

## Back from the Brink – Species summary

### Broad-fruited Cornsalad

BftB project: IP03 Colour in the Margins

Project lead organisation: Plantlife

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Species name – common & scientific	Broad-fruited Cornsalad <i>Valerianella rimosa</i>
Photograph	 <p data-bbox="735 1317 1177 1346">© Cath Shellswell / Back from the Brink</p>
Taxon group	Vascular plants
Conservation status	Endangered
UK distribution	<p>In mainland Britain, most sites are located south of a line between the Wash and Severn Estuary with a concentration of sites in south-west England and a single site in Wales on the Gower Peninsula. In the New Atlas of the British Flora, Broad-fruited Cornsalad has a high negative change index of -2.55. The total number of 10 km squares (hectads) from which it was recorded before 1970 was 149, this fell to 38 hectads between 1950 and 1970 and fell again to 14 hectads between 1970 and 2006. Although a few new sites have been found in recent years (one in Norfolk and another at a coastal location in Cornwall), local extinctions continue with changes in land management, such as conversion of arable land to pasture. As with many annuals, caution must be observed in the interpretation of these figures, as this species has a history of erratic appearance. However, it is clear that there has been a serious decline of Broad-fruited Cornsalad since 1970. A review of its status in 1997 concluded that there were only four extant sites, but more recent examination of records from between 2000-2020 indicates that there</p>

	are nearly 20 populations remaining (see page 10 of the <a href="#">Portfolio</a> for more information). Further clarity should be added with the publication of the next UK Plant Atlas.
<b>Habitat associations</b>	Autumn-cultivated arable (see pages 4, 6-7 and 9 in the <a href="#">Portfolio</a> for more information).
<b>BftB work carried out:</b>	
<b>Survey &amp; Monitoring</b>	Population count/survey of natural and reintroduced populations (see pages 5, 8, 11-12 and 18-21 of the <a href="#">Portfolio</a> for a brief description, a 'how to' case study and results from monitoring case studies and survey form).
<b>Sites habitat management works</b>	There have been two interventions for this species: <ul style="list-style-type: none"> <li>• Farm management advice provided at extant locations (see pages 12-15 of the Portfolio for information on management and two case studies).</li> <li>• Reintroductions undertaken to create a model for undertaking this type of activity (see pages 13, 16-17 in the Portfolio for information about how to reintroduce this species and one case study).</li> </ul>
<b>Conservation 'interventions' incl. reintroductions &amp; translocations</b>	Four reintroductions undertaken in: Cornwall (1 site), Devon (2 sites) and Somerset (1 site). However, in the year following reintroduction only one site had plants in double figures.
<b>Technical advice provision</b>	Tailored reports on survey results and management advice sent to landowners. Production and dissemination of species ecology and conservation portfolio.
<b>Links made with other taxa / conservation work?</b>	Annual Knawel and other arable farmland flora; Sausage Beard-moss; Skylark; Cirl Bunting; Yellowhammer.
<b>Wider engagement &amp; advocacy activities?</b>	<a href="#">Species briefing sheet</a> or <a href="#">Portfolio</a> sent to 20 farms/sites with post-2000 records, including both natural and reintroduced.
<b>BftB results obtained:</b>	
<b>Recorded Distribution (in BftB focal areas)</b>	There are approximately 18 records of 'natural' Broad-fruited Cornsalad populations in England that have been found since 2000 (Figure 1: Natural populations are those that originate from the soil seed bank and are not sown). Five of these are in the Cornwall and South Devon CitM focus area, 1 in the Mid-Somerset Hills area and 2 in the Wessex area (record data analysed as part of Natural England's Species Recovery Programme funded Mapping IAPA and S41 species by Plantlife).
<b>Recorded Abundance of species populations</b>	The population sizes of annual plants vary enormously from year-to-year, dependent on a wide range of variables. Abundance data has been recorded annually at project sites between one and four times during the project. However, without a comprehensive dataset of population counts from previous years and a thorough understanding of the variables effecting the abundance of the species it is not possible to make valid assessments of trends within this timeframe. Colour in the Margins has made progress on both these fronts by providing a few years of population counts and improving our understanding of the autecology of the species. Thus, we will be better able to interpret changes of abundance in the future.

<p><b>Other results documented?</b></p>	<p>The additional seed biology information (i.e. dormancy) collated by Kew MSB has been essential to gain a fuller understanding of the requirements of this species (see pages 3-4 in the <a href="#">Portfolio</a>). The information about soil nutrients and texture at extant sites, and the arable plant communities within which Broad-fruited Cornsalad grows is also new and captured in the <a href="#">Portfolio</a> (pages 6-7 and 9-10).</p>
<p><b>Species Recovery Curve progress made</b></p>	<p>Landowners that CitM worked with are trialling different management following advice developed through the project. Reintroductions have been undertaken to identify biological, management and environmental factors that need to be in place for successful translocations of Broad-fruited Cornsalad. These activities are working towards trialling of recovery solutions and therefore Broad-fruited Cornsalad is deemed to be at step 6 on the recovery curve.</p>
<p><b>Recommendations for future work:-</b></p>	<ul style="list-style-type: none"> <li>• Continued annual monitoring of reintroduction sites</li> <li>• Further soil analysis at extant sites to determine what soil types and nutrient levels are suitable for Broad-fruited Cornsalad (the information in the Portfolio is based on 6 samples taken at three sites).</li> <li>• Further vegetation community analysis (the information in the Portfolio is based on surveys at 6 populations across 3 sites).</li> <li>• Investigation of seed longevity in natural conditions within the soil seed bank.</li> <li>• Investigation of seed dormancy as much of this information is still based on Narrow-fruited Cornsalad.</li> <li>• Investigation of the effects of cultivation timing, depth and resistance to herbicides.</li> <li>• Analysis in ~10 years of the success of the reintroductions and explore factors that correlate.</li> <li>• Further reintroductions, following CitM protocols.</li> </ul>

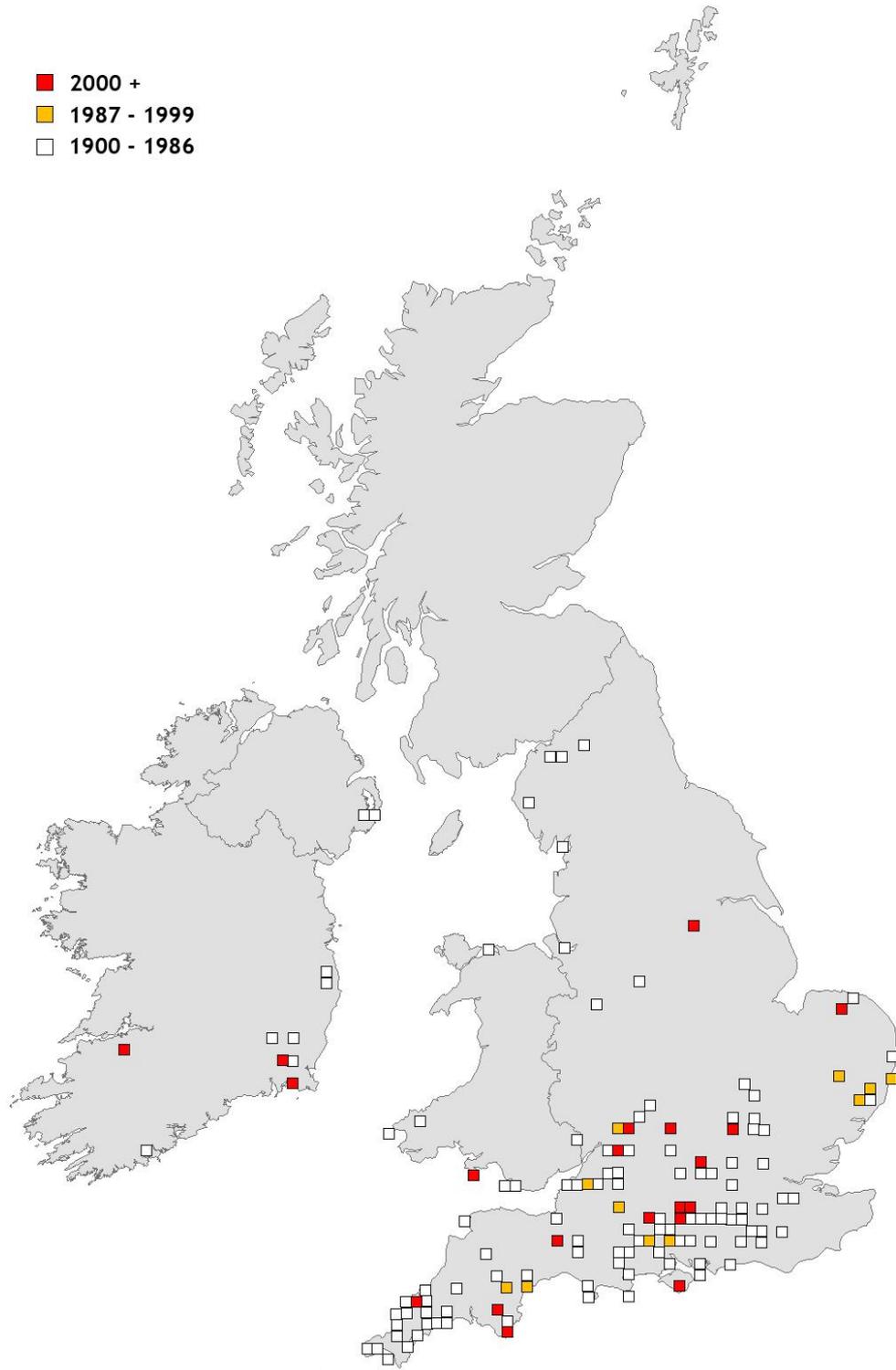


Figure 1: Broad-fruited Cornsalad *Valerianella rimosa* distribution across Britain and Ireland. The data used to create this map has been provided under licence from the Botanical Society of Britain and Ireland (BSBI) and accessed from the Society's online database in 2020.