

European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)

**Second Report by the United Kingdom under
Article 17
on the implementation of the Directive
from January 2001 to December 2006**

Conservation status assessment for :
S1849: *Ruscus aculeatus* - Butcher's broom

Please note that this is a section of the report. For the complete report visit <http://www.jncc.gov.uk/article17>

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S1849 *Ruscus aculeatus* Butcher's-broom

Audit trail compiled and edited by JNCC and the Plant Conservation Working Group

This document is an audit of the data and judgements on conservation status in the UK's report on the implementation of the Habitats Directive (January 2001 to December 2006) for this species. Superscript numbers accompanying the headings below, cross-reference to headings in the corresponding Annex B reporting form. This supporting information should be read in conjunction with the UK approach for species (see 'Assessing Conservation Status: UK Approach').

1. Range Information^{2.3}

As a native plant, *Ruscus aculeatus* is restricted to southern England, south Wales and the Isles of Scilly. However, it is frequently planted throughout the UK, and readily spreads by seed and becomes naturalised.

1.1 Surface area of range^{2.3.1}

105,374km²

The above estimate was calculated within Alpha Hull software, using extent of occurrence as a proxy measure for range (as shown in Map 1.1 below). The value of alpha was set at 20 km to reflect the dispersal capacity of this species. The alpha hull (range outline) was clipped to include terrestrial areas only.

The distinction between native plants, garden escapes and plantings is becoming increasingly blurred. This is further complicated by the fact that much planting occurs within the known 'native range'. Because of these problems, the calculated values are based on all records (although commentary is provided on the native sites when considering population trends).

1.2 Date of range determination^{2.3.2}

1987 – 1999

The range estimate was calculated using records from the most recent recording date class in Preston *et al.* (2002). Records from this time period provide the best representation of current range as it is understood by species specialists.

1.3 Quality of range data^{2.3.3}

Good

Preston *et al.* (2002) provides an accurate representation of these widespread species.

1.4 Range trend^{2.3.4} & Range trend magnitude^{2.3.5}

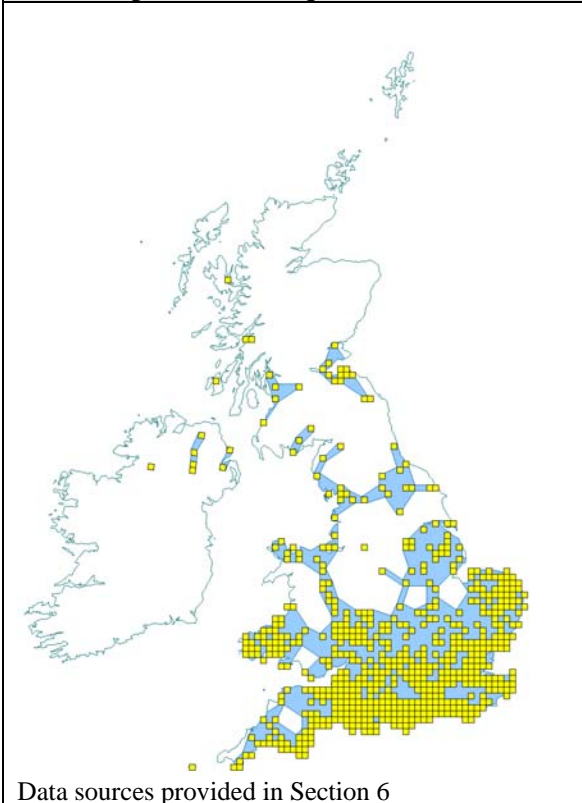
Increasing

Based on the information available, it is not possible to quantify trends since the Habitats Directive came into force in 1994. However, expert opinion is that *R. aculeatus* is continuing to increase in range due to garden escapes.

1.5 Range trend period^{2.3.6}

1994 – 2006

Map 1.1. Current extent of occurrence
and occupied 10-km squares (1987-1999)



1.6 Reasons for reported trend in range^{2.3.7}

3. Direct human influence (restoration, deterioration, destruction)

The increase is most probably a direct result of garden plantings.

1.7 Favourable Reference Range^{2.7.1}

26,322km² (Current is larger than the favourable reference range)

The decision tree in Note 1 has been used as a guide in determining the favourable reference range estimate (see 'Assessing Conservation Status: UK Approach').

The current trend is increasing, this is not due to conservation care, and the current range is not restricted. Therefore, the favourable reference range has been set as equal to the presumed native range present in 1987-1999. This date class covers the period when the Directive came into force. There is no reason to believe that this range is not viable in the long-term.

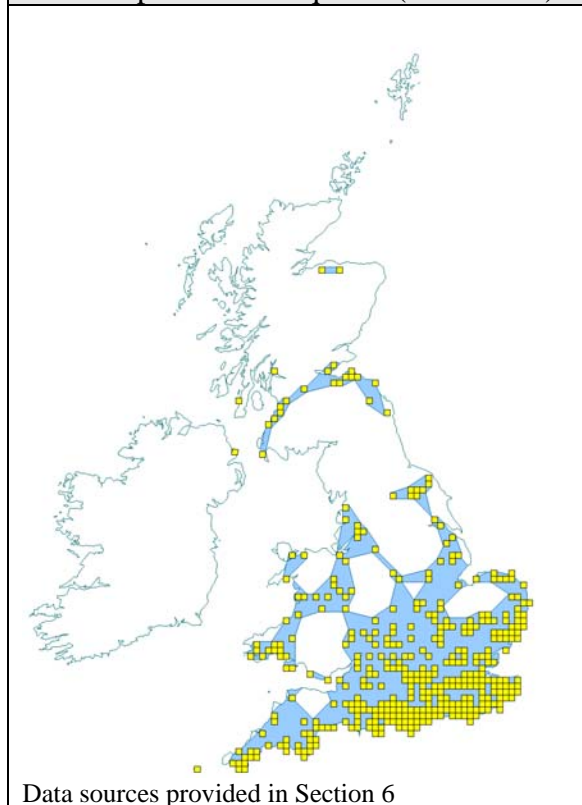
Map 1.2 shows the historic extent of occurrence (1930-1969), calculated at 93,301 km² (using Alpha Hull software with an alpha value of 21.4 km). A comparison of this, and the current extent of occurrence (105,374 km²), suggests an increase of 13% over this period. The median points of the records for the two date classes 1930-69 and 1987-99 are approximately 40 years apart. This evidence of increase is used as contextual evidence that the range is increasing and continues to do so.

1.8 Range Conclusion^{2.8}

Favourable

The range is currently increasing and is considerably larger than the favourable reference range. Therefore, in accordance with Annex C, the range is reported as Favourable.

Map 1.2. Historic extent of occurrence and occupied 10-km squares (1930-1969)



2. Population of the species^{2.4}

2.1 Population estimate^{2.4.1}

622 occupied 10-km squares

Information on population sizes for *R. aculeatus* is limited, as would be expected for a widespread plant. The best proxy measure for population size is the number of occupied 10-km squares. Therefore, the current 'population' is 622 10-km squares.

2.2 Date of population estimate^{2.4.2}

1987 – 1999

The estimation above is based upon records held from 1987-1999 (the most recent date class in Preston *et al.* (2002)).

2.3 Method of population estimate^{2.4.3}

3 = from comprehensive inventory

Preston *et al.* (2002) represents a complete inventory survey of 10-km squares.

2.4 Quality of population data^{2.4.4}

Moderate

Although the surrogate measure of 10-km squares is useful where more detailed population data is lacking, it is essentially a coarse measure of distribution; it does not offer a true insight into populations at a local level. Data quality is therefore reported as moderate, rather than good.

2.5 Population trend^{2.4.5} & Population trend magnitude^{2.4.6}

Increasing

It is believed that the distribution continues to increase due to garden escapes.

2.6 Population trend period^{2.4.7}

1994 – 2006

2.7 Reasons for reported trend in population^{2.4.8}

3. Direct human influence (restoration, deterioration, destruction)

The increase is a direct result of garden plantings.

2.8 Justification of % thresholds for trends^{2.4.9}

Not applicable

2.9 Main pressures^{2.4.10}

None

2.10 Threats^{2.4.11}

None

2.11 Favourable Reference Population^{2.7.2}

206 occupied 10-km squares (Current is larger than the favourable reference population)

The decision tree in Note 1 has been used as a guide in determining the favourable reference population estimate (see ‘Assessing Conservation Status: UK Approach’).

The favourable reference population has been set as equal to the presumed native population present in 1987-1999. This date class covers the period when the Habitats Directive came into force. There is no reason to believe that this population level is not viable in the long-term.

Applying the same trend period to population as range, the number of 10-km squares occupied historically (1930-1969) was 400. This suggests a 56% increase. The number of supposed ‘native’ squares has increased from 185 to 206 over this period, an increase of 11%. This information is used as contextual to indicate that there has been, and potentially continues to be, increases in population.

2.12 Population Conclusion^{2.8}

Favourable

The current population is considerably larger than the favourable reference population, and there is no evidence for any deviation from a normal life cycle. Therefore the population is reported as Favourable.

3. Habitat for the species in the Biogeographic region or sea^{2.5}

Preston *et al.* (2002) describes this species as: “A dioecious, evergreen, rhizomatous shrub, found as a native in dry woods and hedgerows, and on cliffs and rocky ground near the sea. It is also naturalised in similar situations, and in churchyards and near habitation. It reproduces vegetatively by creeping rhizomes, and by seed, which may be bird-sown. Lowland.”

3.1 Surface area of habitat^{2.5.2}

Unknown

3.2 Date of estimation^{2.5.3}

Not applicable

3.3 Quality of data on habitat area^{2.5.4}

Poor

3.4 Habitat trend^{2.5.5}

Stable

Historically, woodlands and hedgerows have been lost and fragmented as a result of clearance for development and intensified agriculture. However, the ability for this species to exploit a much wider range of habitats means that, overall, the amount of habitat available to this species has probably remained stable.

3.5 Habitat trend period^{2.5.6}

1994 – 2006

Reported for the same period as range and population.

3.6 Reasons for reported trend in habitat^{2.5.7}

Not applicable

3.7 Suitable habitat for the species (in km²)^{2.7.3}

Unknown

3.8 Habitat conclusion^{2.8}

Favourable

The area of habitat is clearly currently sufficiently large to support a favourable range and population. The quality of some of the native habitats (such as woodland) might be considered to be at risk given the CSM results, however *R. aculeatus* is so unexacting, that it seems unlikely that the quality is unsuitable for the species. Therefore the habitat is being reported as Favourable.

4. Future Prospects^{2.6}

Good prospects

With planting of this species continuing, and no or very low collection risk, prospects are good.

4.1 Future prospects conclusion^{2.8}

Favourable

No pressures or threats to the species were identified, and there is no reason to believe that the species will not remain viable in the long term.

5. Overall Conclusion ^{2.8}

Favourable

All of the parameters have been reported as Favourable, and hence this is the overall conclusion.

Table 5.1. Summary of conclusions

Parameter	Judgement	Grounds for Judgement (in accordance with Annex C)	Reliability*
Range	Favourable	Range is increasing and not smaller than the favourable reference range	1
Population	Favourable	Population(s) not lower than favourable reference population and reproduction, mortality and age structure not deviating from normal	2
Habitat	Favourable	Area of habitat is sufficiently large (and stable) and habitat quality is suitable for the long term survival of the species	3
Future Prospects	Favourable	Main pressures and threats to the species not significant; species will remain viable in the long-term	1
Overall Assessment	Favourable	All Favourable	2

*1=High, 2=Moderate, 3=Low

High – Expert opinion is that the concluding judgement accurately reflects the current situation based on a professional understanding of the species. For range, population, and habitat, quality of data used to establish the current estimate has been identified as “good”; data used to inform trends is comprehensive and up to date.

Moderate – A greater understanding of the feature, or the factors affecting it, is required before a confident concluding judgement can be made by experts. For range, population, and habitat, the current estimate and/or trend are based on recent, but incomplete or limited survey data; or alternately, a comprehensive, but outdated (pre-1994) review.

Low – Judgements, and comprising estimates, are based predominately on expert opinion.

N/A – Assessment conclusion is “unknown”, on the basis of insufficient reliable information

6. References

PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. *New Atlas of the British & Irish Flora*. Oxford University Press.

Map Data Source

Vascular Plant Database, Botanical Society of the British Isles, via the Biological Records Centre.