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Hambledon Hill National Nature Reserve

The Natural History of Hambledon Hill

The massive and steep slopes of Hambledon Hill, rising abruptly from the valley of the River Stour to a height of over 620ft (190m), form a distinctive and impressive site.

The Stour and the smaller Iwerne stream have cut off Hambledon from the main chalk escarpment of north Dorset so that Hambledon is recognisable from miles away across the Blackmore Vale; and from the windswept top of the Hill, on a clear day five other counties can be seen.

Aerial view of Hambledon Hill taken in 1997
© Dorset County Council

To the south-west can be seen the bare white chalk exposed in Shillingstone Quarry and Hambledon's slopes are similarly carved out from this rock. Most of the slope lies on old chalk pits around its margins. How striking the Hill must have appeared when the turf covered earthworks that crown the summit were first made, with gleaming white chalk and countless thousands of lengths of timber palisade!

Chalk Grassland

Though some 35% of Dorset is underlain by the great chalk outcrop at its centre, only a tiny proportion (3%) of these 96,000 hectares remains of high interest for its typical plants and animals. Almost all of that rich chalk grassland, as at Hambledon, has survived on the steepest slopes; and most of it is in even smaller fragments than Hambledon's 44 hectares of unimproved turf. (The remaining 30 hectares of the Reserve support diverse chalk scrub and the yew wood.)

View of from Hambledon's ramparts
© Natural England / Ian Nicol

Dorset's chalk downland carries an unparalleled array of ancient monuments, dating from some 6,000 years ago, like the long barrow on Hambledon's summit. These high, prominent downs, with their relatively thin soils, were probably the first landscapes to be cleared of their original forest and farmed and settled. Without the continuous influence of grazing animals over the centuries, supplemented by deliberate harvesting of timber, woodland would be the natural vegetation. We must suppose that a forest of trees like ash, maple elm and lime covered the Hill, with oak more prominent on the heavier soils around the foot of the Hill and perhaps even on its crown. Open grassland must have been rare indeed before such clearance and settled farming.

Perhaps true grassland species – the many kinds of grasses and even more the typical herbs so characteristic of downland and their dependant insects – must have existed before the Neolithic clearings, but where? Even the steepest slopes can carry woodland, as can be seen at nearby Hod Wood to the south-east and along much of the main chalk escarpment a Shillingstone Hill. Perhaps our familiar chalk downland originated on the coast where the natural landslips and exposure to salty winds limited the growth of trees and shrubs. Examples of this habitat today are provided by the sparsely vegetated

cliffs at White Nothe and Bindon Hill on the Dorset coast. From these very localised spots, chalk-loving species probably invaded the newly cleared downs and under many centuries of early farming and especially stock grazing, formed our much loved chalk grassland.

Until quite recent times such downland would have stretched over countless thousands of acres of Dorset's heartland. However, the advent of mechanised farming and especially the arrival of cheap inorganic fertilizers and herbicides in the last 60 or so years transformed these great "sheepwalks" into rolling arable fields or bright green weed-free pastures. Only some of the steeper slopes survive to tell of the riches that have gone – and in few places is this better seen than at Hambledon.

Aerial view of Hambledon Hill taken on the 14 July 1924 by Alexander Keiller
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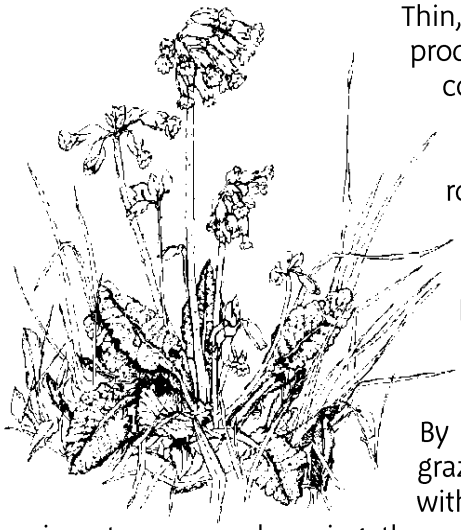
Conservation Management

When the Neolithic enclosures were built and 3000 years later, the truly magnificent Iron Age ramparts, bare gleaming chalk and timber palisades probably dominated the hilltop. Later than that, "Celtic" fields were carved out on some of the hill slopes and even later, perhaps in the 27th century, parts of the hilltop were briefly under the plough. However, for many centuries a consistent influence has been the grazing of animals. Until quite recently, Hambledon was probably common grazing for sheep, with the animals brought down from the Hill at night to be water and folded. By this means, held in temporary hurdle enclosures overnight, the sheep droppings enriched the better, less steep land below the hill, whilst continuing to deplete the Hill of nutrients.



Thin, relatively poor soils are the key to species-rich downland turf. Deeper, more productive soils favour a few more demanding plants, whereas stressed conditions of lower nutrients, exacerbated by parching in summer droughts, favour those species best adapted to such demanding situations. And grazing itself favours the development of turf with a high proportion of rosette plants, their leaves pressed close to the ground; only the flowering stems rise above the turf, a few centimetres high.

The ramparts show these differences well. The steepest, thinnest soils on the banks themselves carry a diverse turf with herbs and grasses; the deeper soils in the hollows between the banks have coarser grasses like cock's-foot and demanding plants like nettles and docks.

By carefully mixing cattle grazing for much of the summer with a period of sheep grazing in autumn or early spring, the annual growth of grass is kept down and the rich array of flowers and shoots at its best. Some young tree seedlings will be nibbled off, but on the slopes less popular with stock, like the eastern enclosure, this is not enough to check scrub and tree growth. Here the scrub is cut down by conservation working groups and volunteers in winter, to keep the precious grassland open or to provide a succession of relatively young scrub, most suitable food for birds.

Sheep grazing on the ramparts
© Natural England / Ian Nicol

It is interesting to reflect that in the 1920s, the now densely wooded slopes of New Field Coppice and Coombe Wood, east of the Reserve, also had open downland. The thick ash wood that has grown since then is the result of lack of grazing and scrub cutting. Within these woods (not part of the Reserve) ancient hawthorns still survive, relicts of the much more open conditions that prevailed before the new woodland closed in.

A selection of chalk grassland plants

Autumn gentian	Aug-Sept
Autumn ladies'-tresses	Aug-Sept
Bee orchid	June/July
Carline thistle	Aug/Sept
Chalk milkwort	April/May
Common bird's-foot-trefoil	June-Aug
Common milkwort	Apr/May
Common rock-rose	June/July
Cowslip	Apr/May
Devil's-bit scabious	Aug/Sept
Dwarf sedge	Mar-April
Early gentian	May-June
Early purple orchid	Apr/May

Bee orchid
© Natural England/
Rees Cox

Eyebright	July/Sept
Fairy flax	May-July
Harebell	July/Aug
Horseshoe vetch	May/June
Lady's bedstraw	July
Meadow saxifrage	May
Pyramidal orchid	June/July
Salad burnet	May
Small scabious	July/Aug
Squinancywort	June/July
Wild thyme	June/July
Yellow-rattle	May/June

Downland turf

The typical downland of Hambledon's slopes may contain a dozen or more grass species, several sedges and perhaps 20 or so different herbs: fine-leaved grasses like sheep's fescue, crested hair-grass and meadow and downy oat-grasses; spring sedge and glaucous sedge; and herbs liek salad burnet, squinancywort, carline thistle and hoary plaintain. Colourful swathes form when yellow rock rose and horseshoe vetch come into flower wile blue and pink hues in early summer mark the flowering of milkwort, chalk milkwort and small scabious.

Early gentian © Natural England / Nick Squirrell

Milkwort © Natural England / Nick Squirrell

More careful searching will be needed to spot the diminuitive sedge and tiny early gentian, both nationally scarce but locally abundant in places on nHambledon Hill. Another speciality of Hambledon is meadow saxifrage which can be found in snowy drifts on the earthworks. Pyramidal orchid and the late flowering autumn lady's-tresses are widely scattered while spring flowering early purple orchid can make stunning displays with cowslips.

Chalk scrub and trees

The commoonest scrub species are hawthorn and blackthorn but other typical chalk bushes and small trees include dogwood with its crimson winter stems, wayaring tree with creamy domes of flowers early in summer and red turing to black berries later and occasional whitebeam with its large silver-backed leaves. All these and more can be swather in oldman's beard, the grey plumes of which last throughout winter.

The thick vines of the clematis are especially obvious beneath the dark canopy of the yew trees, south-east of the main hill. Yew wood like this is not infrequent on the downs of hHampshire and Sussex but this example at Hambledon is the only real yew wood in Dorset. Ash and hazel are frequent in scrub and readily develop into woodland if left. The eastern enclosure of Hambledon is the best place to see this variety of woody species.

"Hambledon Hill, with its down scarps spotted with yews and thorn trees with thickets of ash, elder, whitebeam and yew, over which the great wisps of Traveller's Joy fling their feathery tangle, with sheep feeding peacefully on the warlike camp, and hawks wivering in the pure air – while North, East, South and West we gaze over the hill, and vale, and down, and woodland that stretch and fade into far distance and vacant haze."

Haywood Sumner
The Earthworks of Cranbourne Chase, 1913

Insects and birds

Adonis blue
© Natural England / Nick Squirrell

Easily the most conspicuous insects are the butterflies and day-flying moths and Hambledon has a rich array. The rather drab dingy and grizzled skippers might be mistaken for moths, whilst the boldly marked red, cream and black wood tiger moth looks more like a butterfly! Blue butterflies are typical of chalk grassland and here common blue, chalkhill blue and the stunning Adonis blue all fly in their season, the last two with caterpillars feeding on horseshoe vetch. In high summer, very distinctive pied marbled whites are on the wing, before the second brood of Adonis blues.

Listen out for grasshoppers and crickets. Easily the loudest calling into the evening is the impressive great green bush-cricket, one of the UK's largest insects. Much more difficult to see and hear is the local stripe-winged grasshopper, which favours the shortest turf. Commoner and more widespread are meadow and common field grasshoppers.

Though they have declined everywhere, skylarks still sing above Hambledon's hilltop while soaring from below and gaining height almost effortlessly, there is almost always a buzzard or two. Linnets and yellow hammers (pictured) can be heard where there is more scrub, their favourite habitat.

Noteworthy butterflies found on Hambledon Hill

Adonis blue	May-June; Aug-Sept	Short turf on south-facing slopes
Brown Argus	May-Sept	South facing grassland slopes
Chalkhill blue	July-Aug	South and west facing grassland
Common blue	May-Sept	Widespread on grassland
Dark green fritillary	July/Aug	Grassland
Dingy skipper	May	Widespread on grassland
Gatekeeper	July-Aug	Scrub/grassland edge
Green hairstreak	May-June	Scrub margins
Grizzled skipper	May	Widespread on grassland
Holly blue	Apr-May; July-Sept	Scrub margins
Marbled white	June-July	Widespread on grassland
Meadow brown	June-Sept	Widespread
Ringlet	July-Aug	Scrub margins, particularly eastern slopes
Silver-spotted skipper	Aug	Short turf on south- & west-facing slopes
Speckled wood	Apr-Sept	Scrub margins
Small copper	Apr-Sept	Widespread
Small heath	May-Sept	Widespread on grassland
Wall brown	May-June; Aug-Sept	Grassland

For more information on Hambledon Hill and other National Nature Reserves managed by Natural England in Dorset visit www.naturalengland.org.uk/nnr or call 0845 600 3078

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