

# Back from the Brink – Species summary

## Pasqueflower

**BftB project:** IPO4 Limestone’s Living Legacies

**Project lead organisation:** Butterfly Conservation

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**Partner organisation for species:** Plantlife

Species name – common & scientific	<p style="text-align: center;"><b>Pasqueflower</b> <i>Pulsatilla vulgaris</i></p>
Photograph	 <p style="text-align: center;">© Ben Andrew – Back from the Brink</p>
Taxon group	Buttercup (Ranunculaceae) family
Conservation status	<p>Section 41 of the Natural Environment and Rural Communities Act 2006</p> <p><b>Vulnerable.</b> Great Britain Vascular Plant Red Data List (BSBI 2005) and the England Vascular Plant Red Data List as the more southern populations are in decline.</p>
UK distribution	Populations are found in the Cotswolds, Chilterns, East Anglia and Lincolnshire. The largest population is in Hertfordshire with up to 100,000 plants.
Habitat associations	<p>Pasqueflower is a species of short calcareous grassland, and is associated with open downland and small borrow pits in the Cotswolds. It is an early flowering plant in March-May, depending on the year, and favours grassland with a southern aspect often on the thinnest soils where there might be brashy oolite scattered across the surface.</p> <p>The main cause of decline historically for pasqueflower is agricultural intensification,</p>

	including re-seeding grasslands, fertiliser, and herbicide applications and intensive grazing. More recently, lack of management, particularly the decline and cessation of mixed grazing, has affected pasqueflower populations with numbers declining in grasslands with rank swards. Seed is unlikely to remain viable for more than a year, making recolonisation of lost populations from the soil seed bank unlikely.
<b>BftB work carried out:</b>	
<b>Survey &amp; Monitoring</b>	Counts of flowering plants were carried out between late April to May during peak flowering time at three privately owned sites known to have large populations in 2019 and 2021, plus the small population at Rodborough Common in 2018, 2019 and 2021.
<b>Sites habitat management works</b>	South facing slopes where Pasqueflower found had become under grazed so the introduction of new paddock grazing system at Rodborough Common in 2018 to benefit a range of species has also benefited Pasqueflower.
<b>Conservation 'interventions' incl. reintroductions &amp; translocations</b>	Seed collection with Kew Garden's Millennium Seed Bank (MSB). Over 6,000 seeds collected from one privately owned site and now stored at the MSB. 50% are available for future sowing in the Cotswolds.
<b>Technical advice provision</b>	<p>Site advice visit to Rodborough Common with Andy Byfield from Plantlife to advise on management for Pasqueflower, followed up by email advice. Printed advice material also given to National Trust re Plantlife's advice on grazing for Pasqueflower.</p> <p>Site advice visit to one of the privately owned sites to advise on management for Pasqueflower. Printed factsheets provided.</p> <p>A new Pasqueflower <a href="#">factsheet</a> was also produced with Plantlife.</p>
<b>Links made with other taxa / conservation work?</b>	<p>Pasqueflower has benefitted from targeted paddock grazing primarily aimed at Large Blue at Rodborough Common.</p> <p>The need for bare ground and short sward also links it to Juniper, Rugged Oil Beetle and Rock-rose Pot Beetle.</p>
<b>Wider engagement &amp; advocacy activities?</b>	<ul style="list-style-type: none"> <li>• Pasqueflower Survey Workshop led by Plantlife in 2019 at one of the best-known sites. Trained volunteers in how to survey for Pasqueflowers and carried out a full survey of the site. Attended by 6 people.</li> <li>• Pasqueflower seed collection day led by Kew Garden's Millennium Seed Bank staff with Plantlife and National Trust.</li> <li>• Adopted as an emblematic, priority species for nature recovery by the Cotswold National Landscape.</li> </ul>
<b>BftB results obtained:</b>	
<b>Recorded Distribution (in BftB focal areas)</b>	Post-2000 records of Pasqueflower are generally restricted to the northern half of the Cotswolds AONB. BftB undertook plant counts at three sites known to have large populations and the small population at Rodborough Common. At each site, the flowers have a very defined area of distribution.

<b>Recorded Abundance of species populations</b>	<p>Site 1: 2480 plants 2019</p> <p>Site 2: 277 plants counted 2019, 841 plants counted 2021</p> <p>Site 3: 177 plants counted 2019, 234 plants counted 2021</p> <p>Rodborough Common: 7 plants counted 2018, 0 plants counted 2019, 11 plants counted 2021</p>
<b>Other results documented?</b>	<p>Data of maximum flower counts for the last 13 years generously supplied by a private landowner at a site near Coberley, corroborate observations made by another landowner of fluctuations in the number of flowers produced from year to year, the duration and peak of flowering.</p>
<b>Species Recovery Curve progress made</b>	<p>Species recovery curve score moved from 1 to 7: New grazing regimes adopted at Site 2 (initiated by the private landowner following advice from Conservation Officer) and at Rodborough Common. Very positive results already being seen at Site 2 and a possible slow increase starting at Rodborough Common.</p> <p>The information learnt from the Limestone Living Legacies project needs to be disseminated to other sites with Pasqueflower in the UK where this species is struggling. However, there are also a number of sites where the species is very healthy and the management around this could also be investigated to increase our understanding of management at extant sites.</p>
<b>Recommendations for future work:-</b>	<ul style="list-style-type: none"> <li>• Plantlife's recommended management for Pasqueflowers involves maintaining a short sward with mixed livestock which are removed for the flowering period, or very extensive grazing followed by heavier grazing from late summer through the autumn. (For further detail see Pasqueflower management advice from Andy Byfield – pdf document).</li> <li>• Continue annual monitoring to assess the populations at the three sites with large populations of Pasqueflowers.</li> <li>• Continue annual monitoring of the small population at Rodborough Common to determine if paddock grazing helps the plant to spread. Potential to bring back some of the seed collected (now stored at the MSB) and carry out an introduction here if required.</li> <li>• Research into the relationship between climate and flowering effort.</li> <li>• Studies on the genetics and age of plants to assess vulnerability.</li> <li>• Transplanting rootstock from fresh seeds grown in cultivation.</li> </ul>