

FLORA, FAUNA AND GEOLOGY OF THE VANGUARD WAY



Ian Mitchell, Gill Reader and Alan Smith

First edition published online only 2014.

Edited by Colin Saunders and designed by Brian Bellwood

Published by the Vanguards Rambling Club
35 Gerrards Close, Oakwood, London, N14 4RH, England

© *VANGUARDS RAMBLING CLUB 2014*

Ian Mitchell, Gill Reader and Alan Smith assert their right to be identified as the authors of this work. Whilst the information contained herein was believed to be correct at the time of writing, the authors, editor and publishers accept no responsibility for the consequences of any inaccuracies. However, we shall be pleased to receive your comments and information of alterations for consideration. Please email colin@vanguardway.org.uk or write to Colin Saunders, 35 Gerrards Close, Oakwood, London, N14 4RH, England.

CONTENTS

Introduction	2
Acknowledgements	2
Vanguard Way Blog	2
Flora and Fauna:	
Littleheath Woods and Selsdon Woods	3
The North Downs	3
The High Weald	4
The South Downs	5
Cuckmere River and Haven	6
Seaford Head	6
Birds	8
Geology	9
Geological cross-section of the VGW	10

INTRODUCTION

Vanguard Wayfarers have told us that, whilst the commentaries that accompany the route descriptions are interesting and informative, they would like to know a bit more about the natural surroundings, specifically the flora, fauna and geology. So three members of the Vanguard Rambling Club have collaborated to produce this separate document and you are invited to contribute by submitting your own experiences to the **Vanguard Way Blog** at vanguardwayblog.blogspot.co.uk.

ACKNOWLEDGEMENTS

We are grateful to the following organisations and publications for their help with compiling this document:

Birds of Ashdown Forest, British Geological Survey, Butterfly Conservation, *Complete British Wildlife Photoguide* (Paul Sterry, Collins, 1997), The Conservators of Ashdown Forest, Croydon Birders, Croydon Natural History and Scientific Society, Cuckmere-Ouse Bird Blog, *Exploring the Pilgrim's Way* (Alan Charles, Countryside Books, 1990), Friends of the Cuckmere, Friends of Tidemills, *The North Downs Way* (Hugh Westacott, Penguin, 1983), High Weald Area of Outstanding Natural Beauty, London Borough of Croydon, Natural England, Seaford Head Bird Forum, Seaford Head Nature Reserve, South Downs National Park Authority, South Downs Way National Trail, Sussex Wildlife Trust, *Trees* (Carol Usher, John White and Colin Ridsdale, Eyewitness Companions, Dorling Kindersley, 2005), The Wildlife Trusts, *Winnie-the-Pooh* (A.A. Milne, Methuen, 1926 etc).

VANGUARD WAY BLOG

Please take a look at vanguardwayblog.blogspot.co.uk, which includes a link in the right-hand column for contributing your own sightings or comments on the flora and fauna of the Vanguard Way.

FLORA AND FAUNA OF THE VANGUARD WAY

By Gill Reader

Please note that a separate section follows about birds.

Littleheath Woods and Selsdon Woods

Little Heath appears on a map of 1800 which suggests that there was less woodland then than now. The laurel and privet that are found now were planted as cover for shooting game. The geology is interesting: Littleheath Woods lie on Blackheath Beds, which overlie Woolwich Beds and Thanet Sand, and this variety of soils has led to the development of many types of flora and fauna.

Selsdon Wood Nature Reserve is managed for the National Trust by the London Borough of Croydon and is made up of open grassland and some coppiced woodland. The oak is dominant, the average age between 150-200 years old. There has been new planting of oak and beech trees in commemoration of the Royal Silver Jubilee.

Coppicing of oak, chestnut and ash was carried out to produce poles or timber suitable for charcoal burning, and continues today as management of the woodland, which in turn attracts wildlife to the light and sunny glades. These areas of mature woodland, newly cleared woodland and open grassland supplying an annual hay crop, provide habitats for many flowers such as campion, violet, vetch and orchid; trees such as pine, yew, chestnut and poplar; mammals such as moles, shrews, bats and deer; reptiles such as slow-worm, lizard, adder and toad; and many different types of fungi.

For an extensive record of flora and fauna in these areas, see the survey done in 1976 by the Croydon Natural History and Scientific Society Limited.

The North Downs

The dramatic landscape of the North Downs has inspired many artists and writers, among them J.M.W. Turner, Winston Churchill, Jane Austen and Charles Dickens. Charles Darwin lived at Down House, in the foothills of the North Downs, which were a source for his studies of flora and fauna.

The North Downs consists of rare and ancient woodland and expanses of grassland and heathland. In winter this can be a snowy environment, but in spring and summer the grass provides grazing for sheep and a habitat for a great variety of plants and animals. The soil overlying the porous chalk bedrock is thin, well drained and nutrient poor. Chalk only occurs in north-west Europe, so the surviving grassland that thrives on it is exceptionally rare, and much of it is designated as Sites of Special Scientific Interest. Grasses, wild flowers and a few particular herbs, such as marjoram and thyme, found on the North Downs are dependent on the grazing of livestock such as the belted Galloway cattle.

Yew, box and juniper, trees that are native to Britain, thrive on chalk soils, as do rare orchids such as man, bee or common spotted orchid.

Butterflies, such as the Adonis blue, chalkhill blue, marbled white, silver spotted skipper, and moths, such as the six spot burnet, may also be seen. On a warm day reptiles such as grass snake, slow-worm and adder might be found sunbathing among the grasses.



The High Weald

The geology and history of the High Weald make it a very interesting area supporting a rich variety of wildlife in its woodland, heathland, deep clay valleys and high sandstone ridges.

Long ago the woodland was used by early farmers who would drive their pigs to the seasonal woodland pastures in the late summer and autumn to feed on the acorns and beech masts. Eventually the 'dens', in which the farmers sheltered and watched their pigs, became more permanent and a farmhouse was built, then the pigs no longer made the journey to and from the woods. In time, the woods were cleared to create small fields, and the ghylls, steep sided valleys and shaws (small wooded copses) became the natural boundaries. This made for the small irregular fields that we still have today, and the continuous thread of woodland provides corridors for wildlife.

The woodland was coppiced, providing wood for timber and fuel, and for the iron industry. With trees covering over one-third of the High Weald landscape, rotational coppicing continues today, which creates open habitats for a diverse number of plants, insects, animals and birds.

Wood anemone is an indicator of ancient woodland as it spreads just six feet in 100 years. Wild garlic scents the woods in April and May: it is a very conspicuous plant and was used by King Edmund as a boundary marker of a piece of land granted to Bishop Aelfric in AD (CE) 944. In the spring, carpets of bluebells spread under the trees and the rare coral root is sometimes found amongst them.

The speckled wood butterfly is seen in the dappled woodland light. The comma butterfly is a common visitor to the woodlands and scrublands and the brimstone butterfly is one of the first to appear each year wherever buckthorn and alder buckthorn are available. The common dormouse, which spends three-quarters of its life asleep, is at home in the coppiced hazel woodland that provides its food.

The Ashdown Forest occupies the highest sandstone ridges of the High Weald, and is the largest expanse of open heathland in south-east England. In fact, the term 'forest' is misleading, since this is used in the old sense of an area kept for hunting, and the Ashdown Forest is the best example of the four former royal hunting forests that spread between Horsham and Tunbridge Wells. There are distinctive clumps of conifer trees planted by the former owner, Countess De La Warr, in the 19th century. Evidence may be seen of how people lived in the past, such as medieval rabbit warrens and abandoned sandstone quarries – red-stained streams show the presence of the iron that was extracted in Roman and Tudor times.

Walking north from Gill's Lap car park, look out for a lone pine, where walkers may come across a cunning trap, set in the hopes of catching a Heffalump! But be warned that it has to be the right time of year and that many have tried and few have succeeded. Not far from this point is a memorial to author, A.A.Milne, and illustrator, E.H.Sheppard, for the delight that Christopher Robin and Pooh Bear brought to many readers, young and old. There is a lovely view from here.

From early in the year, coconut-scented gorse is seen on the heathland. It is an early spring flower and was once used as fuel, for cattle food, as brushes for chimneys, dye for cloth and somewhere to spread the washing to dry. This is the chosen habitat of the silver-studded blue butterfly. The male has violet-blue upperwings, the female brown, and their grey underwings have orange and black spots.

Purple heather and broom flower, and the Dartford warbler, an inquisitive and fearless bird

may be seen. Marsh gentian is found in damp wet heathland, flowering between July and October. It has narrow leaves in opposite pairs and clusters of bright blue trumpet-shaped flowers.

Steep-sided ghylls were too difficult to clear, so they have been left wooded with fast-running streams cutting through the clay earth. Here may be seen the tiny and rare plant Tunbridge filmy fern, as well as mosses, lichens and liverwort, and the common toad can be found in damp and shady places.

The deep, steep-sided clay valleys, with soil so heavy that the fields have never been ploughed, have been used for cattle rearing. Flower-rich grasslands produce hundreds of grasses and wildflowers, which support a wide range of insects. June and July are the time to enjoy the fragrant orchid and common knapweed, white ox-eye daisies and the yellow bird's-foot trefoil – the main food of the common blue butterfly. Small and large skipper butterflies are found in sheltered grassland.

In habitats where nettles are found will be yellow archangel, whose leaves are similar to stinging nettles but with yellow flowers rather than white.

The South Downs

A flock of 350 sheep is being employed to improve rare chalk grassland in the South Downs National Park. The reintroduction of grazing animals is vital for the survival of the grasslands and of the insects and flowers that make it their habitat. It is hoped that the numbers of chalkhill blue and brown argus butterflies will improve as a consequence, but these downs abound in many species of butterflies and moths, especially those listed below. The hottest part of the day is the best time to see them.

The male chalkhill blue has pale sky-blue upperwings, the female is dark brown with orange submarginal spots and flies between May and September. The underwings are grey-brown with spots. It is found on chalk and limestone grassland in southern England and the larva (caterpillar) feeds on horseshoe vetch.

The brown argus is similar to the common blue but smaller; it has brown upperwings with orange submarginal spots, while the underwings are buff with white and orange spots. Its larva feeds on common rock rose and common storksbill.

Adonis blue butterflies have two broods, which may be seen flying from May to June and from July to August. The male has iridescent blue upperwings with black and white margins; the female is brown with orange submarginal spots. The larva feeds on horseshoe vetch.

The marbled white butterfly, which has distinctive patterns on its wings, flies from July to August and feeds on knapweed and thistle flowers. Its larva feeds on grasses.

The small blue butterfly, a small, highly active butterfly flies in June and July. The female has smoky-brown upperwings, the male's purplish iridescent, while the underwings are grey. The larva feeds on kidney vetch.

The large skipper butterfly also flies in June and July. In common with other skippers, at rest it holds its wings at an angle. Its upperwings are dark brown and orange brown with pale markings; its underwings are buffish orange with paler spots. The larva feeds on various grasses.

The beautiful elephant hawkmoth, which flies in May and June, has pink and olive-green markings on its wings and body. It is named for the resemblance of the head of the larva to an elephant's trunk; its eyespots deter would-be predators. The larva feeds on willowherbs.

Also seen in recent times is the tiny thyme plume moth, which feeds on wild thyme.

A number of orchids are found on the South Downs. Autumn lady's-tresses is a small orchid found on dry grassland. A rosette of oval leaves appear in early summer but wither before flowering stems appear in August to September. Tiny white flowers are borne in a spiral up the stem to a height of 15 cm. The flowers of pyramidal orchids are deep pink with three lobed lips and a long spur organised in dense conical or domed flower heads; it flowers between June to August and stands 30 cm tall.

Cuckmere River and Haven

The Cuckmere probably has the most natural and undeveloped estuary in south-east England. It has a wide variety of habitats: meanders, water meadows, drainage ditches, creeks and estuary, so the wildlife supported here is diverse.

Frogs, toads and dragonfly breed in the still water meadows. Dragonfly larvae mature and leave the water by crawling up the tall reeds and grasses, clinging on as they break out of their bodies to emerge as flying insects. They may be seen for some hours as their wings extend and harden before flying. Unusually, burnet moths fly by day and can be identified by a blur of black and crimson.

Careful management of the area is carried out, and scrub land which might affect the chalk grassland is cleared, allowing wild flowers and grasses to grow. Cowslips in spring, orchids and scabious in summer benefit from this. Other wild flowers which may be seen are: yellow lady's bedstraw flowering between June to September; knapweed which resembles thistle; tall bright yellow-wort grows up to 30 cm and flowers between June to October; milkwort, which may be mauve, pink or white, grows up to 30 cm tall and flowers between May and September; pyramidal orchids (see above) may also be found in the Cuckmere estuary.

Grasses support the funnel-shaped webs of spiders, and crickets may be heard and seen. Badgers and foxes also have setts in this area.

Seaford Head

This area provides a variety of habitats – chalk grassland, scrub, water meadows, shingle beach and salt marsh – and is a Local Nature Reserve and a Site of Special Scientific Interest. Due to the unusual geology of the area (sand overlying chalk) it can support both chalk and acid loving flora and fauna. Many unusual species are to be found – if you can drag your eyes from the magnificent coastal views!

There are few trees but shrubs include hawthorn, elder, privet, wayfaring tree, blackthorn, rose and clematis. Seeds and fruits from these shrubs are essential foods for birds migrating south for the winter. Hope Gap becomes an important resting place for birds on their return journeys.

Approximately 250 plants have been noted including some interesting and uncommon species attracting insects. The exposed conditions on cliff tops mean that plants will be much smaller than found in more sheltered habitats. Viper's bugloss with its bright blue funnel-shaped flowers can be found between May and September; it is a biennial found on dry grassland near the coast. Moon carrot is a biennial, standing 40-120 cm, and has silvery-blue and lacy foliage, with pale pink flowers clustering in large flower umbels from July to August. Thrift is a coastal perennial often seen carpeting cliff tops; it flowers between April and July in pink cushions.

Salad burnet has rounded green flower heads with red styles; it is a perennial found on

calcareous grasslands and flowers between May and September. The yellow-horned poppy is commonly found in clumps on shingle beaches between June and September. Rock sea lavender inhabits sea cliffs, sea walls, salt marshes and shingle; its flowers (from July to September) are violet blue, 8 mm across in arching spires, and the leaves are fleshy and variable in size, from 2 to 12 cm long.

Nineteen species of butterflies have been recorded. During July and August the chalkhill blue butterfly may be seen on chalk and limestone grassland. The male has pale sky-blue upperwings and the female has dark brown with orange submarginal spots. The underwings of both are grey-brown with spots. The larva feeds on horseshoe vetch. The distinctively patterned marbled white butterfly is found in flower-rich, grassy meadows on chalk-downs. It can be seen in July and August on knapweed and thistle flowers.

Many species of moth may be seen, though mostly at night. However, the emperor moth flies in the daytime during April and May on the golf links and in the Hope Gap area, on heathland where its larval foodplant, ling, is common. The oak eggar moth, also common around Hope Gap, feeds on heather, bramble, hawthorn and sea-buckthorn; the male is active during the day, whilst the female prefers the night. The forester moth, with its iridescent yellow-green wing scales, may be found between May and July in damp meadows behind the cliffs, while its sorrel-feeding caterpillars are pale green and yellow with a dark stripe and fine white hairs along its back.

Several species of bumble bee are attracted to the clover, as well as the potter flower bee, an endangered species whose numbers have declined, now only recorded at a handful of sites between April and June. Females are black and very hairy with orangey-red hairs on their hind legs; males are brownish ginger all over. It is solitary, excavating burrows in sandy cliffs, dunes and sandy commons. It has a characteristic fast, darting flight, often with its extremely long tongue extended, as it flies between its favourite species (ground ivy, bird's-foot trefoil, clovers and vetches).

Among other insects, the bloody-nosed and dor beetles have been conspicuous in the past. Of the larger vertebrates, badgers, foxes and rabbits can be seen, while reptiles are represented by grass snakes, adders and slow-worms.

On the upper foreshore green seaweeds such as sea lettuce are found, and on the lower foreshore kelp and two sorts of wrack. There is a wealth of sea life on the rocks (limpets, whelks, winkles and barnacles) and in the pools (seaweeds, breadcrumb sponges and beadlet anemones). Bristle worms and cockles occur on small areas of sand.

BIRDS OF THE VANGUARD WAY

By Alan Smith

Walking can be a good way of seeing birds if you proceed quietly and are not in a rush. A pair of binoculars is almost essential to identify birds from a distance as well as a bird identification book. A paperback edition of a guide or one with a soft flexible cover which can be thumbed through quickly is preferable to a hardback edition.

It is important to bear in mind when bird-watching that:

- the welfare of the birds must always be put first and
- nests should not be approached.

The Vanguard Way passes through numerous habitats: urban, woodland in urban areas, parkland (Lloyd Park), hamlets and villages, arable farmland and pastures, open chalk downland, wooded chalk hills, the low-lying Weald with its small fields enclosed by hedgerows and woods, heathland and woods of the Ashdown Forest, fir woods, rivers and coast including both cliffs and beaches. In addition, the sea itself is a habitat.

There is, therefore, scope for a very large number of bird species to be present on or near the Vanguard Way, though it is important to remember that some species are present at all times (residents), some are here only in spring and summer (summer migrants) and some come in the winter to escape harsh conditions in the places where they breed (winter migrants). And there is no guarantee that you will see the birds mentioned here at all!

You do not have to go far from East Croydon Station to see dramatic birds as well as the familiar birds of built up areas and gardens. Above Lloyd Park, a buzzard and red kites were spotted in 2013 and a peregrine falcon has been seen flying in the Selsdon area. These large birds might be seen anywhere along the route with buzzards and peregrines also known to cruise along the coast at Seaford.

There is a strong possibility of seeing the exotic, bright green ring-necked parakeet, with its long tail and unmistakable squawk, which has established itself in southeast England in recent years, probably from escapees.

In woodland areas, numerous other species may be seen ranging from small birds such as blue tits to the green and great spotted woodpeckers.

In Ashdown Forest, yellowhammers and reed buntings may be seen perched at the top of small bushes. The Splash is a likely place to see grey wagtails.

Cuckmere Haven and the coast to Newhaven are rich areas for birds. Fulmars and kittiwakes nest on the cliffs of Seaford Head. Ducks such as teal and, in winter, widgeon have been seen in the Tidemills area. Various waders, both residents like redshank and avocet and migrants such as dunlin (winter) and little ringed plover (summer) have been seen at Tidemills and Cuckmere Haven. In autumn, Canada geese are very prevalent on the Cuckmere and other species of geese may be mixed in with them. The charming little egret, which has established itself as a resident over the past 25 years, has been seen in the Exceat area.

This review of birds along the Vanguard Way covers only a small selection of the species which you may encounter but we hope to build up a checklist from observations made by members of the Vanguard Rambling Club and by other walkers on the Way. You can let us know what you spot by using our blog vanguardway.blogspot.co.uk/

GEOLOGY OF THE VANGUARD WAY

By Ian Mitchell

The Vanguard Way (VGW) crosses the area of southeast England known as The Weald. Its underlying rocks were laid down at successive times under water and under various conditions, so that about 140 million years ago the oldest layers now visible were at the bottom and the youngest were at the top. The rocks, formed under compression from the material above, were forced to rise in a long dome with an east-west axis. Erosion of the dome took place to gradually strip away, first, the 55 million year old silts, clay and mudstone, then most of the chalk, then the earlier sands and clays, to leave on the surface at the centre the sandstones and siltstones of the formation named after the Ashdown Forest.

The British Geological Survey has kindly provided us with a section through the Weald that roughly follows the VGW – see page 10 below. East Croydon is at the left (bottom) end of the section and Cuckmere Haven at the right (top) end. The intermediate grid reference points are from the left: the top of Crockham Hill, Quabrook near Forest Row, the Crow and Gate on Ashdown Forest, Hale Green near Chiddingly. This section shows what has been left close to the surface now.

The Chalk landscape of the North and South Downs will be easily recognised, with valleys without streams, chalk being turned up by ploughing and flint being used in some older buildings. An oddity closely passed by the VGW on the North Downs is the Nore Hill Chalk Pinnacle, which is described in Section 2 of the Vanguard Way route description, available from www.vanguardway.org.uk.

Below the steep chalk escarpments of the Downs, the Gault, a type of clay, produces a line of springs where the water percolating down through the chalk cannot get any further.

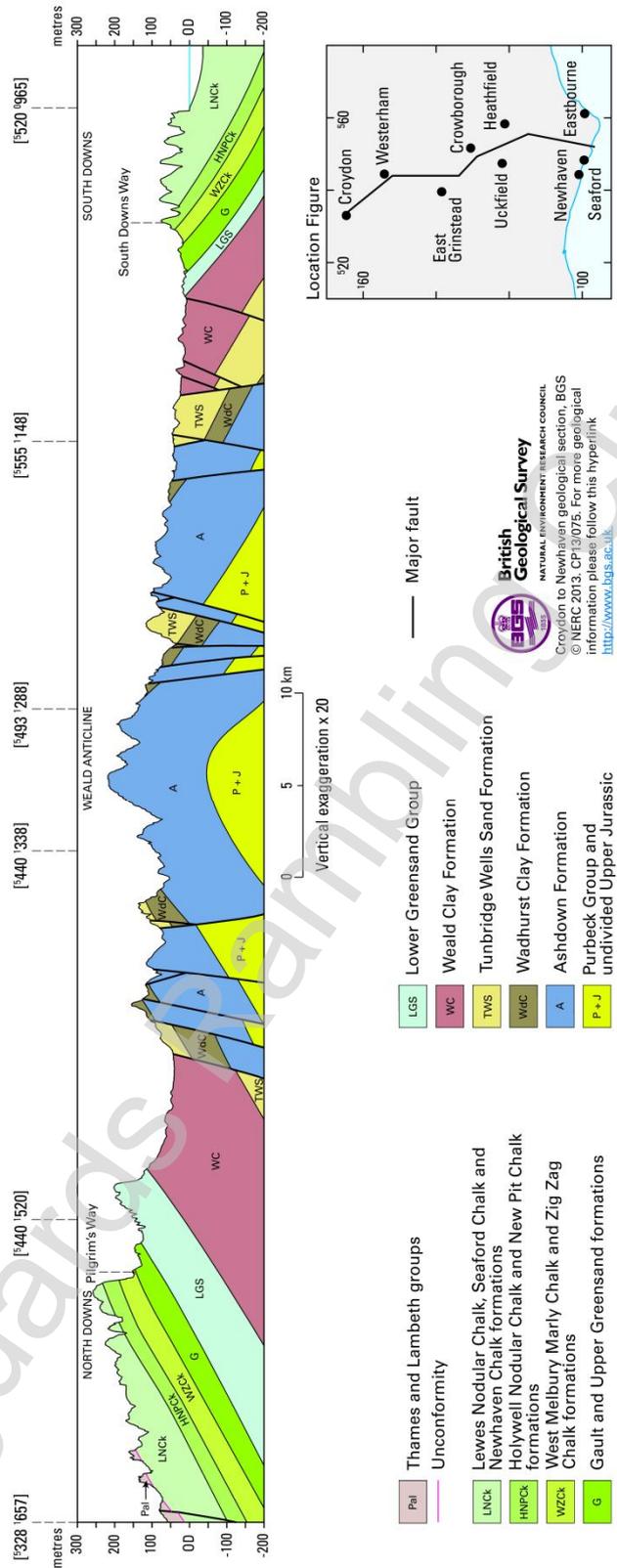
South of the North Downs the ground rises again to the Lower Greensand ridge around Limpsfield Chart, before falling away to the Weald Clay. Unexposed, this blue-grey clay is quite dry and impermeable to water. However, at the surface it is weathered to a yellow-orange colour which readily absorbs water and can be very soft – which the Vanguard Wayfarer will testify makes difficult going in wet weather! This is repeated on the approach to the South Downs, but the Lower Greensand is less prominent here around Berwick.

The inner part of the Weald has been affected by faults, so that the different layers do not always follow the strict succession of their original depth. The various types of clay and sand have been affected by differing rates of erosion, so the VGW crosses a series of hills and valleys. The streams in some of these valleys have in places been dammed from Tudor times to power furnaces and hammers in the local iron industry.

Eventually the VGW starts a steady rise up the sandstones and siltstones of the Ashdown Forest, where the geology and general exposure gave rise to acid, nutrient-poor soils which never favoured cultivation and developed heathland vegetation. Historically, grazing by deer and commoners' cattle kept down tree regeneration, although enclosure in parts and 19th century planting of prominent clumps did bring more trees to this central area.

On the coast where the South Downs meet the sea, the chalk (while generally standing up to erosion by rainfall because it percolates through the rock) is easily undermined by wave action, then the rock above gives way in chunks resulting in the steep-faced cliffs of the Seven Sisters and Seaford Head.

FLORA, FAUNA & GEOLOGY OF THE VANGUARD WAY



Reproduced by permission of the British Geological Survey, Croydon to Newhaven geological section, BGS © NERC 2013. CP13/075. For more geological information please follow this link: www.bgs.ac.uk.