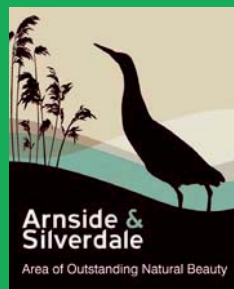


# A Guide to Warton Crag Nature Reserves



# Welcome to Warton Crag

Warton Crag is a prominent limestone hill in the Arnside and Silverdale Area of Outstanding Natural Beauty (AONB)



Use this guide to help you explore this special place, discover hidden corners and learn to recognise some of its important features and distinctive wildlife.

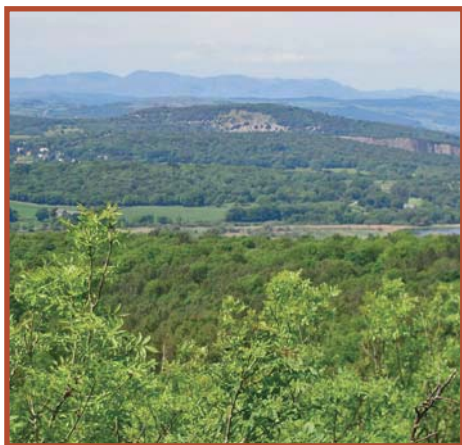
Warton Crag is managed as a nature reserve and has a network of paths for walkers. The four owners cooperate to manage the area for people and wildlife.

## In the surrounding landscape, look for...

- the River Keer estuary
- the intertidal expanse of Morecambe Bay to the south and west
- Caton Moor (with wind turbines), Clougha and Hawthornthwaite in the Forest of Bowland AONB to the south-east and Ingleborough in the Yorkshire Dales National Park to the east



River Keer Estuary



View to Arnside Knott and Lakeland Fells

- the fells of the Lake District National Park to the north from the summit



## DANGER

Please do not risk going near high quarry faces or cliffs, avoid unstable scree slopes and beware that wet rock and paths can be very slippery.



"If you're gonna go out for a walk, don't go out willy-nilly, be prepared..."

Be Safe - Plan ahead and follow the signs

Keep dogs under close control



"See, people don't realise their dogs could be a danger to wildlife."

Consider other people



"Treat the countryside as you would treat your home..."

Leave gates and property as you find them

Protect plants and animals, and take your litter home



©Aardman Animations Ltd 2004

## Did you know...?

- **Warton** is derived from Old English *weard* (watch or look-out) and *tun* (farmstead) and **crag** from Celtic *crug* (hill or mound).
- Warton Crag is a limestone hill, 163 metres high, making it the highest point in the Arnsdale and Silverdale AONB.
- Warton Crag is home to species of plants found in both Arctic and Mediterranean environments.
- Warton Crag is nationally protected as a Site of Special Scientific Interest (SSSI). Four organisations own and manage different parts of the Crag: the Royal Society for the Protection of Birds (RSPB), the Wildlife Trust for Lancashire, Lancaster City Council and Lancashire County Council.





Maidenhair spleenwort and Wall pepper



Limestone scar

# A Limestone Landscape

## Ridges, scars, screes and grasslands

The Limestone rock has been eroded to form natural cliffs and scars stepping up the hillside. Weathered and shattered rock has fallen and lies as scree at the base of the scars.

## Soils

A thin, dry lime-rich soil low in nutrients called rendzina developed on the rocky ledges and ridges above the scars and forms a rare habitat of calcareous grassland.

Only plants such as Rockrose, that are specially adapted, can grow in these drought-stressed and infertile conditions, putting down deep roots to find water and growing only small leaves to minimise water-loss. Invertebrates such as butterflies use these plants for nectar or food for their caterpillars.

### Look out for...

- nectaring insects such as this Dingy Skipper



In contrast, the limestone rock on the larger terraces is buried under deeper brown-earth soils derived from plants such as bracken. These developed on top of and alongside acid, silty material known as loess which was transported by winds and deposited in the post-glacial period.



- seed heads of wildflowers such as this Carline Thistle





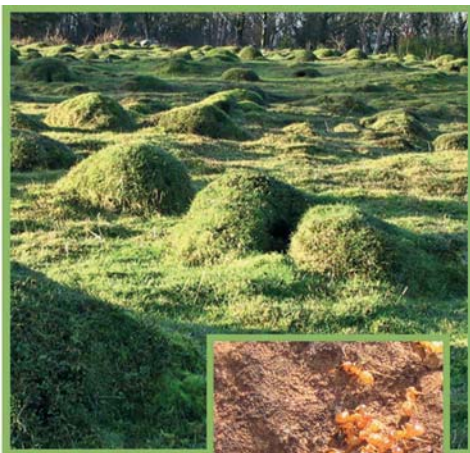
Six-spot Burnet Moth with Cinnabar Moth caterpillars on Ragwort



Hart's-tongue fern

## Look out for...

- ant-hill mounds formed by colonies of Yellow Meadow Ants, which need sunny open grasslands to survive. Notice how the taller and therefore older ones have a steep slope on the north and a long shallow slope on the south in order to gather maximum heat.
- a variety of small herbs cultivated on the ant-hills by the ants.



## Look out for...

- plants such as Heather and Wood Anemone which grow in the fine, silty acidic soil known as loess which lies among the limestone terraces.

This was carried here thousands of years ago by winds and deposited onto the Crag in post glacial times. It provides a variation in the soils that allows both lime-loving and acidic-loving plants to grow in close proximity.



Water worn limestone pavement



Barred Tooth-striped moth

# Limestone pavements

About 330million years ago during the Carboniferous period, warm seas deposited marine sediments in layers, or strata. These became compressed to form Limestone rock which has since been exposed and then eroded by ice and dissolved by rainwater to create the distinctive geological features we see today.

## Clints and Grykes

In the last Ice Age from 15,000 to 10,000 years ago, glaciers removed any overlying layers and exposed the pavement surface. Rainwater then 'sculpted' the rock to create the distinctive appearance of the pavement - deep cracks called grykes divide the limestone rock surface into blocks called clints.

In the past the removal of limestone pavement for walls, buildings and ornamental rockery stone destroyed much of this irreplaceable natural habitat but fortunately surviving limestone pavements are now protected by law and it is illegal to damage them.

## Look out for...

- shade-loving plants such as Hart's-tongue Fern, Maidenhair, Spleenwort and Polypody Fern.

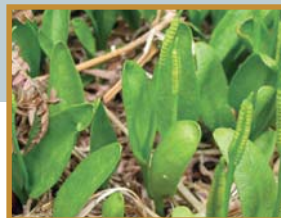


Polypody Fern



Hart's-tongue fern

The limestone grykes provide ideal conditions for ferns and mosses to grow, enabling them to survive periods of drought.



Adder's tongue fern



Erratic boulder



Green Hairstreak

## Look out for...

- stunted 'bonsai' Ash trees. Water drains so efficiently through the limestone pavement that it creates drought conditions for trees growing on them and nutrient is in short supply. As a consequence, some trees on these limestone pavements only grow a few millimetres each year.

## Glacial erratics

These are rocks and boulders that glaciers moved as the ice flowed southward, carrying material from as far away as the central Lake District.

The erratics were left in their current situations when the ice melted. The rocks are often shaped and rounded by the ice.

## Look out for...

- very large limestone boulders in isolated positions on the pavement, grasslands or in the woodland.
- smaller distinctive non-limestone rocks (known locally as Coniston blue-stone) stuck in the grykes or visible lying on the surface of clints or on scree, after they were carried here in the glacial ice thousands of years ago.



# Warton Crag Nature Reserves



## Key

- Nature Reserve Boundary
- Car Park
- Gated access
- Access squeeze
- Permissive access paths

RSPB Nature Reserve

Lancashire County Council  
Local Nature Reserve

P



Aerial photograph © Lancashire County Council





Painting of Warton sheep and Morecambe Bay  
by Daniel Alexander Williamson 1862.  
© National Museums Liverpool.



Warton village pictured in 1903

# History of Warton Crag

Evidence has been found around Warton Crag to suggest human activity as long ago as the Bronze Age (c.2500-800BC) and perhaps even Neolithic times, but the summit itself has long been thought of as an Iron Age Hillfort i.e. defensive in nature. However recent work indicates the 3 ruined "walls" are possibly part of a Bronze Age enclosure, maybe a place to meet or trade, or perhaps even for ceremonies.

## Did you know...?

- sheep have historically grazed the Crag and there was a local breed known as the Warton or Silverdale Sheep.
- charcoal was produced in a number of charcoal pits on the Crag to provide fuel for cooking.
- timber was harvested for building and domestic fuel.
- Hazel was coppiced to make hurdle fences, baskets, besoms, shepherds-crooks, fishing baulks and many other domestic products.



Coppiced Hazel



Willow basket making





Warton Crag northern slopes in 1907



Beacon Breast and scree in 1935

The Crag was virtually treeless in the first half of the 20<sup>th</sup> century with continuous removal of trees and sheep grazing, but since the 1950s, when it became uneconomic to graze the Crag, there has been a rapid and often dense spread of thorn-scrub, Birch and Ash.



2007

- bracken was cut and used for animal bedding or used in other products such as soap and pottery glaze.
- limestone rock was quarried from small 'borrow pits' and used to build the dry-stone walls under the Eighteenth Century Enclosure Act.
- limestone rock from the Crag was burned to produce lime in local lime-kilns such as the one on Crag Road.
- limestone pavement was damaged in Victorian times by stripping the water-worn surface for decorative stone.



Historic boundary wall



Coppicing





Cowslips



Brimstone

## A special place for flowers and butterflies

Warton Crag is home to a huge diversity of wildflowers, plants and shrubs, which can be seen in their full glory in Spring and Summer. Many of the special plants are valuable as food for butterflies and their caterpillars.

### Look out for...

- Blue Moor-grass in flower, Violets and Wood Anemone in April
- Cowslip and native English Bluebell in early May
- Early-purple Orchid and Adder's-tongue Fern in mid-May
- Bird's-foot Trefoil and Wild Thyme in June
- Marjoram and Horseshoe Vetch in July
- Ploughman's Spikenard in August
- Purging Buckthorn, the food plant of the Brimstone butterfly all year round
- spectacular displays of Spindle berries in autumn



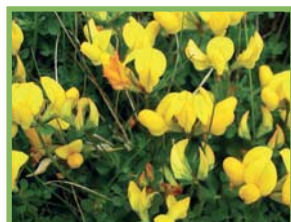
Blue Moor-grass



English Bluebell



Early-purple Orchid



Bird's-foot Trefoil



Horseshoe Vetch



Spindle berries



Wild Thyme



Small Pearl-bordered Fritillary

Warton Crag is also a very important breeding site for many species of butterflies and moths including an endangered and beautiful butterfly, the High Brown Fritillary. The habitat is managed in order to maintain ideal conditions for them.

The caterpillars of the High Brown Fritillary feed on leaves of Violets that grow in the semi-shade beneath Bracken. Small areas of Bracken are therefore cut each year to maintain an optimum number of these plants.

A survey of butterflies is carried out each week between April and October and the counts contribute to the national survey data of Butterfly Conservation.



High Brown Fritillary



Micro-moth (*Anania funebris*)

## Look out for...

- Pearl-bordered Fritillary in early May and Small Pearl-bordered Fritillary in late May and June
- Dark Green Fritillary in early July
- High Brown Fritillary in mid July, as well as dozens of other butterfly species and many moths and caterpillars.



Pearl-bordered Fritillary



Small Heath



Cinnabar moth caterpillar



Woodcock



Marsh Tit

## A special place for birds

The way Warton Crag is managed helps to create the right conditions for a huge variety of birds to nest, shelter and feed.

### Look out for...

#### Bullfinch

The male is strikingly coloured crimson pink and both male and female show white rumps when in flight. They are present all year round but watch out for them in spring, eating buds on the trees.



#### Blackcap

Listen for their short warble-song in early Spring.



#### Marsh Tit

Warton Crag is a breeding strong-hold for this otherwise infrequently seen member of the tit family. It can be identified by its large black cap and dull grey cheeks and a distinctive call that sounds a bit like a sneeze.



#### Garden Warbler

These summer visitors arrive in May and have a similar, but subtly different warbling song to Blackcap that is present from early spring.



Peregrine with chick



Cliffchaff nest and chicks



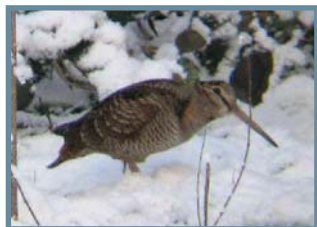
### Peregrine Falcon

These amazing birds nest in the quarry and are masters of flight, stunning prey victims such as pigeons at speeds of up to 180mph.



### Raven

These birds have deep croaking and clonking calls and can sometimes be seen somersaulting in the air.



### Woodcock

These birds lay up in wooded bracken glades during the day and if you walk quietly you may be lucky enough to see one. At dusk on a late spring or summer evening you may see them displaying over the reserve.



### Kestrel

Look for this bird hovering in the sky watching for prey of small mammals.



### Green Woodpecker

You may see these birds digging around anthills to feed on ants, or hear their 'yaffling' call.



Early purple orchid



Grazing livestock

# Management of the nature reserve

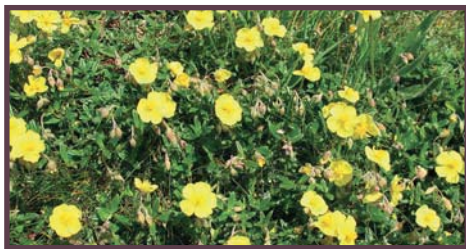
Warton Crag is managed for its special limestone habitats, plants and wildlife, under Higher Level Environmental Stewardship agreements with Natural England.

The dry stone wall boundaries date back to at least the 18<sup>th</sup> century, when landowners were required to enclose their land to contain livestock. This reflects a long history of grazing by cattle, goats and sheep. Without grazing and cutting, most of the important herb-rich and species-rich grassland would quickly become overgrown with thorn-scrub and woodland causing the loss of its wildflowers and wildlife, as well as restricting the views.

Grazing helps control the invasion of woody species and importantly removes the dead herb-layer each year, resulting in greater richness and diversity of wildflowers and herbs.

The cows you see are also organic livestock, so even the cow-dung provides a healthy habitat for many invertebrates and fungi!

Short periods of grazing by a small number of docile, but hardy, cows was reintroduced in the 1990s.



Rockrose

High Brown  
Fritillary



Common Violet



Hazel Catkins



Coppicing Hazel

In the areas of hazel scrub below the cliffs and on the terraces, traditional coppice management has been carried out since the 1980s. Each year small areas of woodland are cut back on a rotational basis.

Trees re-grow with vigour the following year providing a healthy and diverse habitat. In the most recently coppiced areas the ground flora responds quickly with a flush of colourful flowers and verdant green that many birds and creatures also take advantage of.

Compare the number of flowers you see in these areas with those on the floor under dense, un-coppiced shaded woodland.

The winter coppicing benefits breeding song-birds, especially warblers by cutting back the older scrub. The regenerating young scrub cover is favoured by nesting birds such as Whitethroat, Blackcap and Garden Warbler.

Winter grazing by the cows also helps to keep coppiced areas and woodland glades open and increase the ground flora and associated wildlife.



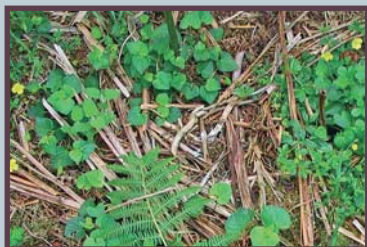
Garden Warbler



Common Blue

## Look out for...

- different stages in the coppice re-growth and see how the character of the woodland and its ground flora changes and rejuvenates under this traditional management regime.



Violet leaves under bracken



Herb Robert



Rue-leaved Saxifrage



School children enjoying the reserve

# Management of the nature reserve

Guided visits can be arranged by contacting the AONB Unit at Arnside  
(details on back page).

## Educational visits

The Crag provides a great outdoor classroom for young people to see and experience first-hand the delights of nature and special local wildlife. The young generation of today will be the people to look after the Crag in years to come!

A Teachers' Guide to Warton Crag and the Warton Crag Management Plan are both available on the AONB website.



Green Shieldbug  
and Comma butterfly



Grasshopper



A Pill-woodlouse



Treading a bracken plot



Grassland restoration work

## Volunteering

Why not get involved, help look after the Crag and learn more about the wildlife by volunteering with one of the conservation organisations?



Cutting scrub regrowth



Cutting dense thorn scrub



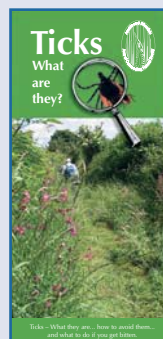
Warton Crag bracken monitoring

## Be aware

You should be aware of the possibility of picking up tiny deer-ticks in warm weather. Check for them and remove them.

For further information, a 'Tick' advisory leaflet is available from the AONB office or website.

Avoid sitting on grass, particularly in warm weather in late July and August, when harvest-mite can cause irritation. These can be washed off once home, or if irritation persists, visit your local pharmacist for further advice.





## How to get to Warton Crag

Warton Crag is easily accessible by public transport with a railway station at Carnforth and a regular bus service through Warton village.

### For information on rail services

contact National Rail Enquiries on 03457 484950 or visit their website at [www.nationalrail.co.uk](http://www.nationalrail.co.uk)

### For information on bus services

contact Traveline on 0871 200 2233 or visit their website at [www.traveline.org.uk](http://www.traveline.org.uk)



This leaflet is produced by Arnside and Silverdale AONB on behalf of Warton Crag Advisory Group with funding from the AONB, Heritage Lottery Fund, British Mountaineering Council, RSPB and the Wildlife Trust for Lancashire, Manchester and N. Merseyside.

### Arnside and Silverdale AONB,

Old Station Building, Arnside,  
Carnforth, LA5 0HG.

Tel: 01524 761034

Email: [info@arnsidesilverdaleaonb.org.uk](mailto:info@arnsidesilverdaleaonb.org.uk)

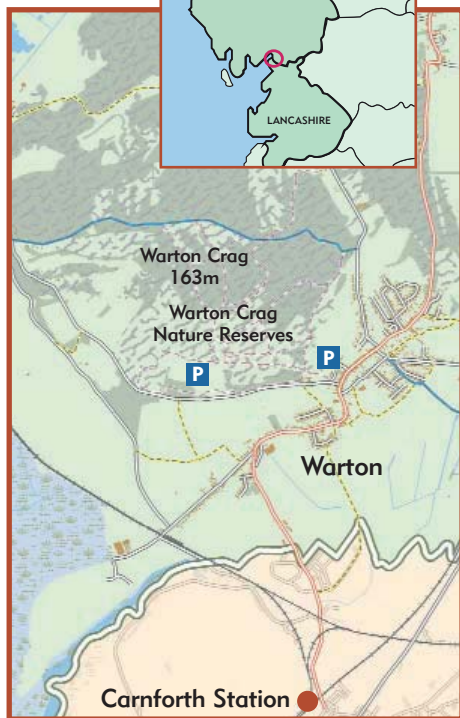
[www.arnsidesilverdaleaonb.org.uk](http://www.arnsidesilverdaleaonb.org.uk)



a million  
voices for  
nature



Heritage  
Lottery Fund



Front cover Beacon Breast, Warton Crag.

**Photo credits:** Tony Riden, David Moreton,  
Simon Hawtin, Phillip Tomkinson, Margaret  
Breaks and Cliff Raby.