

Back from the Brink – Species summary

Large Blue Butterfly

BftB project: IPO4 Limestone's Living Legacies

Project lead organisation: Butterfly Conservation

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<p>Species name – common & scientific</p>	<p>Large Blue Butterfly <i>Phengaris arion</i> (formerly <i>Maculinea arion</i>)</p>
<p>Photograph</p>	 <p>© Keith Warmington / Back from the Brink</p>
<p>Taxon group</p>	<p>Lepidoptera</p>
<p>Conservation status</p>	<ul style="list-style-type: none"> • Endangered (IUCN) • Section 41 species of principal importance under the NERC Act in England • UK BAP: Priority Species • Butterfly Conservation priority: High • Fully protected In Great Britain under Section 9 of the Wildlife and Countryside Act (1981). • European status: Endangered • EU Habitats Directive Annex IV: animal and plant species of community interest in need of strict protection. • Bern Convention Annex II: strictly protected fauna species
<p>UK distribution</p>	<p>Declared extinct in the UK in 1979, populations are being introduced to selected sites in the south-west.</p>
<p>Habitat associations</p>	<p>Warm and well-drained unimproved grassland, predominantly acidic coastal grassland, or limestone grassland. It also used to occur on calcareous clay soils, probably on dry outcrops or mounds. Short swards are needed to promote warm microclimates for the correct species of host ant but retaining some sheltered scrub areas is also important for roosting adults.</p>

BftB work carried out:	
Survey & Monitoring	Preliminary work using specialist habitat suitability and ant surveys to scope introduction sites. The introduction of larvae followed up by volunteer counts of adults and specialist counts of eggs on Thyme plants (from which the size of the adult population can be extrapolated).
Sites habitat management works	Preparation for and support of Large Blue introductions into Rodborough Common, Painswick Beacon and a third additional site. Installation of grazing infrastructure to create targeted grazing paddocks for restoration grazing. Installation of water troughs at Painswick Beacon. Temporary electric fencing moved on rotation within an August-April grazing period, subject to grazing pressure checks, the density of larval food plants and the abundance of the Red ant <i>Myrmica sabuleti</i> . Four autumn/winter seasons of targeted conservation grazing have successfully restored the shorter grass swards. In addition, scrub management, a water trough and foodplant plantings have been delivered at three other sites where the butterfly has previously been introduced and habitat management to bring a proposed fourth into condition.
Conservation 'interventions' incl. reintroductions & translocations	See section 3. Large Blue butterfly caterpillars taken as eggs from donor sites in Somerset and Gloucestershire were reared in captivity and introduced to Painswick Beacon, Rodborough Common and a third new site.
Technical advice provision	On-going expert advice on maintaining optimum sward heights to the Painswick Beacon Conservation Group, the National Trust and the Rodborough Common graziers.
Links made with other taxa / conservation work?	Large Blue is an umbrella species for skeletal soil animal and plant assemblages: Juniper, Purple Milk-vetch, Basil Thyme, and heterogeneous habitat integration with species needing longer swards: Duke of Burgundy, Rugged Oil Beetle, Fly Orchid.
Wider engagement & advocacy activities?	The Large Blue butterfly was mentioned in all general project talks and in several talks specifically on the Large Blue and other major successes of the project. The National Trust and BftB released a joint press release on the success of the Rodborough Common introduction in 2020 that gained national and international coverage, winning the Gloucestershire CPRE award, with a plaque to be awarded in a ceremony in November 2021.
BftB results obtained:	
Recorded Distribution (in BftB focal areas)	Sensitive information See Figure 1 of internal version for complete list of introduction sites.
Recorded Abundance of species populations	Specialist egg count surveys are used to estimate population size. Volunteer monitoring transects and peak counts of adult June emergence on introduction sites. Grazing pressure monitoring.
Other results documented?	Botanical survey of 21 quadrats on Rodborough Common to evidence wider benefits of the paddock grazing. Report available.

<p>Species Recovery Curve progress made</p>	<p>Species recovery curve score moved from 6 to 8: Large Blue reintroduced to three new sites instead of just one originally planned with positive early results at each. A further introduction was done at a fourth site where the Large Blue had been reintroduced previously. These reintroductions have increased the distribution and abundance of this species in the Cotswolds. Two other sites appear to have been naturally colonised however further surveys are required to confirm this.</p>
<p>Recommendations for future work:-</p>	<p>The National Trust recommend that the advisory role of Habitat Designs Ltd is retained at least for the next few years to continue to deliver two grazing review visits per year in the spring and autumn to advise the Commoners and the National Trust's grazing field officer.</p> <p>Changes in annual grass growth can be dramatic in response to increasingly variable weather. Annual paddock fencing costs are likely to vary year to year.</p> <p>One output of the bi-annual review will be an updated advisory grazing rota like that produced by Habitat Designs Ltd for the Rodborough graziers Countryside Stewardship agreement. The National Trust's Area Officer will then be able to use bespoke grazing recommendations to determine the duration of each seasonal paddock graze. Regular observations of the impact of the paddock grazing should be carried out to determine when the livestock should be moved on as well as keeping records on what grazing occurred.</p>