

# Back from the Brink – Species summary

## Marsh Fritillary

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

**Project lead organisation:** Butterfly Conservation

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<b>Species name – common &amp; scientific</b>	<p style="text-align: center;"><b>Marsh Fritillary</b> <i>Euphydryas aurinia</i></p>
<b>Photograph</b>	 <p style="text-align: center;">© Iain H Leach / Back from the Brink</p>
<b>Taxon group</b>	<p style="text-align: center;">Lepidoptera</p>
<b>Conservation status</b>	<p>Butterfly Conservation priority: High Section 41 species of principal importance under the NERC Act in England Listed on Section 7 of the Environment (Wales) Act 2016 Northern Ireland Priority Species Scottish Biodiversity List UK BAP: Priority Species European status: Vulnerable Fully protected under the 1981 Wildlife and Countryside Act Fully protected under the 1985 Northern Ireland Wildlife Order Fully protected under European Habitats and Species Directive (Annexe II)</p>
<b>UK distribution</b>	<p>The Marsh Fritillary was once widespread in Britain and Ireland but has declined severely over the twentieth century. Marsh Fritillary populations are highly volatile, experiencing large fluctuations in population size, making it prone to local extinction in poor years, whilst new sites can be colonised in ‘good’ years with high dispersal. The species requires extensive habitats or habitat networks for its long-term</p>

	<p>survival. Massively declined and now restricted to the west coast of Scotland, south and west Wales, Northern Ireland and south-west and central southern England. See Recorded Distribution (in BftB focal areas) section for details on Cotswold distribution.</p>
<b>Habitat associations</b>	<p>There are three main habitat types: damp grasslands dominated by tussock forming grasses, chalk grasslands (usually on the west or south-facing slopes in England) and shorter coastal grasslands (in Wales, Scotland, and Northern Ireland). Temporary colonies may also exist in large (&gt;1 ha) woodland clearings and in other grasslands.</p>
<b>BftB work carried out:</b>	
<b>Survey &amp; Monitoring</b>	<p>Surveys for the larval webs of the gregarious larvae at the butterfly's core site at Strawberry Banks and known satellite site. Webs can be counted to assess population status in August as early instar larvae, and again in early spring, when they emerge from winter dormancy to bask. Adult counts are carried out on a UK Butterfly Monitoring Scheme survey transect in May &amp; June.</p> <p>Larval web counts and adult timed counts have been carried out at both Strawberry Banks and the satellite site in the following years:</p> <p>Strawberry Banks larval web counts: August 2018, Feb and August 2019 and Feb and August 2020  Satellite site larval web counts: March 2020 and March 2021  Strawberry Banks adult timed counts: 2018, 2019, 2021  Satellite site adult timed counts: 2018, 2019, 2021</p>
<b>Sites habitat management works</b>	<p>The objective has been to restore the condition and increase the extent of good quality breeding habitat at the satellite site, near to the core butterfly site, thus increasing the resilience of the population in this landscape.</p> <p>Tall sward and ruderal plant species have been mown/brush-cut and the area fenced off ready for livestock introduction (also Covid-delayed) by volunteers. An early trial graze using ponies was unsuccessful so changing to a cattle graze has necessitated some extra fencing.</p> <p>Preparatory work has been undertaken to propagate Devil's-bit Scabious foodplants in a nursery for planting out at the satellite site by a contractor (due to Covid restrictions, will now take place after the project finishes in September 2021).</p>
<b>Conservation 'interventions' incl. reintroductions &amp; translocations</b>	<p>A planned trial translocation of larvae into Butterfly Conservation's Rough Bank reserve was delayed due to concerns that the larval webs may be predated by pheasants, as bird numbers from the local shoot appeared to be increasing. Good relations with the local gamekeeper have established how the shoot is run and collaborative working has been set up, including a student research project into the behaviour of pheasants on limestone grassland (see below for more details). The Marsh Fritillary working group is continuing to plan for this translocation at a future date when conditions allow.</p>
<b>Technical advice provision</b>	<p>The Marsh Fritillary working group and Butterfly Conservation have provided technical advice on a possible translocation. The project officers have given habitat management advice to the owners of the satellite site, supporting the set-up of the Countryside Stewardship agreement to finance scrub clearance, fencing work and the planting of Devil's-bit Scabious.</p>

<b>Links made with other taxa / conservation work?</b>	The grazing at Strawberry Banks, will also support Rugged Oil Beetle, Duke of Burgundy, Small Blue and Grizzled Skipper which have all been recorded on site.
<b>Wider engagement &amp; advocacy activities?</b>	Larval web survey training targeted at specific volunteers rather than opened up to the general public to avoid excessive trampling on site.
<b>BftB results obtained:</b>	
<b>Recorded Distribution (in BftB focal areas)</b>	Adult timed counts and larval web counts continued to monitor the population at the one known breeding site, Strawberry Banks. Larval web counts at the satellite site in 2020 discovered one large web - confirming breeding at this site for the first time in several years.
<b>Recorded Abundance of species populations</b>	August larval web counts at Strawberry Banks have increased year on year since 2018. 11 webs were found in 2018, 14 in 2019 and 25 in 2020 with an associated increase in the number of large and medium sized webs.
<b>Other results documented?</b>	A student project into the likelihood of pheasants preying on Marsh Fritillary larvae is being undertaken by the Royal Agricultural University (RAU) using a combination of trail cameras, monitoring quadrats and transect counts. The pilot study report from spring 2021 showed low numbers of pheasants interacting with the grassland when larval webs would be present post hibernation (assuming a translocation can go ahead). A dissertation student from the RAU will repeat the methodology to establish if the behaviour of released juvenile birds prior to the shooting season is different in August, when webs would also be visible.
<b>Species Recovery Curve progress made</b>	Species recovery curve score moved from 5 to 7: Recovery solutions have been trialled and are now being employed at current extant Marsh Fritillary sites via habitat management, including carefully managed grazing. A Gloucestershire Cotswolds Marsh Fritillary Working Group has been set up to include all stakeholders and will continue (supported by BC) after the project end.  The most promising solutions have been embedded at the second site by entering it into a new Higher Tier CS agreement to specifically manage for Marsh Fritillary, including additional habitat creation through larval food-plant plug planting and fencing to enable targeted grazing.  All the preparatory work required to carry out a translocation (initially due for Feb 2020) to a new site has been completed however this has been put on hold due to issues at the recipient site and with the donor population.
<b>Recommendations for future work:-</b>	Continue monitoring adults and webs at Strawberry Banks and the satellite site. Support landowners at the satellite site, provide habitat management advice and support with scrub volunteer work parties. Continue Marsh Fritillary working group to maintain existing occupied sites, encourage habitat improvements at potential sites, and consider a translocation into additional site/s in the future.