

## Habitat Management for the Large Heath Butterfly



### Grazing

Light sheep grazing may be required on drier sites to prevent heather becoming dominant. Grazing is not needed on sites where productivity is low or on very wet sites. Careful management of stocking levels is required as overgrazing can cause a deterioration in the quality of the habitat.

### Scrub Clearance

Removal of scrub and tree saplings is necessary on raised and blanket peatland sites where drainage has occurred causing the peatland to dry. Tall heather grows on very dry sites and heather cutting may be required. Burning and the use of heavy machinery is not recommended.



### Hydrology

Where peatlands have been drained, blocking these drains is essential to raise the water table to within 10cm of the surface. There are a number of different approaches to this method of restoring the hydrology of the site including using plastic lumbar or peat.



## Threats

Climate change and human activities including afforestation, peat extraction and drainage, threaten the survival of this species. According to Ireland's Red List No. 4 Butterflies, a 30% decrease in the future population of the Large Heath butterfly is predicted, due to deteriorating quality of habitat. As a result, the Large Heath butterfly is listed as Vulnerable (VU) on the European and Irish Red List for Butterflies. Drainage of peatlands for peat extraction causes the site to become drier, altering the hydrology and making conditions suitable for the encroachment of invasive species and scrub.



## What can you do to

There are a number of ways you can help protect and conserve the Large Heath butterfly.

### Volunteer

Take part in a Large Heath monitoring survey or habitat management with the Irish Peatland Conservation Council. Contact us at [bogs@ipcc.ie](mailto:bogs@ipcc.ie) for more information.

### Adopt a species

Symbolically adopt a Large Heath butterfly to support the Irish Peatland Conservation Council in monitoring this butterfly annually and to carry out essential management works for its future survival. Visit [www.ipcc.ie](http://www.ipcc.ie).

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Irish Peatland Conservation Council Support



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# Large Heath Butterfly



The Large Heath Butterfly is a Peatland Specialist



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The Community Foundation for Ireland

# Large Heath Butterfly

The Large Heath (*Coenonympha tullia*) is a medium sized butterfly with a wingspan of 35-40mm. Both the male and female are quite similar. The upper wings are tawny with dark spots. The underwings are grey to rusty-brown with an irregular white streak and ringed eyespots on the underside of the hindwing. The number of spots vary from 1-6. One characteristic of this uncommon butterfly is its erratic flight pattern across the vegetation. Little is known about this butterfly as it is under-recorded and rarely studied in Ireland.

## Life Cycle

The flight period can vary but typically the adults are observed on the wing from early June to mid-July in Ireland, with one generation of adults produced yearly. Spherical shaped eggs are laid singly, usually on the dead leaves of Hare's-tail Cottongrass (*Eriophorum vaginatum*). From late July to September, the larvae identified with a green head, green body and a dark green dorsal line bordered by an off-white stripe, emerge and feed on the leaves of its foodplant. As the temperature begins to drop, from October, the larvae go into hibernation at the base of the vegetation and emerge again in March. In the low-lying midlands of Ireland, pupation has been recorded from mid-May to early June where the larvae develop until they form a bright green pupa measuring 11mm in length. The colour of the pupa deepens with up to 4 black streaks on the outer wing cases. Caterpillars on sites at altitude and more northerly areas may pupate later. After approximately 13-23 days, depending on the temperature, the adults emerge from the pupae. Adults are able to fly even in dull conditions if the temperature is above 14°C.

## Large Heath Monitoring

A five year scientific monitoring survey was developed by the National Biodiversity Data Centre to close the knowledge gap on this butterfly's population health and range. The monitoring involves undertaking a habitat condition assessment in early June where vegetation height and percentage cover of the foodplants, Hare's-tail Cottongrass (*Eriophorum vaginatum*), Common Cottongrass (*Eriophorum angustifolium*) and the adult nectar source Cross-leaved Heath (*Erica tetralix*) are recorded. To monitor the Large Heath butterfly population, surveys are carried out weekly from June to July.

The Large Heath is a peatland specialist and rests on vegetation with its wings closed. The adult feeds on Cross-leaved Heath.

Adult Large Heath Butterfly © Tó Corcora

The pupa is bright green at first, then becoming darker with black streaks.

Pupa © J. Harding

Large Heath larva © J. Harding

Single spherical egg © J. Harding

A single spherical egg is laid on the dead leaves of Hare's-tail Cottongrass.

Hare's-tail Cottongrass © C. C.

The larval foodplant is primarily Hare's-tail Cottongrass.

Common Cottongrass © C. C.

## Foodplant

The larva and adult of the Large Heath Butterfly feed on different food sources.

Hare's-tail Cottongrass is the main foodplant of the larvae. It is found on open acidic peatlands and cutover peatlands. It is a member of the sedge family with long slender leaves. From April to May it produces a single flower spike and from May it has a cotton-like fruiting body on a single stalk. The larvae have also been known to feed on Common Cottongrass. The adult flies low, feeding on nectar provided by Cross-leaved Heath.

## Habitat Requirements

The Large Heath is restricted to open wet and nutrient poor peatland and grassland habitats in Ireland that are below an elevation of 600m where there is an abundance of its primary larval foodplant, Hare's-tail Cottongrass. The adults breed on well developed tussocks of this foodplant.