

Calcareous Grassland

Introduction

Calcareous Grasslands occur on rocks with a high pH, normally either chalk or limestone. They are nearly always free draining and occur on thin dry soils known as rendzinas.

In Yorkshire, the chalk of the Yorkshire Wolds is at its northern limit in Britain and the most northerly outcrop in the British Isles is at Muston.

As one would expect, the main Calcareous Grassland interest in Scarborough is in the Wolds.

Our objective for Calcareous Grassland is:

To maintain and increase the resource and ensure that it is managed for favourable wildlife status.

Links to Habitat and Species Action Plans and Guidance Notes.

Priority habitats and species associated with this HAP:

Green-winged Orchid,
Specialist invertebrates
such as Marbled White
Butterfly.

Action Plans have been
prepared for those in bold.

However, there are also calcareous rocks on the northern side of the Vale of Pickering all along the foot of the North York Moors. Rather than chalk though, these are found on calcareous grits and limestones. There are also limited Calcareous Grasslands on the boulder clays that were derived from chalky rocks.

Unimproved Calcareous Grasslands are generally very species rich, indeed chalk grasslands can be some of the richest in Britain with upwards of thirty different plants in a square metre. They tend to be dominated by a short, well grazed turf of *Agrostis* and *Festuca* grasses with numerous flowering plants such as Rockrose, Salad Burnet, Lady's Bedstraw, Bird's Foot Trefoil and Thyme. Rarer plants include species such as Sawwort, Woolly Thistle, Autumn Gentian and Hairy Rockcress.

With such floristic diversity usually comes a diverse butterfly and insect fauna and nationally, chalk grasslands are renowned for their invertebrate interest. In the Scarborough area, however, invertebrate information is very limited, but there is no reason to believe the grasslands here are any different.

The rich grasslands are dependent on being very well grazed to keep

the dominance of grasses and particularly coarse grasses like Tor Grass under control.

The history of these grasslands, especially in the Wolds, is closely tied to the intense grazing that was exerted, initially by bronze age shepherds and later through the medieval period by the extensive sheep walks, often controlled by the abbeys such as Whitby.

Calcareous Grasslands are found intermixed with neutral grasslands and scrub. These neutral grasslands have usually been derived from the strong leaching effects of rainfall on the chalky soils. Hedges and woodlands tend not to be of significant interest here. Likewise wetlands are rarely found on calcareous sites. Scree and chalky cliff faces are also of significant interest where they occur in conjunction with these grasslands.

The Resource

As for all grasslands, the extent of old unimproved Calcareous Grasslands has declined dramatically especially since World War II, and only a fraction now remains. The extent of this is seen in the table overleaf.

As expected the most extensive areas are on the Wolds and are found predominantly on the sides of the dry valleys that wind their way through the landscape, or on the northern scarp slope where the Wolds drop down into the Vale of Pickering.

The Calcareous Grasslands found on the north side of the Vale of Pickering are largely confined to the edge of the North York Moors and are more limited in extent.

Similarly, there are only very small amounts of Calcareous Grasslands associated with the boulder clays of the soft coastal cliffs. These can be associated both with particularly chalky clays or some of the sand lenses that can be found within it. They are always in mosaics with neutral grassland communities.

There are some 40,000 hectares of chalk and limestone grassland in Great Britain. Nationally therefore, the Scarborough grasslands are only a small fraction of the overall total. Even on a regional basis,

Scarborough does not have a significant proportion. Ryedale for instance has an estimated 300 ha.

However, these grasslands are extremely important within Scarborough and even nationally they are still significant, with Lowland Calcareous Grassland being a priority habitat in the UK BAP.

Distribution of Calcareous Grassland in the Scarborough area.

	Wolds	Calc Grits	Coastal	Other	Total
Unimproved	20.15ha	5.53ha	8.33ha	0.98ha	34.99ha
Semi-improved	9.22ha	2.31ha	1.47ha	0ha	13.00ha
Scattered Scrub	15.90ha	2.91ha	0ha	0ha	18.81ha
SSSI	0ha	0ha	0ha	0ha	0ha
Total	45.27ha	10.75ha	9.80ha	0.98ha	66.80ha

Threats

Over the years, there has been a significant reduction in the extent of chalk and limestone grassland, primarily due to agricultural improvement and intensification. Much of this would once have been Calcareous or Neutral Grassland. Now only 70 ha remain in Scarborough.

Intensification of agriculture and, in particular the conversion of grassland to arable has isolated sites so that they become less viable both in agricultural terms and in biological terms.

In ecological terms, sites can become too small, making it more likely that rarer species will be lost. In agricultural terms sites can become too small to manage economically so that the sites are left unmanaged. Reduction in sheep grazing because of the economic climate has had a detrimental effect.

This loss of grazing permits Tor grass and scrub to encroach with an overall reduction in diversity.

Overgrazing, especially by new cattle breeds, can also affect the grasslands leading to increased erosion and weed infestations.

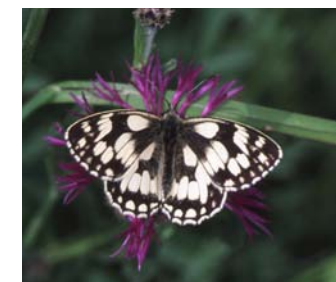
Such changes are not just a thing of the past but are occurring even now. A study of the Wolds' grasslands completed in the early 1990's indicated that some 60% of the remaining grasslands in the Wolds had been degraded in some way in the previous 10 yrs.

Potential for Enhancement

The economics of grazing chalk grassland sites is not good at the present time and incentives are certainly needed to encourage this. Countryside Stewardship Schemes have made a significant contribution to this in stemming further loses and encouraging good management. Payments are not high though. It is hoped that the forthcoming change to Environmental Stewardship will encourage landowners to manage sites effectively.

Agri-environment schemes provide the only realistic means of significantly increasing the resource.

Grassland re-creation on arable land is possible to some extent. However, it may be of greater benefit to concentrate resources on heavily grazed or semi-improved pastures or those that have had moderate scrub and Tor grass encroachment. These can often recover with correct management. These are likely to provide the best potential for increasing the value of the existing resource. Heavily scrubbed land, however, can be much more difficult to reverse and may well be of the greatest value as scrub.



Above: Marbled White Butterfly (Photograph by Whitfield Benson)
Below: Calcareous Grassland at Whitby (Photograph by Graham Megson)



What you can do to help:

Enjoy meadows without picking flowers.



Current action

Nationally a Lowland Calcareous Grassland UKBAP action plan has been produced with the aim of stopping further loss and improving the conservation status of existing sites. It has set a target of re-creating 1,000 ha of chalk and limestone grassland by 2010.

Locally, Scarborough Borough Council has been working on:

- Discussion with and advice to landowners concerning land management;
- Identification of the resource;
- Practical assistance with management through the Environmental Task Force (ETF) and Modern Apprentices (MA). These are part of the Government's New Deal Training proposals to assist young people to gain appropriate vocational qualifications; and
- Incorporation of enhancement objectives with planning applications.

Many landowners have already taken up Countryside Stewardship. This is a 10 year Scheme, which is due to be replaced by Defra's Environmental Stewardship Scheme in 2005.

English Nature is responsible for ensuring SSSIs are being managed to maintain or achieve favourable condition by 2010. To achieve this we carry out a monitoring programme and offer management agreements to site owners to carry out positive management of SSSIs. EN can also encourage SSSI owners to manage their sites to increase the area of calcareous grassland where feasible.

Common Spotted Orchid on Calcareous Grassland:
(Photograph by Graham Megson)