior* ash and *Fagus sylvatica* beech and also fruit trees including *Pyrus* sp. pear, *Malus* sp. apple and *Prunus* sp. cherry. They prefer the warmer areas of Britain, and light soils into which they can dig and move about more easily, and they sometimes follow river courses where old oaks often survive.

2.2 Population and distribution
The stag beetle is still widespread in southern England, especially the Thames valley, north Essex, south Hampshire and West Sussex. It also occurs fairly frequently in parts of the Severn valley and coastal areas of the south-west.

Worcestershire is close to the northern edge of the stag beetle's present British range. The only extant, confirmed population in Worcestershire is now centered in and around Upton-upon-Severn (figure 1) where suitable quantities of decaying wood, especially tree stumps, can be found.

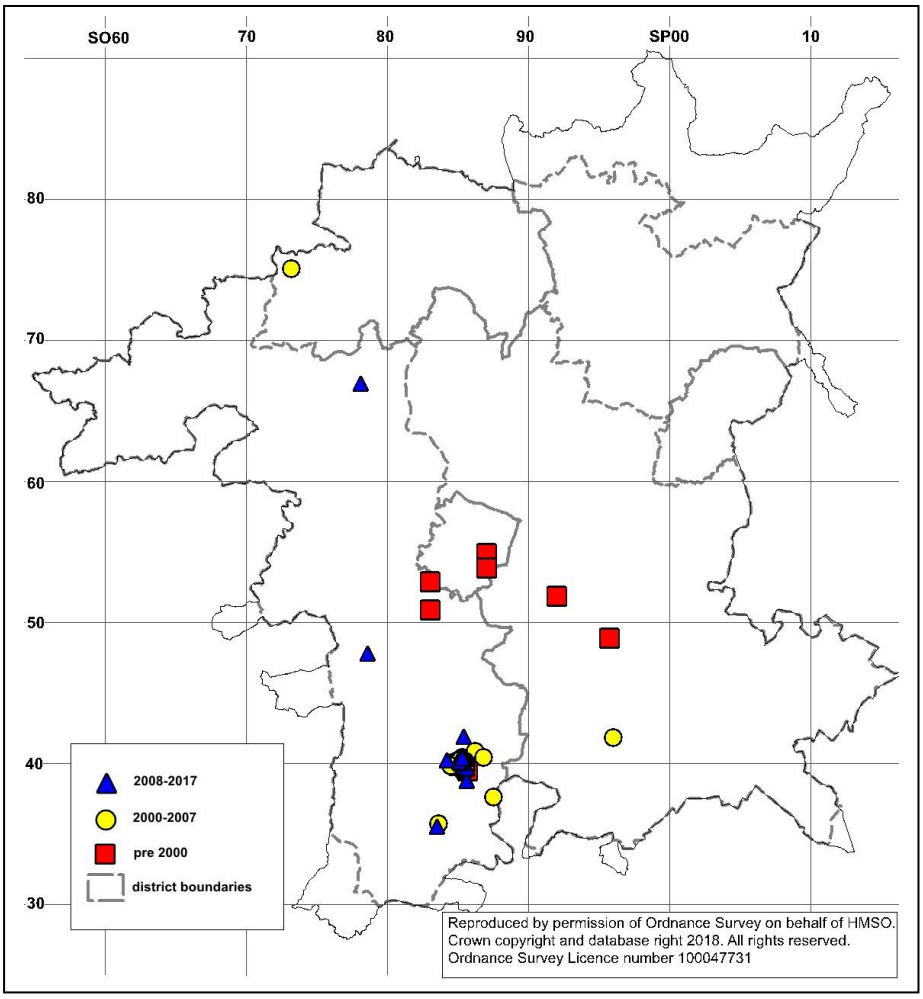

Figure 1. Records of stag beetle in Worcestershire. Data supplied and map prepared by Worcestershire Biological Records Centre.

2.3 Legislation

The stag beetle is protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is listed on Annex II of the EC Habitats Directive and under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

2.4 Summary of important sites

Upton-upon-Severn area

The stag beetle is known from relatively few areas in Worcestershire with the bulk of the rather small population centred on Upton-upon-Severn. It appears that the beetles there are using a limited number of town centre trees (and long-dead tree stumps) for breeding, with at least 5 larval sites known from survey information gathered in 2000 and 2001. Some of the larval sites are in remnant hedges scattered through the town although there are notable isolated 'veteran' trees / stumps that appear to be very important. Nearby villages also hold beetles though the exact larval sites have not yet been discovered.

Worcester

There are historic stag beetle records from Worcester Woods Country Park and unconfirmed sightings from elsewhere in the city.

3. Current factors affecting the species

- **Removal of deadwood**
  This is the main threat as dead wood (in a variety of forms) provides the larval habitat, without which the population cannot survive. The beetles are especially associated with tree stumps or the bases and root systems of old, partially decayed trees and hedges. A more significant long-term threat is therefore likely to be the lack of suitable trees / hedges to take the place of the existing stock of large rotting timber.

- **Treatment of deadwood**
  Chemically treated stumps may interfere with normal decay patterns. Larvae can also be found associated with untreated decaying fence posts and structural timber.

- **Accidental or deliberate killing of beetles**
  Stag beetles may be killed accidentally or deliberately on roads or underfoot and although this is not yet proven to impact significantly on populations there is anecdotal evidence that it may be a particular problem near larval sites in Upton-upon-Severn.

- **Edge of range effects**
  Worcestershire is on the edge of the stag beetle's range and the impact this has on the local population is not fully understood. It is possible that climatic effects (especially summer daytime temperature) limit the areas of the county that are suitable for use by the beetle, rendering sites that would be otherwise adequate unusable.

4. Current Action

4.1 Local protection

Stag beetle host-trees can be the subject of Tree Preservation Orders. A TPO does not prevent the removal of deadwood on trees, but could be used to make the tree owner aware of the Wildlife and Countryside Act 1981 protection.

4.2 Site management and programmes of action

The People's Trust for Endangered Species (PTES) can provide information and advice on stag beetle conservation, habitat management and details of current surveys.

The PTES website includes further information on Stag Beetle Friendly Gardening and provides information for the public on managing stag beetle habitat in gardens and green spaces, encouraging the retention and creation of deadwood habitats. Advice leaflets were distributed with the Great Stag Hunt questionnaire (see below).

Worcestershire Wildlife Trust carries out periodic public awareness-raising campaigns to coincide with national publicity for the Great Stag Hunt.

4.3 Survey, research and monitoring

PTES launched 'The Great Stag Hunt' in 1998 to accurately map the current national distribution of the beetle. Over 100,000 leaflets about the species and its conservation needs were distributed and approx. 10,000 records were sent in from the general public. In Worcestershire 'The Great Stag Beetle Hunt' was coordinated by Worcestershire Wildlife Trust on behalf of PTES. Where possible, attempts were made to confirm records and discover suitable habitat. Further surveys under the 'Great Stag Hunt' banner were carried out by PTES in 2002 and 2006. Records can be submitted at any time online at https://ptes.org/get-involved/surveys/garden/great-stag-hunt/stag-hunt-survey/.

Worcestershire Wildlife Trust carried out two additional major leaflet surveys in 2000 and 2001 centered on the Upton-upon-Severn area.

5. Associated Plans

Ancient and Veteran Trees, Hedgerows, Urban.

6. Conservation Aim

Our evidence base has been extended and the amount of dead wood habitat available to the species has been increased within and around the core population area.

7. Conservation Objectives

- Carry out a public PR campaign at least every 5 years to maintain levels of awareness and generate new/repeat records
- Promote best practice management via PTES guidance notes and local examples
- Ensure the South Worcestershire Development Plan (and/or related SPDs) makes reference to the importance of Upton-upon-Severn in relation to Stag Beetles and provides guidance on necessary protocols for the preparation of development proposals
- Seek funding for a community engagement project focused on the collection of stag beetle records and habitat creation within the core population area around Upton-upon-Severn

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