

Habitat and Lifecycle

Marsh Fritillary is a species of coastal grassland, moorland and damp grassland.

Adults fly from late May until the end of June. Females lay their eggs in batches of 20 to 100 on the leaves of larger specimens of the sole food plant of their caterpillars, Devil's-bit Scabious. You can recognise this plant from its distinctive purple flower heads held on long stalks in late summer.

The caterpillars live communally within a conspicuous and protective silk web which they spin themselves. They have spikes along their bodies and are brown at first but turn black in spring. You can recognise the webs in late summer or spring because they are denser than spider webs and look rather slimy on damp days, and you will often see the caterpillars on or inside the webs. You may also notice the brown remains of scabious leaves they have previously been feeding upon, dark spots of caterpillar droppings, and remains of the previous webs as they move from plant to plant.

The caterpillars hibernate over the winter inside a smaller web, deep within a grass tussock where they can even survive temporary flooding. The caterpillars emerge from hibernation in March and build new webs and bask communally in the spring sunshine, often on the outside of their web (top photo, above). They commence feeding before dispersing and pupating (making a chrysalis) on plants nearby, from which the adult butterflies emerge from late May.



Marsh Fritillary larvae © Paul Kirkland



Marsh Fritillary web

Marsh Fritillary colonies

The butterfly forms close-knit colonies on discrete patches of habitat (typically across 5-20 hectares).

Marsh Fritillary populations can fluctuate tremendously in size from year to year, often declining due to a combination of factors including parasitic wasps whose larvae feed on and kill the butterfly larvae, unfavourable site conditions, and poor weather. Individual colonies can contract down to thinly-scattered sites in lean years but can recover quickly and spread out to new sites in good years.

Life-cycle of the Marsh Fritillary

	J	F	M	A	M	J	J	A	S	O	N	D
Egg												
Caterpillar												
Pupa												
Adult												

How you can help...

Do you have Marsh Fritillary on your land?

If you have the right habitat on your land, we are happy to provide free advice on management and conduct surveys for the species and help with monitoring.

We can provide training for volunteers and land managers to undertake surveys of Marsh Fritillary caterpillar webs.



Would you like to get involved?

We need your help to survey and monitor the distribution and annual fluctuations in the butterfly's population in Scotland. This can be done through a single count of the caterpillar webs in late summer. If you would like to help, or have seen Marsh Fritillary, we would love to hear from you.

Seen a Marsh Fritillary adult or web?

Please send your sightings to us using the free iRecord Butterflies app or using the email address below. If you would like to help us with any of the above, please contact us at scotland@butterfly-conservation.org



Visit www.butterfly-conservation.org/scotland to find out more about our special surveys for Marsh Fritillary and our other work in Scotland. Scan the QR code to go straight to that page.

This leaflet was produced through Species on the Edge, a partnership programme of eight conservation organisations, funded by The National Lottery Heritage Fund. Find out more at www.speciesontheedge.co.uk



[f](https://www.facebook.com/savebutterflies) [i](https://www.instagram.com/savebutterflies) [X](https://www.tiktok.com/@savebutterflies) @savebutterflies [X](https://www.tiktok.com/@speciesedge) @speciesedge

Company limited by guarantee, registered in England (2206468) Registered Office: Manor Yard, East Lulworth, Wareham, Dorset, BH20 5QP Charity registered in England & Wales (254937) and in Scotland (SCO39268)

Designed by www.nectarcreative.com

Learn about the Marsh Fritillary





Marsh Fritillary © Iain Leach

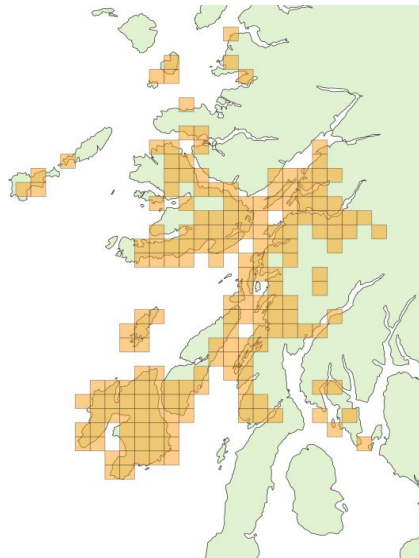
The Marsh Fritillary

The Marsh Fritillary butterfly was once widespread in Britain and Ireland but has declined severely and is now extinct across much of Britain.

Scotland still holds some of the largest and best-connected populations in Europe. Here it is restricted to coastal areas of mainland Argyll and the Inner Hebrides.

The butterfly requires damp flower-rich grassland or moorland where there is an abundance of Devil's-bit Scabious, its sole larval foodplant. The main threats to Marsh Fritillary include over- or under-grazing, and the isolation of existing colonies.

The butterfly is one of Butterfly Conservation's top conservation priorities, and is included in the Species on the Edge programme, a multi-partner conservation programme funded by The National Lottery Heritage Fund.



Managing land for the Marsh Fritillary

The long-term survival of the Marsh Fritillary is more likely if the sites are linked, enabling an exchange of adults between neighbouring colonies in a landscape.

The loss of suitable habitat can make the surviving populations more fragmented and thus more isolated and vulnerable to extinction.

The overall aim of management is to encourage a patchwork of short and tall vegetation 5-25cm long, with areas of abundant Devil's-bit Scabious, with a good supply of nectar sources in sunny, sheltered situations.

Grazing

A degree of light grazing, preferably by cattle or ponies, is essential to maintain flower-rich areas and Devil's-bit Scabious in an open sward. At most sites, extensive year-round grazing is the ideal (0.2-0.3 LU/ha/year). However, seasonal grazing at a similar stocking density over the autumn and winter can also keep sites in suitable condition.

Sheep grazing needs to be managed carefully as the habitat can become dominated by rushes rather than creating the varied vegetation heights achieved by cattle. Stocking levels need to be very low or absent during the late summer (<0.1LU/ha) as sheep selectively feed on Devil's-bit Scabious flowers and can thus reduce and even eliminate it from sites over time.

Light grazing by cattle is best for maintaining habitat



Removing scrub from Marsh Fritillary habitat



Devil's-bit Scabious

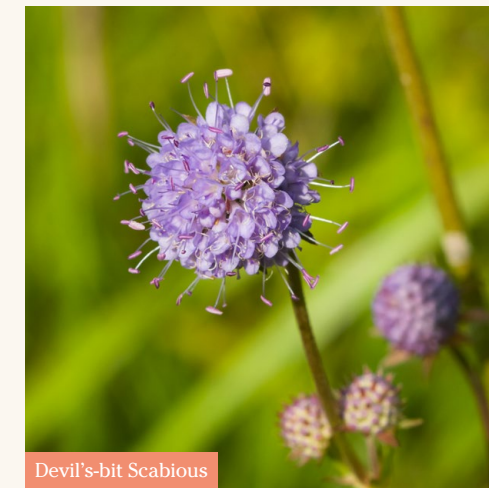
Mowing

Blanket mowing is generally unsuitable as it removes the patchwork of short and tall vegetation. However, it may be used as a restoration tool where tussocky grasses such as Purple Moor-grass or rushes have become dominant. The area should be cut in sections over several seasons but avoiding patches of suitable habitat.

Scrub cutting

Where scrub is encroaching into Marsh Fritillary habitat, removal by cutting is best done between October and the end of March.

Uncontrolled burning, drainage, agricultural improvement and cessation of grazing can all be detrimental.



Devil's-bit Scabious

Conservation status

Priority Species in UK Biodiversity Action Plan UK Red List (Vulnerable)

Fully protected under Section 9 of the Wildlife and Countryside Act (1981)

EC Habitats and Species Directive (Annexe II)

Scottish Biodiversity List species