National Character Area profile:

139. Marshwood and Powerstock Vales

NATURAL ENGLAND

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Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper[1], Biodiversity 2020[2] and the European Landscape Convention[3], we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

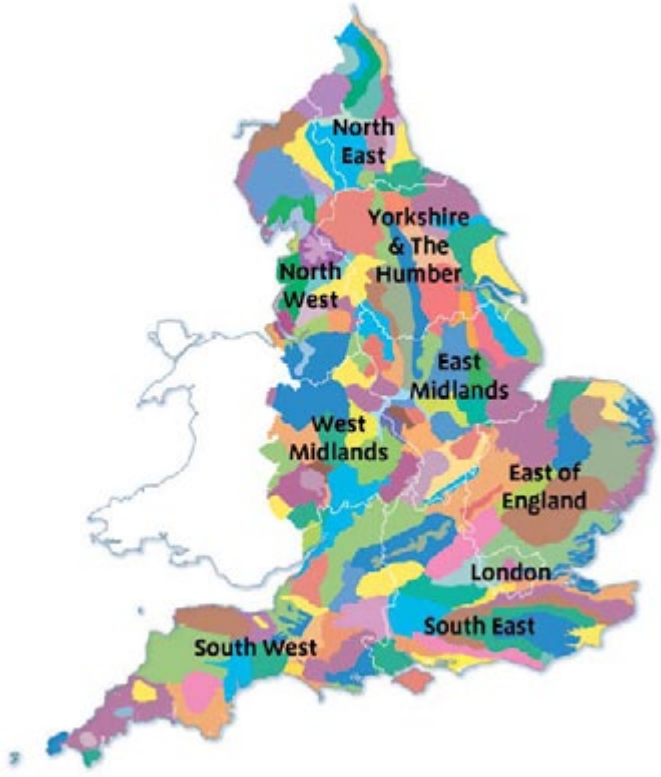
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk

National Character Areas map



[1] The Natural Choice: Securing the Value of Nature, Defra (2011; URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf)
[2] Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL: www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf)
[3] European Landscape Convention, Council of Europe (2000; URL: http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm)

Summary

The Marshwood and Powerstock Vales National Character Area (NCA) sits within a horseshoe of high ground, overlooked by characteristic flat-topped Greensand hills to the west and north and by the mass of the Dorset Downs to the east.

The Marshwood Vale, characterised by regular hedged fields with an abundance of hedgerow oaks, is productive pastureland dotted with isolated farmsteads, some of pre-medieval origin. Across the River Brit, the Powerstock Vale lies on terraces of limestone, its combes incised by steep, wooded valleys.

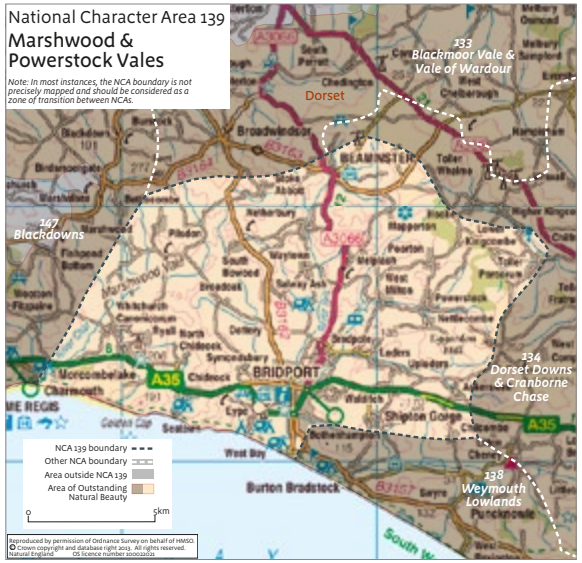
The NCA's entire 12 km of coast falls within the Jurassic Coast World Heritage Site and is traversed by the South West Coast Path National Trail, ascending Golden Cap, the highest point on the south coast of England, on its way. The coast is characterised by a series of large active landslips to the west, while to the east the famous cliffs at Burton Bradstock give way to Chesil Beach, starting its course to the Isle of Portland.

Bridport and Beaminster are the main towns. Elsewhere small villages, hamlets and dispersed farmsteads prevail.

The NCA's cultural services are its greatest asset. The rich geological record, fossils and associations with Mary Anning and the birth of modern palaeontology make it world famous. Less well known are its vegetated coastal cliffs and, inland, extensive areas of wet alder woodland, both recognised and designated as Special Areas of Conservation.

The NCA is completely within the Dorset Area of Outstanding Natural Beauty (AONB) and embodies the AONB's characteristic mosaic of outstanding landscapes, overlooked by a series of prominent hill forts – Eggardon Hill principal among them.

Development is concentrated in the coastal strip with the A35, caravan parks and the bustling town of Bridport, although some of this pressure is seasonal. Inland, apart from commuting traffic twice a day, the NCA is still almost as tranquil and isolated as it was 50 years ago.



Click map to enlarge; click again to reduce.

Statements of Environmental Opportunity

- **SEO 1:** Protect, manage and enhance the Marshwood and Powerstock vales' highly legible relationship between geology, landform and land use. Protect and manage the naturally functioning, highly accessible and internationally important coastline and the suite of nationally and locally designated geological sites.

- **SEO 2:** Protect, manage and enhance the diverse but coherent pastoral landscape character: the range of semi-natural grasslands, woodland and relict heathland with their characteristic wildlife. Manage these historic patterns of land use maintained by the long history of agriculture.

- **SEO 3:** Manage and enhance people's awareness of the connections between the NCA's strong landscape character, sense of place and distinctive wildlife and the continuity of agricultural land use and legibility of historic influences.

The Marshwood Vale unfolds beneath the heathy summit of a Greensand hilltop. This remote pastoral landscape is framed by the rising land leading up to the Dorset Downs and the low-lying mass of the Isle of Portland.

Description

Physical and functional links to other National Character Areas

The Marshwood and Powerstock Vales National Character Area (NCA) is set within a series of Upper Greensand and sand/limestone ridges and hills which link this NCA to its neighbours. To the north and west, a broad Greensand ridge separates the area from the Yeovil Scarplands and the Blackdowns NCAs. Eastwards, strata of clays, sands and limestones create terraces, stepping up to the great expanse of the Chalk which continues into the adjacent Dorset Downs and Cranborne Chase NCA.

A short but complex coast includes Golden Cap, the highest point on the south coast at 191 m, offering long views up and down the coast and inland; Dartmoor is visible on clear days. West Bay marks the beginning of Chesil Beach, 28 km of shingle beach fronting the Weymouth Lowlands NCA and joining the Isle of Portland NCA to the mainland.

The South West Coast Path National Trail runs along the coast and the Wessex Ridgeway runs northwards from Charmouth into the adjacent Dorset Downs and Cranborne Chase NCA.

The NCA is within the Portland Bill to Dawlish Warren coastal cell, where littoral drift is generally eastwards and sediment transport along the coast is low and intermittent.

The principal transport links in the NCA keep to the higher ground and have avoided the Marshwood Vale, the main axis being along the coast via Bridport and along the Brit Valley to Beaminster. Electricity pylons cross the NCA from west to east.

Ham Hill Stone, from Ham Hill in the Yeovil Scarplands NCA, is a frequently used building material in this NCA.

As the ground rises towards the flat-topped Greensand ridges, smaller irregularly shaped fields give way to larger areas of rough grazing. Scattered farmsteads in a well timbered landscape are key characteristics. In the forground electricity pylons descend into the Marshwood Vale.

Key characteristics

- The NCA is characterised by a complex sequence of Jurassic and Cretaceous geology dominated by clays, sands and limestones. There is very clear visibility of geological units through their impact on landform. This NCA is an important locale for fossils and is linked to the establishment of palaeontology as a science and Mary Anning's seminal discoveries.
- The bowl-shaped Marshwood Vale is surrounded by irregular Greensand ridges, hills and plateaux with deeply incised valleys. Greensand ridges meet the coast as impressive high cliffs. To the east, the deeply incised 'terraces' of strata lead up to the Chalk of the Dorset Downs.
- The distinctive coastline is made up of slumping mobile cliffs, punctuated by harder vertical cliffs and prominent headlands protected by Greensand caps. Shingle beaches are separated by rockier headlands with occasional landslides and mud slips temporarily covering beaches. Land is often farmed to the cliff edge.
- There are two main rivers in the NCA: the Char, draining the Marshwood Vale via a network of small streams, and the Brit, draining the Greensand and limestone hills and ridges on the eastern side of the NCA.
- Marshwood Vale has a wooded pasture landscape with ribbons of woodland and abundant hedgerow oaks. Woodland occurs along the springline, and recent secondary, heathy woodland often caps the Greensand ridges. To the east are more extensive semi-natural woodlands with concentrations around Hooke and Powerstock Common.
- This is a strongly rural, agricultural area. Marshwood Vale supports rich grassland (pasture and meadow) with arable graduating to pasture and rough pasture on the Greensand slopes and summits. The eastern side of the NCA is dominated by pasture. Cattle and sheep are the main grazing stock.
- The whole NCA is characterised by thick, tall hedgerows – often (and most distinctively) in the Marshwood Vale – with regular hedgerow trees.
- Semi-natural habitats in the NCA include coastal grassland, scrub and eroding cliff communities; unimproved pasture and meadow on the valley floors; and rough pasture on the hills and ridges, ranging from acid to calcareous, with spring line mires, fens, alder woodlands and heathy hill tops.

The highly memorable Colmer's Hill with its clump of Scots pine, something of an emblem of this area.

- Impressive, prominent hill forts on ridges and promontories overlook the vales and, to the east, abandoned villages with associated strip lynchets cut into hill sides are the principal historic monuments. The NCA contains a relatively large number of listed buildings, reflecting the widely dispersed surviving vernacular architecture.
- Away from the few busy roads, a network of narrow, winding lanes characterises much of the NCA, alternating between hedge-bound and enclosed, to exposed with panoramic vistas.
- Scattered hamlets, farmsteads and compact villages are found on the valley floors and on the higher ground to the east.
- Characteristic local building styles and stones include Inferior Oolite and Forest Marble, which dominate in the Powerstock and Bride vales, while in the Marshwood Vale, Blue Lias limestone was popular. Throughout the NCA, Ham Hill Stone features in high-status builds. Cob and thatch cottages are frequent while the later brick, render and slate vernacular is plentiful, especially in parts of Bridport.
- The South West Coast Path National Trail runs along the length of the coast. Inland, a high density of footpaths and bridleways connects the farms and hamlets of the Marshwood Vale and beyond.

The 14th century west doorway of Whitchurch Canonicorum church. Constructed in Lias ashlar stone it features spandrels containing plant-motifs below a quatrefoil.

Marshwood and Powerstock Vales today

Along the coast, the busy A35 links Lyme Regis, Charmouth, Chideock and Bridport and provides access to the coast at various points. The road ascends and descends the Greensand hills which form prominent headlands on the coast, Golden Cap at 191 m being the highest. Between these headlands, areas of less resistant strata, devoid of the protective Greensand capping, often slump – classically at Charmouth, where landslips leave dramatic, stepped undercliffs. The beaches are characterised by the sudden appearance and gradual erosion of landslipped material.

This constantly evolving coast features 348 ha of maritime cliff and slope habitat, hosting outstanding assemblages of rare invertebrates such as beetles, solitary wasps, bees and moths, which thrive on the warm, south-facing cliffs. These are part of the Sidmouth to West Bay Special Area of Conservation (SAC).

In addition to internationally important biodiversity, the whole coastline of the NCA is part of the West Dorset Heritage Coast and the Jurassic Coast World Heritage Site, inscribed for its geological and geomorphological features. The South West Coast Path National Trail is the main resource for both access and recreational activity in the NCA. West Bay, Eype, Seatown and Burton Bradstock all lie on the trail and host holiday parks with static caravans and touring pitches.

Inland from West Bay sits Bridport, the principal town of the NCA. Bridport and Beaminster are the only places where significant urban expansion has occurred in the last 60 or more years. Bridport is a bustling local centre where visitors come to stay and to shop. The high street features some fine vernacular buildings that reflect the town's past status and wealth. Beaminster is, by comparison, quiet and less visited but also features some fine examples of local vernacular.

Bridport has expanded into some of the surrounding hills but still sits comfortably in the expansive vale landscape with the partially wooded hills softening its edges.

The Marshwood Vale is a bowl-shaped, clay vale of verdant, gently undulating pasture. Thick hedgerows punctuated by standard oaks bound evenly sized fields. This is an intensely rural and pastoral area, characterised by small villages, hamlets and isolated farmsteads of Upper Greensand Chert – the favoured local building stone. Away from the few main roads, which can be unexpectedly busy, the vale's character is overwhelmingly tranquil and remote.

The agricultural soils formed on the clays of the Marshwood Vale are highly productive and have been exploited to the full, leaving little in the way of extensive tracts of semi-natural habitat, although the hedgebanks and road verges form a network of semi-natural grassland and tall herb communities. The heavy soils of the Marshwood Vale favour oak, which is the dominant hedgerow tree.

The rivers Brit and Char run their entire courses across the clay vales. Both have relatively small, unmodified courses and both can flood rapidly in response to rainfall events. The Brit Valley running between Bridport and Beaminster, is the focus of the area's limited arable farming and orchards.

Around the clay vale rise hills and ridges of clays, sands and limestones, presenting a complex and subtle mosaic of agricultural and semi-natural land cover. This landscape is older than the clay vale; small, irregular, pasture fields divided by overgrown hedgerows and small copses can be found – a fine example being at Fishpond. Small villages are found along the valleys, particularly where several valleys meet. Beaminster is a particularly clear example of this characteristic.

On the east of the NCA, a sequence of strata leads from Jurassic clays to the Chalk of the Cretaceous. Erosion has created a series of 'terraces' which are, in places, dissected and blurred by an intricate network of valleys. Around North Poorton and Powerstock (villages with a vernacular of the local Inferior Oolite), the greatest sense of remoteness and isolation can often be felt. The combination of enclosing steep valleys, winding lanes – often running in hollow ways – and extensive woodland cover obscuring the long views insulates these villages from their surroundings.

Much of the 6 per cent woodland cover in this NCA is concentrated here. Due to the underlying geology, the woodland here is wet, sitting on or below the springline, featuring oak and ash but locally dominated by alder carr. Such is the quality of this woodland and species-rich fen around Powerstock Common that a large tract has been designated as the West Dorset Alder Woods SAC.

This wooded landscape, along with the extensive hedgerow network, supports several scarce species of bat and the common dormouse. Agriculturally, the Powerstock Hills are almost entirely in pasture and, as with all the rising ground in the area, feature a mosaic of improved, semi-improved and semi-natural grasslands, often changing type within the boundary of a single field. Open habitats along the springline are also valuable: dry grassland rapidly gives way to wet meadows, mires and scrub, punctuated by numerous small, wet woodlands – often representing abandoned fields. Unimproved grassland communities represent 4.8 per cent of the NCA. Most of this is concentrated away from the fertile, improved pasture of the clay vale.

The most well-known and extensive area of this habitat, straddling the north-eastern boundary of the NCA, is Kingcombe Meadows (Toller Porcorum Site of Special Scientific Interest), a 177-hectare complex of grasslands, wetland and woodlands managed by the Dorset Wildlife Trust.

On the highest ground of the chalk fringes of the Dorset Downs to the east and the flat-topped Greensand hills to the north and west are an impressive suite of hill forts, including Eggardon Hill, Pilsdon Pen and Coney's Castle. Settlements are absent, being sited on or below the springline such as at Fishpond Bottom. The thin soils on the Greensand summits usually feature relict heathland, the acid conditions marked by a bold transition from rough pasture to bracken and gorse. Where management is absent, secondary woodland of birch and rowan has established. On the NCA's north-western edge, conifer plantations have replaced rough grazing and heathland. Since 1953, the entire NCA has been part of the Dorset Area of Outstanding Natural Beauty (AONB), exemplifying as it does the landscape variety for which the AONB was designated.

This area's remoteness and the popularity of the adjacent Dorset Downs and Cranborne Chase NCA have resulted in some neglect from the arts; however, Thomas Hardy mentions Bridport (Port Bredy) and Beaminster (Emminster) in his works and it also inspired some of William Barnes' poems.

> Sweet Be'mi'ster, that bist a-bound
> By green an' woody hills all round,
> Wi' hedges, reachèn up between
> A thousan' vields o' zummer green,[4]

Both Hardy and Barnes would still recognise the Marshwood and Powerstock vales today, maintaining, as they have, their deeply rural, pastoral and tranquil character.

The heathy Upper Greensand summit of Hardown Hill provides shelter to housing close to Ryall. Well wooded and thickly hedged fields slope away on the Gault Clay.

[4] Lines from 'Be'mi'ster', Poems of Rural Life in the Dorset Dialect, William Barnes (1879)

The landscape through time

The Marshwood and Powerstock vales are mainly underlain by Lower and Middle Jurassic clays, sandstones and limestones that were deposited between 195 and 165 million years ago and reflect a fall in sea level over this period. The Charmouth Mudstone Formation and Eype Clay were deposited in deeper water.

Shallowing seas deposited the Down Cliff, Thorncombe and Bridport sandstones These were capped by the Inferior Oolite limestone when sea levels reached their lowest. After this, Fullers Earth and Frome Clay marked a return to rising sea levels and subsequent Forest Marble to a further fall. The fossil record shows that these were highly biodiverse seas: invertebrates such as cephalopods (ammonites and belemnites) and bivalve molluscs were abundant while vertebrate remains include marine reptiles, fish and even rare fossils of early mammals.

Although sedimentation continued through the Jurassic, uplift and erosion at around 100 million years ago destroyed the record of the rest of the Jurassic and of the lower Cretaceous in this area. The rock layers were also tilted slightly to the east at this time. Marine deposition resumed across the new surface, laying down the Gault Clay, Upper Greensand and Chalk.

A geological structure known as the Marshwood Pericline has a strong controlling effect on drainage in the area. This elongated, dome-like structure was imprinted on the Jurassic geology by about 150 million years ago during a mountain-building episode. Early in the Cenozoic Era, a vast erosion plain developed, destroying much of the overlying Chalk, particularly in the west. This plain has been dissected following regional uplift but evidence of it remains in the western part of the NCA in the shape of the flat tops of the

A rythmic pattern of fields, hedges, trees and scattered farmsteads.

Upper Greensand capped hills, as at Golden Cap, Hardown Hill, Lewesdon Hill and Pilsdon Pen.

Erosion of the soft clays of the Charmouth Mudstone Formation has produced a broad vale rising to high hills capped by Upper Greensand. In contrast, the rivers and streams have cut down through the sandstones underlying the Powerstock Vale to create narrow, steep-sided valleys with flat hill tops capped by Inferior Oolite.

Surviving Neolithic barrows suggest that the Upper Greensand hills and ridges were cleared at an early date. Iron-age hill forts, such as Coney's Castle, Pilsdon

Pen and Eggardon Hill, form the most conspicuous other prehistoric artefacts. It is likely that subsequent settlement and cultivation have obscured other, less monumental traces of prehistory, though there is evidence for extensive prehistoric settlement at Beaminster.

The Romano-British period most likely saw extension of settlement and farming to most of the area, except the heavy, waterlogged soils of the Marshwood Vale. The main Roman road between Dorchester and Exeter passed through this area and occupation is known from the northern and southern edges of the area. Taylor suggests that Romano-British occupation of Dorset extended well into the 700s (significantly longer than in other parts of England).[5]

The final transition to Saxon rule seems to have initiated only tenurial, ecclesiastical and administrative changes, making little difference to the majority of settlement and land use apart from many, though not all, place names changing from Celtic to Saxon.[6]

The area's villages and hamlets can mostly be dated to before the 11th century. The Norman invasion saw little physical change on the ground apart from the establishment or renaming of isolated farms with a typically Norman 'hay' ending (meaning 'enclosure'). These frequent individual farms of Marshwood Vale are principally the result of 10th- to 13th-century assarting. Most fields associated with these scattered farmsteads are small to medium in size and often highly irregular in shape.

Moated sites, castles, deserted settlements, and remains of lynchets and ridge and furrow (for example, at Netherton and Powerstock) illustrate the degree of cultivation and more widespread settlement in marginal areas up to the early 14th century. Some farmstead sites show evidence of having shrunk from

The ichthyosaur is the most well known fossil species from the Jurassic coast. While specimens like this are rare, many visitors find vertebrae on the beaches.

hamlets. This probably reflects rural depopulation due to the Black Death and increasingly urbanised populations.

Open field arable was restricted to areas around nucleated settlement such as Whitchurch Canonicorum. This was typically enclosed by agreement from the 15th century, often in a piecemeal fashion, resulting in small, rectilinear fields with gently curving boundaries. In the north of the area, common land was enclosed by agreement in the 17th century, resulting in a field pattern of regular, rectilinear fields that are more typical of late 18th- or 19th-century enclosure.

Arable cultivation has historically predominated in the Brit Valley and on lower ground, resulting in more large-scale enclosure generally completed by the 18th century. Hemp and flax growing were a major post-medieval aspect of agriculture on the area's clay soils from the 17th century, supplying Bridport's sailcloth and

[5] Dorset: The Making of the English Landscape, Christopher Taylor (1975). [6] Ibid.

cordage-making industries. The NCA was a major dairying area from at least the 16th century, converting from cheese making to the production and export of liquid milk, facilitated by the extension of the railways into the area from the mid 19th century. Many farms still feature cider barns, as orchards were common and the production of cider was an important local custom.

This area, particularly the coast, has been the source of important fossils since the emergence of geology as a science over 200 years ago, and museums around the world contain fossils from this area. The first ichthyosaurs and plesiosaurs described by science were discovered here by Mary Anning in the early 1800s.

Apart from modest expansion of Bridport, Beaminster and Charmouth, the 19th and 20th centuries have had little impact on the area. There are, though, two notable exceptions. The steel pylons of the electricity transmission line, erected in the mid 1960s, run across both vales before making dramatic ascents of the rising ground either side of the NCA. The other is the dramatic increase in traffic on the A35 and the increasing levels of tourism and related development along the coastal strip; levels of near gridlock can be reached at the height of the tourist season.

Ecosystem services

The Marshwood and Powerstock Vales NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as 'ecosystem services'.

The predominant services are summarised below. Further information on ecosystem services provided in the Marshwood and Powerstock Vales NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision:** While food production is only of local significance, the cultural associations and imprints upon the land are of regional or national significance. It represents a significant survival of a once familiar pastoral system of production.

- **Water availability:** This NCA is isolated and self-sufficient in terms of water resources. Both rivers rise and meet the sea within its boundary.

Regulating services (water purification, air quality maintenance and climate regulation)

- **Climate regulation:** The well-treed hedgerows, tracts of semi-natural woodland and large areas of permanent grassland all make valuable contributions to carbon sequestration and storage.

- **Regulating soil erosion:** The nature of the topography in this area could, with more intensive arable production, lead to greater levels of soil erosion than are presently experienced.

- **Regulating soil quality:** The predominantly pastoral nature of agriculture in this area has maintained soils with good quality. Intensification of arable production may lead to reductions in soil quality in terms of structure and organic content.

- **Regulating water flow:** Local topography accentuates rapid responses to rainfall in the two rivers' catchments. Flooding has been an issue in the past.

- **Regulating coastal flooding and erosion:** The nature of the coastal processes means that eroded material makes little contribution to

deposition along the coast. Fine material moves offshore, while long-shore drift is hampered by lobes of debris remaining from past cliff falls. However, the spectacular scale of coastal erosion makes this locale of great educational value.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** The coast dominated by Golden Cap, Marshwood Vale with its hedgerows punctuated by oaks, and Powerstock Vale with secluded, intimate valleys and streams flanked by alder woods – all bound by a strongly traditional pastoral farming system – impart a very strong sense of place.

- **Sense of history:** Several hill forts, lynchets, and highly visible and distinctive vernacular architecture give a sense of occupational history. The small-scale pastoral nature of the NCA brings a past agricultural landscape into the present.

- **Tranquillity:** Away from the coast it is easy to find tranquil locations, low levels of settlement and fine views strengthening feelings of tranquillity.

- **Recreation:** The South West Coast Path National Trail runs the length of the coast and two regionally important trails, the Wessex Ridgeway and Jubilee Trail, both meet the coast within this NCA. A network of tracks and paths inland provides a good level of access. Biodiversity, geological visits, fossil collecting and fine landscape views are major attractions.

- **Biodiversity:** This is an important NCA for grasslands, coastal vegetation communities and wet alder woodland. The last two habitat types are both designated as SAC in the NCA.

From Stonebarrow, the South West Coast Path National Trail wends it way to Golden Cap. This is an intensively used stretch of the path offering fabulous views up and down the Jurassic Coast.

- **Geodiversity:** The geodiversity of this NCA is of international importance, recognised through its status as England's only natural World Heritage Site. The educational and scientific value of this NCA, especially the coastline, is very high. It is one of the most visited areas in England for geological field trips.

Statements of Environmental Opportunity

SEO 1: Protect, manage and enhance the Marshwood and Powerstock vales' highly legible relationship between geology, landform and land use. Protect and manage the naturally functioning, highly accessible and internationally important coastline and the suite of nationally designated and Local Geological Sites.

For example, by:

- Explaining the connections between the geology of the National Character Area (NCA) and its settlement and land use history.
- Making the links between the types and patterns of agriculture that have developed in relation to the soils and hydrological conditions that the underlying geological strata and structures have created.
- Explaining the role that the geology and geomorphology of the Marshwood and Powerstock vales play in maintaining the ecosystem services we value – water, food provision, wildlife, sense of place and sense of history.
- Ensuring that the sense of place imparted by the localised use of specific building stones is maintained and, as often as possible, re-enforced by new development.
- Protecting important features for geological/geomorphological interpretation, from inappropriate changes in land use, for example maintaining the open, uncluttered flat tops of the Greensand hills and the magnificent vistas from them.
- Explaining underlying geological processes through the semi-natural vegetation of the area, for example linking heathlands to the acidic Greensands and wet alder woodlands and mires to the springline.
- Ensuring, wherever possible, that the natural functions of coastal geomorphological processes are unimpeded.
- Continuing to provide high-quality interpretation and engagement activities for visitors to the Jurassic Coast in order to highlight its importance, from the international to local scales.
- Providing ongoing high-quality access to the 12 km of the coast, via the South West Coast Path National Trail, and developing inland linkages to the public rights of way network.
- Managing the coastal strip and hinterland to ensure that new or existing developments do not impact on the setting or visual coherence of the coast or its scientific and cultural values.
- Planning for rising, stormier seas while managing coastal processes in as natural a state as possible and ensuring that new developments are not located where coastal defence will be required, posing a threat to continued unimpeded natural processes.
- Ensuring that measures are taken to maintain or bring about favourable condition of the geological SSSI interests running the length of the coast and that the sites of local geological importance are appropriately managed and, where possible, accessible for study.
- Ensuring that the policies outlined in the Jurassic Coast World Heritage Site and Dorset Area of Outstanding Natural Beauty (AONB) Management Plans are implemented.

SEO 2: Protect, manage and enhance the diverse but coherent pastoral landscape character: the range of semi-natural grasslands, woodland and relict heathland with their characteristic wildlife. Manage these simple patterns of land use maintained by the long history of agriculture.

For example, by:

- Explaining the links between the current distribution of semi-natural habitats and the strong landscape character with the history of settlement and land utilisation over the last 4,000 years.
- Explaining that the highly valued wildlife and landscape are both products of a principally small-scale and extensive agricultural system that has been largely maintained since the Second World War.
- Working with farmers and other land managers to positively shape the way in which land is managed into the future, innovating and diversifying to maintain the agricultural economy while simultaneously preserving and positively enhancing the physical, ecological and cultural landscape that is so highly valued by local people and visitors.
- Alongside established agri-environment schemes, identifying and implementing an incentive mechanism to protect and enhance ecosystem services, allowing land managers to make business choices that are not always driven by market forces.
- Making available sufficiently robust and accessible evidence of the need to secure and improve ecosystem services, the ecosystems that provide them and the semi-natural habitats and geodiversity that underpin them.
- Ensuring that the Special Areas of Conservation, the suite of biological Sites of Special Scientific Interest and the Sites of Nature Conservation Importance in the NCA are in positive management.
- Returning traditional management regimes to those habitats that require them, particularly grazing to the range of grasslands and active management interventions in woodlands.
- Restoring and strengthening the matrix of connecting landscape/habitat features within a functional farmed environment, such as hedgerows, copses, thickets and ditches, to increase permeability and movement opportunities for wildlife.
- Returning plantations on ancient woodland sites to broadleaved species and exploring and promoting local wood fuel/produce schemes across the woodland resource in the NCA.
- Allowing natural erosion and deposition processes on the coast and cliffs to continue without undue constraint, creating and maintaining the ecological niches that are essential for early successional species and habitats.
- Creating new wetlands along the River Brit and River Char to enhance biodiversity water flow and quality and regulate flood events.
- Identifying the potential impacts of climate change on grassland and woodland habitats and targeting climate change adaptation actions.
- Increasing land managers' understanding of the importance of the soil resource and the need for its sympathetic management for the delivery of a range of benefits and services and to enable better control of the costs of agricultural production.
- Understanding the implications of and planning potential responses in vegetation cover to environmental changes and pathogens, with particular attention being paid to loss of ash from *Chalara fraxinea* and beech from drought and windthrow.
- Giving high regard to the guidelines contained in the Dorset AONB Landscape Character Assessment.

Continued over...

SEO 2 continued

- Promoting land use practices which create ground cover in the autumn and winter months, arresting water flows and reducing erosion. Seek to minimise negative impacts of compaction and soil organic matter loss from excessive tillage.
- Ensuring that the relevant policies outlined in the Dorset AONB Management Plan are implemented.
- Avoiding development that detracts from the character, natural beauty and tranquillity of the NCA and, in as many cases as possible, identifying alternative approaches which enhance and reinforce them.

SEO 3: Manage and enhance people's awareness of the connections between the NCA's strong landscape character, sense of place and distinctive wildlife and the continuity of agricultural land use and legibility of historic influences.

For example, by:

- Utilising a range of media and locations to provide visitors with an integrated, high- quality interpretive experience, explaining the evolution, development and conservation of the landscape of the Marshwood and Powerstock vales.
- Using the distinctive landscape of the Marshwood Vale as a basis for thought-provoking stories for visitors and residents alike.
- Linking the landscape of the works of William Barnes and Thomas Hardy to the modern landscape to illustrate the low levels of change that have maintained the pastoral landscape into the 21st century.
- Developing new permissive access to historical sites, open access land and other areas of interest as part of a cohesive network of inspiring access provision.
- Promoting the 'whole landscape' approach adopted by the South Dorset Ridgeway Landscape Partnership in the adjacent Dorset Downs and Cranborne Chase NCA and investigating whether this can be used in this NCA.
- Promoting the inspirational qualities of the NCA; exploring the cultural imprints of thousands of years of human occupation which are clearly legible in the landscape; reviewing the depiction of the NCA in the arts; and understanding the changing relationship between the landscape and the people who lived and live in it.
- Explaining the intimate relationship between geodiversity, human occupation and land use history in the NCA.
- Using this section of coast with its abundant fossil record, geological strata and formations and long historical association with the natural sciences to bring a greater understanding of geodiversity and its importance.
- Maintaining and, where appropriate, enhancing the South West Coast Path National Trail, the Wessex Ridgeway and the Jubilee Trail.
- Maintaining and enhancing the rights of way network and open access land throughout the area.
- Taking opportunities to increase and improve the area of accessible natural green space in places that are currently poorly served, especially in often overlooked rural areas.
- Promoting sustainable tourism initiatives that target a broad range of visitors, allowing farm businesses to diversify, simultaneously benefiting from and conserving the landscape, its wildlife and tranquillity.
- Maintaining the high levels of tranquillity that can be experienced within the NCA. Additionally, enhancing the 'experience of tranquillity' at certain locations through, for example, creation of semi-natural habitats and removal of eyesores.

Supporting document 1: Key facts and data

Total area: 15,945 ha

1. Landscape and nature conservation designations

The entire NCA lies within the Dorset Area of Outstanding Natural Beauty (AONB). Eleven per cent forms part of the West Dorset Heritage Coast. There are 4 major divisions within this character area. In the centre is the clay Vale itself. Surrounding it is a diverse landscape of high ridges and rounded hills, which have a distinctive steeply sloping profile and flat topped summits; Upper Greensand. On the eastern side the Powerstock Hills; small conical hills divided by steep valleys. The coast with its slumped, mobile cliffs, prominent headlands and hidden valleys.

Management plans for the protected landscape can be found at: www.dorsetaonb.org.uk/

Source: Natural England (2011)

1.1 Designated nature conservation sites

The NCA includes the following statutory nature conservation de1signations:

Tier	Designation	Name	Area (ha)	Percentage of NCA
International	n/a	n/a	0	0
European	Special Protection Area (SPA)	n/a	0	0
	Special Area of Conservation (SAC)	Chesil and the Fleet SAC; Sidmouth to West Bay SAC; West Dorset Alderwoods SAC	425	3
National	National Nature Reserve (NNR)	n/a	0	0
National	Site of Special Scientific Interest (SSSI)	A total of 10 sites wholly or partly within the NCA	933	6

Source: Natural England (2011)

Please note: (i) Designated areas may overlap (ii) all figures are cut to Mean High Water Line, designations that span coastal areas/views below this line will not be included.

There are 83 local sites in Marshwood and Powerstock Vales NCA covering 511 ha, which is 3 per cent of the NCA.

Source: Natural England (2011)

- Details of individual Sites of Special Scientific Interest can be searched at: http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm
- Details of Local Nature Reserves (LNR) can be searched: http://www.lnr.naturalengland.org.uk/Special/lnr/lnr_search.asp
- Maps showing locations of Statutory sites can be found at: http://magic.defra.gov.uk – select 'Designations/Land-Based Designations/ Statutory'

1.2 Condition of designated sites

SSSI condition category	Area (ha)	Percentage of SSSI land in category condition
Unfavourable declining	43	5
Favourable	512	55
Unfavourable no change	74	8
Unfavourable recovering	296	32

Source: Natural England (March 2011)

Details of SSSI condition can be searched at:
http://www.sssi.naturalengland.org.uk/Special/sssi/reportIndex.cfm

2. Landform, geology and soils

2.1 Elevation

The land ranges in height from sea level to a maximum height of almost 280 m. The mean is 81 m.

Source: Natural England (2010)

2.2 Landform and process

This NCA consists of four major landforms. In the centre is the clay vale. Surrounding the vale is a diverse landscape of high ridges and rounded hills which have the distinctive steeply-sloping profile and flat-topped summits typical of the Upper Greensand. On the eastern edge these form the Powerstock Hills; small, conical hills divided by steep valleys. Finally, there is the coast with its slumped, mobile cliffs, its prominent headlands and hidden valleys.

Source: Wessex Vales Natural Area Profile, Marshwood and Powerstock Vales Countryside Character Area description

2.3 Bedrock geology

The Lower Lias clays and Middle Lias sandy clays, silts and sands of the Vale are surrounded by hills of Upper Greensand rocks. These extend right around the Vale almost to the sea. Ridges of Inferior Oolite to the north extend to the Axe Valley. To the east the Bridport Sands (Upper Lias) and some outcrops of Inferior Oolite limestone form the Powerstock Hills. The Jurassic rocks are exposed in cliffs along the coast and are commonly fossiliferous. Where the rocks are exposed at the coast they form part of the Jurassic Coast World Heritage Site.

Source: Wessex Vales Natural Area Profile, Marshwood and Powerstock Vales Countryside Character Area description, British Geological Survey maps

2.4 Superficial deposits

Small areas of clay-with-flints occur over the Lias rocks in the Marshwood Vale itself. Some areas of landslip are present at the east of the area, on the Powerstock hills and vales. River alluvium – clay, silt, sand and gravels and associated terrace deposits – are associated with the rivers that dissect the NCA such as the Brit flowing through Bridport.

Source: Wessex Vales Natural Area Profile, Marshwood and Powerstock Vales Countryside Character Area description, British Geological Survey maps

2.5 Designated geological sites

Tier	Designation	Number
National	Geological Site of Special Scientific Interest (SSSI)	1
National	Mixed interest SSSI	1
Local	Local Geological Sites	10

Source: Natural England (2011)

- Details of individual Sites of Special Scientific Interest can be searched at: http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm

2.6 Soils and Agricultural Land Classification

The soils vary with both rock type and gradient and there is a transition down the slopes from brown earths to stagnogleys.

Source: Marshwood & Powerstock Vales Countryside Character Area description

The main grades of agricultural land in the NCA are broken down as follows (as a proportion of total land area):

Agricultural Land Classification	Area (ha)	Percentage of NCA
Grade 1	716	4
Grade 2	1,235	8
Grade 3	9,177	58

Agricultural Land Classification	Area (ha)	Percentage of NCA
Grade 4	3,588	23
Grade 5	754	5
Non-agricultural	0	0
Urban	464	3

Source: Natural England (2010)

Maps showing locations of sites can be found at:
http://magic.defra.gov.uk – select 'Landscape' (shows ALC and 27 types of soils).

3. Key waterbodies and catchments

3.1 Major rivers/canals

The following major rivers/canals (by length) have been identified in this NCA.

Name	Length in NCA (km)
River Brit	15
River Char	7

Source: Natural England (2010)

Please note: other significant rivers (by volume) may also occur. These are not listed where the length within the NCA is short.

3.2 Water quality

The total area of Nitrate Vulnerable Zone is 1,234 ha, or 8 per cent of the NCA.

Source: Natural England (2010)

3.3 Water Framework Directive

Maps are available from the Environment Agency showing current and projected future status of water bodies
http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e

4. Trees and woodlands

4.1 Total woodland cover

The NCA contains 1,401 ha of woodland covering 9 per cent of the NCA and including 387 ha of ancient woodland.

Source: Natural England (2010), Forestry Commission (2011)

4.2 Distribution and size of woodland and trees in the landscape

Woodland is generally confined to the steep slopes and stream sides of the clay vale. The woodlands of the Upper Greensand scarps and slopes are mainly deciduous. There are conifer plantations around the north-western edge of the area where it merges into the Blackmore Vale. On the eastern edge around the Powerstock Hills there are many small woods, generally the result of natural regeneration, dominated by beech, ash, lime, sycamore and oak. Scots pine is an occasional feature of the overgrown hedgerows. Small clumps of Scots pine on the tops of the conical Powerstock Hills are a particularly notable feature.

Source: Marshwood & Powerstock Vales Countryside Character Area description

4.3 Woodland types

A statistical breakdown of the area and type of woodland found across the NCA is detailed below.

Area and proportion of different woodland types in the NCA (over 2 ha)

Woodland type	Area (ha)	Percentage of NCA
Broadleaved	1,097	7
Coniferous	162	1
Mixed	2	<1
Other	140	1

Source: Forestry Commission (2011)

Area and proportion of ancient woodland and planted ancient woodland sites (PAWS) within the NCA.

Woodland type	Area (ha)	Percentage of NCA
Ancient semi-natural woodland	182	1
Ancient re-planted woodland (PAWS)	205	1

Source: Natural England (2004)

5. Boundary features and patterns

5.1 Boundary features

There is a rhythmic pattern of landscape defined by a strong but varied network of hedgerows, mature hedgerow trees, woodland, some stone walls and earthbanks.

Source: Marshwood & Powerstock Vales Countryside Character Area description; Countryside Quality Counts (2003)

5.2 Field patterns

Mixed landscape pastures and meadows enclosed by a network of tall thick hedgerows with numerous small woods and copses. There are similar field sizes and a simplicity of landscape with fields mostly divided by hedgerows with hedgerow trees.

Source: Marshwood & Powerstock Vales Countryside Character Area description; Countryside Quality Counts (2003)

6. Agriculture

The following data has been taken from the Agricultural Census linked to this NCA.

6.1 Farm type

There were 279 holdings in 2009, of which 172 (62 per cent) were livestock holdings. The number of holdings with grazing livestock (lowland) had increased by 5 per cent since 2000 to 116.There was a 14 per cent increase in all arable and horticulture holdings in the 10 years in question.

Source: Agricultural Census, Defra (2010)

6.2 Farm size

Farms between 5 and 50 ha accounted for 57 per cent of all holdings. The 35 commercial holdings of more than 100 ha accounted for 53 per cent (7,483 ha) of the total land area.

Source: Agricultural Census, Defra (2010)

6.3 Farm ownership

2009: Total farm area = 14,124 ha; owned land = 9,813 ha
2000: Total farm area = 12,399 ha; owned land = 8,228 ha

Source: Agricultural Census, Defra (2010)

6.4 Land use

The land is predominantly 'grass and uncropped land'; 75 per cent of the total farmed area of 14,124 ha in 2009. Nine per cent of the land (1,323 ha) was used for cereal holdings in 2009. 'Other' arable crops (including crops for medicinal use, borage, peas, miscanthus and beans) account for 7 per cent of the area.

Source: Agricultural Census, Defra (2010)

6.5 Livestock numbers

In 2009 there were 17,700 cattle (15,200 in 2000), 27,400 sheep (29,100 in 2000) and 1,000 pigs (9,800 in 2000).

Source: Agricultural Census, Defra (2010)

6.6 Farm labour

The majority of holdings are run by principal farmers (392 in 2009), with few salaried managers. The number of full time workers fell by 13 per cent from 82 to 73 between 2000 and 2009. The number of casual/gang workers also decreased. The numbers of part time workers increased to 62 from 51.

Source: Agricultural Census, Defra (2010)

Please note: (i) Some of the Census data are estimated by Defra so may not present a precise assessment of agriculture within this area (ii) Data refers to commercial holdings only (iii) Data includes land outside of the NCA where it belongs to holdings whose centre point is recorded as being within the NCA.

7. Key habitats and species

7.1 Habitat distribution/coverage

Unimproved grasslands, wet flushes and marshy areas are found along the spring lines at the valley sides and there are prominent patches of heathland within mosaics of bracken, gorse and acid grassland on the ridges and steeper greensand slopes. The Marshwood Vale has a distinctive scattering of mature hedgerow oak trees, with narrow ribbons of woodland along the many streams. Elsewhere woodlands and copses are confined to steeper slopes, with larger conifer plantations on the north-western borders of the area, where it merges with the Blackmore Vale. This diverse range of habitat is important for bat populations.

Source: Wessex Vales Natural Area Profile

7.2 Priority habitats

The Government's new strategy for biodiversity in England, Biodiversity 2020, replaces the previous Biodiversity Action Plan (BAP) led approach. Priority habitats and species are identified in Biodiversity 2020, but references to BAP priority habitats and species, and previous national targets have been removed. Biodiversity Action Plans remain a useful source of guidance and information. More information about Biodiversity 2020 can be found at; www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/englandsbiodiversitystrategy2011.aspx.

The NCA contains the following areas of mapped priority habitats (as mapped by National Inventories). Footnotes denote local/expert interpretation. This will be used to inform future national inventory updates.

Priority habitat	Area (ha)	Percentage of NCA
Broadleaved mixed and yew woodland (broad habitat)	800	5
Maritime cliff and slope	348	2
Lowland meadows	155	1
Lowland dry acid grassland	73	<1
Purple moor grass and rush pasture	53	<1
Lowland calcareous grassland	43	<1
Lowland heathland	14	<1

Source: Natural England (2011)

Maps showing locations of priority habitats are available at:

- http://magic.defra.gov.uk – Select 'Habitats and Species/Habitats'

7.3 Key species and assemblages of species

- Maps showing locations of some key species are available at: http://magic.defra.gov.uk – Select 'Habitats and Species/Habitats'
- Maps showing locations of S41 species are available at http://data.nbn.org.uk/

8. Settlement and development patterns

8.1 Settlement pattern

Settlement comprises small hamlets and many large farmsteads, linked by winding lanes, often with hedgebanks. Older traditional buildings are built of limestone or Ham Hill Stone. Prominent hill forts overlook the vales. Beaminster was an important centre in Saxon times. On average development pressure seems to be low compared to other areas, but there is evidence of expansion of urban and urban fringe into peri-urban around Bridport and isolated development along the axes of the A35 and A3066. These impacts are of local significance and overall character has probably been maintained.

Source: Marshwood & Powerstock Vales Countryside Character Area description; Countryside Quality Counts (2003)

8.2 Main settlements

The main settlement within the NCA is Bridport. The total estimated population for this NCA (derived from ONS 2001 census data) is: 20,232.

Source: Marshwood & Powerstock Vales Countryside Character Area description; Countryside Quality Counts (2003), Natural England (2012)

8.3 Local vernacular and building materials

Bridport has some stone buildings, although there is a predominance of brick and render. Pink colour-washed buildings are found on the coast.

Source: Marshwood & Powerstock Vales Countryside Character Area description; Countryside Quality Counts (2003)

9. Key historic sites and features

9.1 Origin of historic features

It is likely that the Upper Greensand hills and ridges were cleared at an early date; the surviving barrows form prominent skyline features when viewed from below. The most conspicuous other prehistoric evidence is the Iron Age hill forts like Lambert's Castle, Coney's Castle and Pilsdon Pen. However, probable prehistoric settlement in the surrounding valleys has been masked by more recent settlements and cultivation, although a few sites such as that at Beaminster are known. The clay vale of Marshwood was probably predominantly woodland until comparatively recently and only in the south around Whitchurch Canonicorum is there evidence of the common fields of the high Middle Ages. The farms are generally first recorded in 13th and 14th century documents and the frequent farmsteads with a Middle English or post-Conquest name ending in hay (meaning enclosure) seem to indicate piecemeal clearance at a late date, although some farms were present in the mid-11th century.

Settlement in the valleys and on the coastal strip was probably earlier and there was certainly Roman occupation at the northern and southern edges of the area. Settlement appears to have been more frequent in the medieval period; there are moated sites and deserted settlements in some of the valleys. Here open field systems were laid out, in places extending up onto the steep hillsides as lynchets, for example at Netherbury, Loders and Powerstock. At the northern edge of the area, Beaminster was an important centre from at least Saxon times. Piecemeal enclosure was probably taking place from an early date and most land had been enclosed by the 18th century. However, although some of the downland was enclosed early on, it lies within large, rectilinear fields typical of the 18th and 19th centuries. The frequent individual farms of Marshwood Vale reflect the fact that it was said to have the highest proportion of free tenancy in the country.

Source: Draft Historic Profile, Marshwood & Powerstock Vales Countryside Character Area description

9.2 Designated historic assets

This NCA has the following historic designations:

- 1 World Heritage Site
- 4 Registered Parks and Gardens covering 91 ha
- No Registered Battlefields
- 26 Scheduled Monuments
- 1,170 Listed Buildings

Source: Natural England (2010)

More information is available at the following address:

- http://www.english-heritage.org.uk/caring/heritage-at-risk/
- http://www.english-heritage.org.uk/professional/protection/process/national-heritage-list-for-england/

10. Recreation and access

10.1 Public access

- 1.5 per cent of the NCA 238 ha is classified as being publically accessible.
- There are 437 km of public rights of way at a density of 2.8 km per km2.
- There is 1 National Trail (South West Coastal Path) which covers 12 km within the NCA.

Sources: Natural England (2010)

The table below shows the breakdown of land which is publically accessible in perpetuity:

Access designation	Area (ha)	Parcentage of NCA
National Trust (Accessible all year)	127	1
Common Land	33	<1
Country Parks	0	0
CROW Access Land (Section 4 and 16)	238	1
CROW Section 15	6	<1
Village Greens	<1	<1
Doorstep Greens	0	0
Forestry Commission Walkers Welcome Grants	5	<1
Local Nature Reserves (LNR)	15	<1
Millennium Greens	5	<1
Accessible National Nature Reserves (NNR)	0	0
Agri-environment Scheme Access	4	<1
Woods for People	213	1

Sources: Natural England (2011)

Please note: Common Land refers to land included in the 1965 commons register; CROW = Countryside and Rights of Way Act 2000; OC and RCL = Open Country and Registered Common Land.

11. Experiential qualities

11.1 Tranquillity

Based on the CPRE map of tranquillity (2006) away from Bridport the area is of medium to high tranquillity.

A breakdown of tranquillity values for this NCA is detailed in the table below:

Tranquillity	Score
Highest value within NCA	43
Lowest value within NCA	60
Mean value within NCA	3

Sources: CPRE (2006)

More information is available at the following address:
http://www.cpre.org.uk/resources/countryside/tranquil-places

11.2 Intrusion

The 2007 Intrusion Map (CPRE) shows the extent to which rural landscapes are 'intruded on' from urban development, noise (primarily traffic noise), and other sources of visual and auditory intrusion. This shows away from Bridport and the few major roads that cross the NCA, the land is still undisturbed by visual and auditory intrusion. A breakdown of intrusion values for this NCA is detailed in the table below.

Intrusion category	1960s (%)	1990s (%)	2007 (%)	Percentage change (1960s-2007)
Disturbed	4	24	42	38
Undisturbed	95	73	55	-40
Urban	0	0	3	3

Sources: CPRE (2007)

Notable trends from the 1960s to 2007 are that the major roads have become intrusive during that time.

More information is available at the following address:
http://www.cpre.org.uk/resources/countryside/tranquil-places

12. Data sources

- British Geological Survey (2006)
- Natural Area Profiles, Natural England (published by English Nature 1993-1998)
- Countryside Character Descriptions, Natural England (regional volumes published by Countryside Commission/Countryside Agency 1998/1999)
- Joint Character Area GIS boundaries, Natural England (data created 2001)
- National Parks and AONBs GIS boundaries, Natural England (2006)
- Heritage Coast Boundaries, Natural England (2006)
- Agricultural Census June Survey, Defra (2000,2009)
- National Inventory of Woodland & Trees, Forestry Commission (2003)
- Countryside Quality Counts Draft Historic Profiles, English Heritage (2004)*
- Ancient Woodland Inventory, Natural England (2003)
- Priority Habitats GIS data, Natural England (March 2011)
- Special Areas of Conservation data, Natural England (data accessed in March 2011)
- Special Protection Areas data, Natural England (data accessed in March 2011)
- Ramsar sites data, Natural England (data accessed in March 2011)
- Sites of Special Scientific Interest, Natural England (data accessed in March 2011)
- Detailed River Network, Environment Agency (2008)
- Source protection zones, Environment Agency (2005)
- Registered Common Land GIS data, Natural England (2004)
- Open Country GIS data, Natural England (2004)
- Public Rights of Way Density, Defra (2011)
- National Trails, Natural England (2006)
- National Tranquillity Mapping data, CPRE (2007)
- Intrusion map data, CPRE (2007)
- Registered Battlefields, English Heritage (2005)
- Record of Scheduled Monuments, English Heritage (2006)
- Registered Parks and Gardens, English Heritage (2006)
- World Heritage Sites, English Heritage (2006)
- Incorporates Historic Landscape Characterisation and work for preliminary Historic Farmstead Character Statements (English Heritage/Countryside Agency 2006)Detailed River Network, Environment Agency (2008)

Please note all figures contained within the report have been rounded to the nearest unit. For this reason proportion figures will not (in all) cases add up to 100%. The convention <1 has been used to denote values less than a whole unit.

Supporting document 2: Landscape change

Recent changes and trends

Trees and woodlands

- The latest Forestry Commission data gives a figure of 1,401 ha of woodland of all types in the NCA. About 182 ha are ancient semi-natural woodland and 205 ha of planted ancient woodland sites.

- The proportion of these sites (based on a representative sample) covered by a woodland grant scheme changed between 1999 and 2003 from 7 per cent to 37 per cent, a significant increase in the active management of these woodland sites.

- 2013 Environmental Stewardship figures give 124 ha of live woodland options and 14.5 km of woodland fencing to aid reduced deer and stock grazing damage.

- Under Environmental Stewardship, 891 individual parkland or hedgerow trees have been planted (though it is not possible to differentiate between types of planting).

Boundary features

- The Countryside Quality Counts (CQC) project (2003) estimated boundary length for the NCA at 1,346 km (giving an average boundary length of 87 m/ha).

- The 2003 CQC assessment noted that around 301 km or 22 per cent of the boundary length was in Countryside Stewardship Schemes (CSS) and that the resource had 'probably been enhanced[7]. As of June 2013, almost 195 km (just short of 14.5 per cent of NCA boundary features) of hedgerow management options are live across the NCA. This indicates a decrease from the CSS figures. Almost all of the uptake (183 km) can be attributed to hedgerow management options taken up under Entry Level Scheme.

- Figures for Environmental Stewardship show that while hedgerow management is a popular option (183 km), the establishment of new (0.2 km) and restoration (4.8 km) of existing hedgerows is not widely taken up in the Higher Level Scheme. Consequently it is likely that a deficit of 'next generation' hedgerow trees has been established and this could lead to a significant change in landscape character as established hedgerow trees senesce and die. No options for protective buffers for hedgerow trees have been taken up in the NCA.

- 1.7 km of stone wall maintenance and restoration reflects the low frequency of this type of boundary in the NCA.

Agriculture

- In 2009 there were 17,700 cattle (15,200 in 2000), 27,400 sheep (29,100 in 2000) and 1,000 pigs (9,800 in 2000). Decline in sheep appears to have been countered by the rise in cattle stock numbers. The dramatic decline in pig numbers appears to be an industry-wide trend and may be related to outbreaks of swine fever in the UK which brought about culls.

- There were 279 holdings in 2009, of which 172 (62 per cent) were livestock holdings. The number of holdings with grazing livestock (lowland) increased

[7] The CQC figure included 70 km of fences which have been ignored as they do not represent a boundary 'feature'

by 5 per cent between 2000 and 2009 to 116. There was a 14 per cent increase in all arable and horticulture holdings during the same period.

- The land is still overwhelmingly pastoral in nature, with 'grass and uncropped land' accounting for 75 per cent of the total farmed area of 14,124 ha in 2009. Nine per cent of the land (1,323 ha) was used for cereal holdings in 2009.

- The picture, as far as is discernable from a ten year 'snapshot', is of a strongly rural, pastoral, agricultural economy. Some land managers branched out into pigs but numbers have crashed in this NCA, as others. Cereals are, at 9 per cent, a small but significant part of the landscape (along with their more noticeable break crops).

- On a broad landscape character scale, it is likely that the trend of increased marginalisation and partial abandonment of rougher and semi-natural grasslands continues, though the conversion of permanent grassland to arable appears to have slowed or stopped. Additionally, while cattle numbers are up, it is not clear if this will benefit continued traditional management of some of the grassland resource through for example, outdoor reared beef or traditional dairying.

- While 57 per cent or 159 holdings are under 50 ha, over half the agricultural area comprises holdings greater than 100 ha. Without a more detailed geographic sense of where these different sized holdings occur, it is not possible to say how important small holdings are for the maintenance of the characteristically small field sizes and density of hedgerows found in the Marshwood Vale. It is likely that even on larger holdings, the low intensity nature of the NCA's pastoral agriculture exerts less pressure on land managers to combine fields and remove boundaries.

Settlement and development

- The NCA is not an area under heavy pressure from development. While the two major settlements, Bridport and Beaminster have experienced significant growth since 1961 (27 per cent Bridport and 58 per cent Beaminster [8]), they are the exception rather than the rule.

- Peri-urban developments do not appear to have increased significantly around the main towns. Small-scale 'horsiculture' has resulted in some paddocks and stabling.

- The NCA has seen no major development or infrastructure installed in recent years, though the volume of traffic on some of the rural minor roads may bring calls for improvements.

- Some small settlements have experienced minor developments around their peripheries which, while small in scale, can have significant impacts on the character of small settlements. However, these can be essential to maintaining viable communities to support services such as schools and shops.

- The coastal strip has seen the development of several large caravanning and camping sites. At peak periods there is heavy congestion along this strip.

Semi-natural habitat

- The Marshwood Vale has lost much of its semi-natural unimproved grassland over the last 70 years due to agricultural improvement. However, the supporting matrix of hedgerows, small copses, ditches and semi-natural grassland on road verges still forms links with the more varied and species-rich parts of the NCA.

- The slowing rate of loss of semi-natural and rough grazing in the last 20 years reflects the availability of Countryside Stewardship and subsequent Environmental Stewardship schemes for the maintenance and restoration of grasslands and heathland.

- In 2013, Environmental Stewardship, through the Higher Level Stewardship scheme, 168 ha of species-rich grassland was maintained, 519 ha restored and 5 ha created as well as 15 ha of lowland heat restored.

- Elsewhere topography, soil type and hydrology mitigate against intensification and large areas of semi-natural habitat exist. However, some of these are threatened by marginalisation, abandonment and, for grasslands and heathlands in particular, succession to scrub and woodland. This is a natural process however, and can have a value of its own.

- SSSI condition is generally improving with 87 per cent favourable or recovering, though a small but significant 117 ha (13 per cent) is unfavourable and 43 ha of this declining in condition.

Historic features

- Though there is a low density of historic features, English Heritage's own grants, Dorset County Council's Dorset Monument Management Scheme and, more significantly in the 'wider countryside', the specialised Historic Environment options available through both Countryside Stewardship and the current Environmental Stewardship (ES) Schemes have helped reduce the number of incidents of damage. Current ES options on protecting archaeology in the NCA cover some 78.5 ha.

- A small area is managed to reduce scrub invasion of features, while the majority is aimed at preventing erosion of buried archaeology in grassland systems.

Coast and rivers

- Regular management of the shingle bank at the mouth of the River Bride at Freshwater Bay is necessary to protect the caravan park and other property/ infrastructure.

- The River Brit caused minor flooding at Bridport in 2012 and subsequently small-scale works were carried out to strengthen defences in 2013.

- Erosion of some cliffs may be accelerating due to reduced beach height allowing greater wave action and undercutting of the cliff base. Landslip activity has been greater since the wet summer of 2012 as water table fluctuations are often the decisive factor in triggering cliff falls and slides.

- Detailed potential impacts of sea level rise and coastal flooding and erosion can be found in the Durlston Head to Rame Head Shoreline Management Plan.

Minerals

- There is one active quarry at Coombe Farm providing limestone from the Inferior Oolite.[9] This may mean a limited supply of suitable local stone for repair of existing and for new buildings.

- Ham Hill stone from the adjacent Yeovil Scarplands NCA is often used in this NCA for high status buildings and is still readily available.

[9] BGS Geoindex. (URL: http://mapapps2.bgs.ac.uk/geoindex/home.html?theme=minerals)

Drivers of change

Climate change

- The UKCP09 climate change projections suggest that by 2050 there may be an increase of winter and summer mean temperature. This would be accompanied by a change in the seasonal distribution of precipitation, with a decrease in summer and increase in the winter throughout south-west England.[10].

- While the long term climatic trend is toward 'hotter drier summers and warmer wetter winters', there is a more immediately experienced trend in the increased frequency of what are considered 'freak' or unusual patterns of weather.

- The increased frequency and intensity of rainfall events has put pressure on infrastructure, habitats, species and agriculture. Flooding has been a major issue, as have lengthy periods of water logging that have held back growth of both crops and semi-natural habitats.

- Rising sea level and increased storminess will see accelerated coastal erosion and a probable increase in the frequency and possibly the magnitude of cliff falls and landslips. Maintenance of Freshwater Bay's shingle barrier may become increasingly difficult and expensive and the assets it protects more vulnerable to inundation.

- Wetter winters and increased summer storminess may re-activate old and accelerate existing coastal and inland landslip structures. 2012 saw some of these re-activate as rainfall 'lubricated' the slipping planes.

- Demand for a greater proportion of energy generation from renewable sources has brought increased pressure for; wind turbines (off and on shore), photovoltaic solar arrays, and a growth in biomass crop production. Such developments can have both direct impacts where they are built or grown and indirect impacts through associated infrastructure for example power lines and the upgrading of roads.

- Some semi-natural habitats are well adapted to stress from drought and extremes of heat and cold. However, poor weather may prevent grazing or other, mechanised, sward management and could lead to habitat degradation. The fens and alder woodlands could possibly be affected by reduction in water flow from their supplying aquifers.

- Many invertebrate species would potentially benefit from hotter summers and warmer winters as they are at or near the northern limits of their ranges, butterflies and bees in particular. However, the weather of the summer of 2012, being cool and wet, was extremely serious for invertebrates (30 per cent of honey bee colonies were lost in 2012 due to poor weather) so the correlation between hotter summers and better conditions for invertebrates is not a simple linear one.

- In addition to temperature change, the timing of seasons has been unpredictable. The spring of 2013 was very late, creating mismatches between the arrival of migratory bird species and a sufficient supply of insect food.

[10] UK Climate Projections science report: Climate change projections, 2010 (URL: http://ukclimateprojections.defra.gov.uk/22306)

Other key drivers

- The Water Framework Directive represents a challenge for land and watercourse managers but a great opportunity for restoring the quality and biodiversity of the NCA's watercourses and for getting more people involved in the process.

- Housing allocations in and around Bridport. At March 2012, 54 units have planning permission and 224 have been allocated in local plans. These include Bridport, Allington, Bradpole and Bothenhampton.

- Continued influxes of new pests and diseases will continue to pose a threat to agricultural and silvicultural crops (particularly large areas of monoculture). Native flora and fauna are also at risk from the arrival of new species and pathogens. Ash die back caused by Chalara fraxinea and the threat to native ladybirds from the arrival of the Harlequin ladybird are two examples.

- On the lower slopes of the Greensand ridges, concentrations of very small thickly-hedged fields are still a prominent feature. Lack of management of these hedgerows, leading to senescence of the component trees and shrubs and degeneration of hedge structure, could be a future issue.

- Partnerships, working at a landscape scale, have already delivered benefits for habitats, species and people. There is, however, still considerable potential to deliver more and across larger areas to create robust ecological networks and place the NCA in the best possible situation to respond to future challenges.

- The post-8th-century developments that have shaped the present landscape overlie a potentially rich record of earlier settlement. The deployment of LIDAR survey and other new remote sensing techniques could, in the future, enhance our knowledge and understanding of the NCA's history and force some changes in how we manage the historic environment.

- While the economics of commercial forestry timber and pulp are stable at present, the markets for wood fuel and high-quality timber products from semi-natural sources will be critical for securing sustainable management of the woodland resource. There is potential to manage woodlands for multiple benefits, addressing the threats of pests, diseases, inappropriate or poorly managed recreation and wood lotting. A co-ordinated and effective approach to woodland management will also help improve resilience to climate change.

- Urban tree planting and the development of green infrastructure and sustainable drainage systems will gain importance in the mitigation of climate change impacts such as 'heat island' effects, flash flooding, and pollution concentrations in the NCA's towns. These measures can also provide other public benefits such as relaxation, informal recreation, increased local biodiversity and help to integrate and soften new development.

- Traffic on two major roads in the NCA more than doubled between 1983 and 2011.[11] This is, at times, negatively affecting the character of the NCA, its sense of place and tranquillity.

[11] www.dorsetforyou.com/332875

Supporting document 3: Analysis supporting Statements of Environmental Opportunity

The following analysis section focuses on a selection of the key provisioning, regulating and cultural ecosystem goods and services for this NCA. These are underpinned by supporting services such as photosynthesis, nutrient cycling, soil formation and evapo-transpiration. Supporting services perform an essential role in ensuring the availability of all ecosystem services.

Biodiversity and geodiversity are crucial in supporting the full range of ecosystem services provided by this landscape. Wildlife and geologically-rich landscapes are also of cultural value and are included in this section of the analysis. This analysis shows the projected impact of Statements of Environmental Opportunity on the value of nominated ecosystem services within this landscape.

From the heights of the hill fort at Eggardon Hill the lush Powerstock Vale reveals an intricate, intimate character with extensive wet woodland along and below the spring line.

Statement of Environmental Opportunity	Ecosystem service: Food provision	Timber provision	Water availability	Genetic diversity	Biomass provision	Climate regulation	Regulating water quality	Regulating water flow	Regulating soil quality	Regulating soil erosion	Pollination	Pest regulation	Regulating coastal erosion	Sense of place / Inspiration	Sense of history	Tranquillity	Recreation	Biodiversity	Geodiversity
SEO 1: Protect, manage and enhance the Marshwood and Powerstock vales' highly legible relationship between geology, landform and land use. Protect and manage the naturally functioning, highly accessible and internationally important coastline and the suite of nationally designated and Local Geological Sites.	↔ ***	↔ ***	↔ ***	↗ **	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↘ **	↑ ***	↔ ***	↔ ***	↘ **	↔ ***	↑ ***
SEO 2: Protect, manage and enhance the diverse but coherent pastoral landscape character: the range of semi-natural grasslands, woodland and relict heathland with their characteristic wildlife. Manage these simple patterns of land use maintained by the long history of agriculture.	↘ **	↔ **	↗ ***	↗ **	↘ **	↗ ***	↗ **	↑ **	↗ ***	↑ ***	↗ ***	↗ ***	↗ **	↑ ***	↑ ***	↗ ***	↗ ***	↑ ***	↔ ***
SEO 3: Manage and enhance people's awareness of the connections between the NCA's strong landscape character, sense of place and distinctive wildlife with the continuity of agricultural land use and legibility of historic influences.	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	↗ **	↑ ***	↑ ***	↑ ***	↑ ***	↑ ***	↑ ***

Note: Arrows shown in the table above indicate anticipated impact on service delivery ↑=Increase ↗ =Slight Increase ↔=No change ↘ =Slight Decrease ↓=Decrease.
Asterisks denote confidence in projection (*low **medium***high) ○ =symbol denotes where insufficient information on the likely impact is available .

Dark plum =National Importance; Mid plum =Regional Importance; Light plum =Local Importance

Landscape attributes

Landscape attribute	Justification for selection
Outstanding Jurassic paleontological interest, geodiversity and coastal geomorphology and strong cultural associations with the evolution of geological and palaeontological sciences.	■ The coast represents key elements of the Jurassic Coast World Heritage Site's Outstanding Universal Value. ■ Very clear and legible relationship between geological structures/processes, landforms and land use. This includes the remnant erosional surface of the flat-topped Greensand hills and Golden Cap, the eroded pericline of the Marshwood Vale, the terraces of limestone leading from the Brit Valley up to the Chalk of the adjacent Dorset Downs and the highly distinctive conical hills around Bridport. ■ This is possibly the most important stretch of the Jurassic Coast in terms of fossil finds and the cultural associations with the development of palaeontology in and around Lyme Regis and the seminal role of Mary Anning in the art and science of fossil collection and interpretation. A thriving local community of fossil collectors is based around the coast here. ■ This NCA also includes the western extremity of Chesil Beach. ■ It includes a popular stretch of the South West Coast Path National Trail.
Wooded pastoral landscape in the Marshwood Vale and springline/valley wet woodlands in the Powerstock Vale.	■ A highly recognisable pattern of small woodlands and hedgerow trees in the predominantly pastoral Marshwood Vale imbues this part of the NCA with a very strong character. ■ Approximately 1,118 ha of woodland (some 7 per cent of the area) concentrated on the slopes of the clay vale and the steep secluded valleys of the Powerstock Vale. The woodland emphasises the topography and provides a backdrop to semi-natural and rough grassland areas. ■ Significant areas of wet alder-dominated woodland in the Powerstock Vale recognised for their biodiversity with Special Area for Conservation designation.
Rhythmic pattern of regularly sized, thickly hedged fields in Marshwood Vale contrasting with patches of tiny densely-hedged fields on the slopes of the surrounding Greensand and limestone.	■ Views across the Marshwood Vale are some of the enduring images of Dorset, particularly of the regularly occurring mists and the prominent electricity pylons marching across the vale. ■ From outside the vale the hedgerows and trees present a visually pleasing pattern with an irregular grid nature. From within, the hedged roads create a sense of isolation and enclosure, punctuated by fleeting longer views through gateways or from small hills. ■ On the hills woodland and larger fields are punctuated by clusters of very small fields often of semi-improved grassland and wet habitats along the springline.

Landscape attribute	Justification for selection
Strongly rural and pastoral character; agriculture has always been and remains the principal driver of landscape character.	■ Farming dictates the character of the vast bulk of the NCA. While the pastoral nature is not as 'busy' as the arable-dominated Dorset Downs, certain activities like cutting silage or hay add seasonal variety to the area. ■ Farmsteads, yards and other agricultural infrastructure set the vernacular outside the towns and villages. A small variety of locally-sourced building materials (with the notable exception of the Ham Hill Stone) maintain visual cohesion and a cultural/temporal continuity. ■ Agriculturally created and maintained, extensively managed, plant and animal communities form a suite of much valued habitats, many of which have been identified as in need of conservation as 'priority habitats' (see below). These, along with the more intensive productive land and rural vernacular, are major contributors to the NCA's character.
Semi-natural habitats including grasslands, broadleaved woodland, fen and relict heathland communities.	■ Of the range of 'priority habitats' found in the NCA the most important, by area, are broadleaved, mixed and yew woodland (800 ha) and maritime cliff and slope (348 ha). ■ However, the NCA has a smaller but very significant unimproved and semi-improved grassland resource, both dry and wet grasslands covering acid, neutral and calcareous types (324 ha over all types). These often grade into mosaics of fen and mire, depending on hydrology and substrate. ■ Of even less extent (14 ha) is the relict heathland and scrub found on the acidic substrates on the tops of the Greensand hills. These, due to their hill-top locations, have a disproportionately large impact on the character of the western side of the NCA. ■ There are 10 Sites of Special Scientific Interest wholly or partly within the NCA, covering 933 ha (6 per cent of total NCA area). Three Special Areas of Conservation fall partly in the NCA covering 425 ha (3 per cent of total NCA area), two coastal and one covering the alder woodland found in the north-east of the NCA. 83 local sites cover some 511 ha of the NCA. ■ Oak dominates the character of the Marshwood Vale, a large number as hedgerow oaks.

Landscape attribute	Justification for selection
Sense of place maintained by vernacular architecture, small villages and pre-20th century infrastructure patterns.	■ Small villages serving their rural hinterland provide the only sizeable collections of buildings outside the towns of Bridport and Beaminster. These often provide examples of more embellished variations of the local rural vernaculars and frequently, fine churches. ■ Low levels of 20th-century urbanisation and urban sprawl, coupled to developments sensitive to local vernacular, have done much to retain the character of many small villages. Beaminster and Bridport retain much of their 19th-century character.
Characteristic dispersed settlement pattern across much of NCA, a low density of roads and high density of public rights of way.	■ The general character of this NCA is one of farmsteads and small hamlets, few small villages and the quiet town of Beaminster. Through-roads are few (many farmsteads are on dead-end roads) and footpaths and green lane linkages between farmsteads and hamlets are often the most direct. ■ This 'inland character' is accentuated by contrast with the bustling nature of the coastal strip including the main coast road, bustling Bridport, coastal holiday parks and seasonally congested car parks, lanes and coastal path.
Dramatic, open, exposed coastal landscape of tall sea cliffs and exposed Greensand hill tops with expansive views contrasting with enclosed intimate inland areas.	■ Long coastal views, especially from the heights of Golden Cap, give this small NCA a significant coastal outlook. Chesil Beach, The Fleet and the Isle of Portland dominate the east, while views along the Devon coast and on to Dartmoor can be had to the west. ■ Inland, the encircling Greensand hills to the west and north and the heights of the Dorset Downs to the east embrace the valleys and provide an ever present backdrop to views. Within this, the enclosure of the individual valley's topography provides a second 'layer' of seclusion that can make some parts of the NCA feel very isolated and timeless.
A distinct suite of historic assets few in number but of high visual impact.	■ The nature of the evolution of human occupation and exploitation of this NCA has left relatively few clear remains of early occupation. However, the hill forts of Coney's Castle, Lambert's Castle, Pilsdon Pen and, most imposing of all, Eggardon Hill fort are significant landscape features. ■ On the edge of the Downs, strip lynchets mark periods of high population pressure and it is thought that many of the hamlets and farmsteads of the NCA are themselves, remnants of larger settlements.

Landscape opportunities

- Protect and, where possible, enhance the wide open views across the NCA from the surrounding hills and high ground.
- Continue, or introduce, active interventions on habitats that depend upon 'traditional' management, principally grasslands, heathland and woodland. Plan for the extension and/or linking of existing habitats in order to increase the contribution habitats make to the coherent and distinctive landscape character, climate change resilience and strengthen landscape permeability.
- Conserve the coastal strip, including rich biodiversity assets, significant geological and geomorphological structures and maintain coastal processes with as little intervention as possible.
- Protect and conserve the substantial and invaluable fossil record held in the Jurassic strata along the coast of this NCA. Maximise the conservation, scientific and educational potential of important specimens, which contribute to the scientific and cultural wealth of the coast.
- Manage the distinctive boundary hedgerows and hedgerow trees and dense network of public rights of way which not only delineate patterns of occupation and land use and provide excellent access but also provide an essential network of ecological connections across the wider countryside.
- Protect the legibility of the relationship between diverse geology, geological processes and varied landscape morphology.
- Protect from damage and positively manage the archaeological heritage and heritage assets of the Marshwood and Powerstock Vales NCA. Ensure its preservation while enhancing accessibility for study.
- Manage the NCA's settlements, particularly Bridport to ensure that sense of place is maintained through the continued use of the local vernacular and that any growth is sustainable and maintains or, preferably, enhances the character of this NCA. Plan for West Bay's continued protection from rising, stormier seas while managing coastal processes to continue in as natural a state as possible.
- Plan for changes in farming types, cropping patterns and crop types in the face of climate change, to preserve where possible the dominant pastoral nature of the area and to fulfil the need to enhance biodiversity.

Ecosystem service analysis

The following section shows the analysis used to determine key Ecosystem Service opportunities within the area. These opportunities have been combined with the analysis of landscape opportunities to create Statements of Environmental Opportunity.

Please note that the following analysis is based upon available data and current understanding of ecosystem services. It does not represent a comprehensive local assessment. Quality and quantity of data for each service is variable locally and many of the services listed are not yet fully researched or understood. Therefore analysis and opportunities may change upon publication of further evidence and better understanding of the inter-relationship between services at a local level.

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Food provision	Livestock production Milk production Arable production	Locally significant producer of lamb and milk. Small beef herd. Very much a general farming area with no known specialisms, stock types or products associated with the area. The area was known for its local cider production – each farm producing its own. This is now uncommon though interest is re-appearing. In 2009 there were 17,700 cattle (15,200 in 2000), 27,400 sheep (29,100 in 2000) and 1,000 pigs (9,800 in 2000). Farms with a size between 5 and 50 ha still account for 47 per cent (6,640 ha) of all holdings. However, farms with an area greater than 100 ha account for 57 per cent (7,483 ha) of holdings.	Local	The NCA is in predominantly pastoral management, 'grass and uncropped land' accounted for 75 per cent of the total farmed area of 14,124 ha in 2009. There are areas of arable (9 per cent cereals and 7 per cent 'other arable'), including maize for cattle feed. Much of this is concentrated in the valley of the River Brit and has possibly evolved from the previous growing of flax for Bridport's now vanished rope industry. The available figures do not show any great changes in ratio of systems or livestock types with the clear exception of the decline of pig numbers (an industry-wide trend). It is not clear from the available figures if there has been a decline in beef production per se, however it does appear that there may have been a decline in extensive grazing of semi-natural rough grasslands with beef stock. So while there may not be any reduction of food supply, the associated service of biodiversity management may have suffered a decline in quality or, at best a shift in the semi-natural communities towards rough grass/scrub. There has been a slight increase in the years between 2000 and 2009 of holdings of more than100 ha. Increase in farm size can lead to removal of boundary features. This needs to be monitored.	Maintain advice that maximises the positive benefits of manures and fertilisers in the food production process while minimising the costs and negative indirect impacts on ecosystems. Provide livestock farmers with encouragement and advice on integrating extensive beef production with management of the semi-natural grasslands within the NCA. Assist land managers with the taking up of agri-environment schemes to support extensive systems of grazing suited to this NCA's grassland types. Develop links between local food producers and local tourism, hotels, pubs, schools and other businesses. Highlight links between the way in which food has been and is produced and the valued landscape it creates. Ensure that characteristic hedgerows and hedgerow trees are not removed due to amalgamation of farm holdings.	**Food provision** **Regulating soil erosion** **Regulating soil quality** **Regulating water quality** **Regulating water flow** **Climate regulation** **Biodiversity** **Sense of place / inspiration** **Sense of history**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Timber provision	Existing conifer plantation and broadleaved woodlands Well-timbered landscape, many fine hedgerow oaks	There are 1,118 ha of woodland, covering 7 per cent of the NCA. 191 ha of conifer, 47 ha of mixed and 765 ha of broadleaved woodland. Much of the broadleaved woodland is not or is only minimally managed for timber provision. Coppice is generally defunct due to lack of interest in traditional products and skills necessary to manage such sites.	Local	Generally woodland cover is quite dispersed with much of the broadleaved on steep slopes which would make harvesting difficult. Conifer plantation is concentrated in the north-east of the NCA and this may provide useful timber and pulpwood. There are 205 ha of plantation on ancient woodland sites (PAWS) within the NCA, equating to more than half of the conifer/mixed woodland in the NCA. Reverting these woods to broadleaved, semi-natural woods, would release a single crop of pulpwood or timber. As much of the broadleaved woodland is either natural regeneration or defunct coppice with standards it is unlikely to produce large volumes of valuable timber without re-investment of management resource. Open grown hedgerow oak trees may have a greater potential to provide high quality bespoke timbers for specialist projects. Locally produced timber may become more attractive as transportation costs become higher.	Coppice brought back into management can produce material suitable for traditional products such as hurdles, tent pegs, charcoal or be used to provide firewood. Restoration of PAWS to broadleaved or mixed woodland could secure continued supply of standard and coppice trees for local use and enhance the connectivity of the existing woodland network.	**Timber provision** **Regulating water quality** **Regulating soil erosion** **Biodiversity** **Climate regulation**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Water availability	Rivers Aquifers	The main rivers in the NCA are the River Brit and the River Char. The Upper Greensand hills and, to the east, the Chalk of the Dorset Downs represent major aquifers. Most of the area has additional water available for abstraction from surface and groundwater sources (although a small area to the south-east has no groundwater available).	Local	Most of the licensed abstraction volume is for fish farming, however, this surface water abstraction returns water close to the source. Public water supply accounts for 90 per cent of the volume of abstracted water that is lost from the system.	The opportunity exists to increase aquifer recharge through creating more land cover that slows water flow in the upper catchment of the River Brit. This would enhance biodiversity and, of principal importance, reduce flood risk from severe weather events.	**Water availability** **Regulating water flow** **Biodiversity**
Genetic diversity	N/A	N/A	N/A	N/A	N/A	**N/A**
Biomass energy	Small areas of miscanthus Broadleaved woodland Conifer plantation Hedgerows and hedgerow trees	Miscanthus does not appear to have been taken up very highly in this area. Large areas of unmanaged broadleaved woodland, both ancient and secondary, particularly coppice woodland. Extensive hedgerow network appears untapped for firewood. Woodland resource appears generally under-utilised.	Local	A lot of secondary broadleaved woodland could be usefully managed for logs, supplying local markets. Similarly, the waste from conifer timber production could be used for firewood. The hedgerow network represents a potentially very useful resource for firewood. Potential miscanthus yield is generally low or medium throughout the area. There are no known facilities for the processing or use of this material in the area). Potential yield of short rotation coppice is predominantly low. For information on the potential landscape impacts of biomass plantings within the NCA, refer to the tables on the Natural England website. www.naturalengland.org.uk/ourwork/farming/funding/ecs/sitings/areas/default.aspx	Provide advice to woodland owners on how to manage, harvest and market their wood fuel for local markets. Investigate the potential of the hedgerow network as a source of local wood fuel.	**Biomass energy** **Biodiversity** **Sense of place / inspiration** **Sense of history** **Climate regulation**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Climate regulation	Woodlands Grasslands Soil carbon	The soil carbon content is predominantly 0–5 per cent, with a very small area in the west of up to 50 per cent and occasional small patches of 5–10 per cent around the edges of the NCA potentially associated with areas of current and past heathland. The woodland cover of the NCA (7 per cent of the area) will also make a contribution to the sequestration and storage of atmospheric carbon dioxide particularly the wet alder woods of the area. Hedgerows and hedgerow trees will be good carbon sinks. Undisturbed pasture, semi-natural grasslands, heathland and long-term ley will tend to support soils with increased carbon content. Conversely, the regularly tilled soils are principally mineral soils and have little or no organic material within them.	Local	The high area of permanent pasture and semi–natural grasslands should be a positive sink for carbon. The areas of arable while only 10 per cent of the farmed area could be managed to increase their organic matter content. Succession of semi-natural grassland to scrub and woodland would increase carbon capture and storage but at the expense of a useful element of the NCA's biodiversity.	Carbon sequestration can be increased in soils by increasing organic matter inputs and/or by reducing the frequency/area of cultivation. Local woodfuel for heating is a carbon neutral fuel and has a low carbon footprint in terms of harvest and transportation to end user. Increasing the area of woodland, including re-enforcing the characteristic of small farm copses, will capture carbon. Increasing hedgerow trees will maintain and strengthen the character of the Marshwood Vale as well as increase carbon capture.	**Climate regulation** **Biodiversity** **Sense of place / inspiration**
Regulating water quality	Groundwater aquifer River Brit River Char	Groundwater across the whole NCA is classed as being of good quality. Both the ecological quality and chemical quality of the River Brit is good. In contrast the chemical quality of the River Char is classed as poor.	Local	It is probable that the areas of semi-natural habitat and low input grassland that dominate the land cover in aquifer recharge areas accounts for the good quality. The differences in quality between the Brit and Char may be associated with sedimentation as a result of soil erosion and the carriage of nutrients by eroded soils into the water courses on the Char. However it may also be related to the number of properties that are dependent on septic tanks in the Char's catchment and what state these are in.	Maintain the good quality of the groundwater by sympathetic management of the habitats/land use in the recharge areas. Maintain water quality in the River Brit. Assess the Char catchment to ascertain the reason for low water quality and use a catchment based approach to tackling issues of inappropriate cultivation and point source pollution.	**Regulating water quality** **Regulating soil erosion** **Regulating soil quality** **Regulating water flow**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water flow	River Brit River Char Semi-natural habitats Dense network of hedgerows	There are localised areas of flood risk associated with the River Char to the south-west near the coast, with serious flooding at Whitchurch Canonicorum in November 2009, as well as on the River Brit south of Bridport. The rivers draining to Beaminster also have a very rapid (almost instantaneous) response to heavy rainfall. Many of the existing defences in Beaminster are private and there is considerable reliance on these. Sea level rise is expected to create coastal squeeze that is expected to damage defences gradually.	Local	The topography of the area is typically characterised by broad, bowl-shaped vales incised by steep-sided river valleys resulting in the rivers Char and Brit responding very rapidly to rainfall. The extent of pastoral land use and dense network of hedgerow-bounded fields helps to slow cross-land water flow. The Char and Brit catchments are subject to active geomorphological change with bank erosion and sediment movement in times of flooding. Channel siltation through Bridport can cause problems by reducing channel capacity. Flood risk in Bridport increases if high fluvial flows coincide with an extreme tide. This is controlled by the tidal sluice gates at West Bay. Upstream around Beaminster, actions to lessen flooding will decrease flood impact further downstream towards Bridport. Migratory salmonids use the rivers Char, Brit and Bride. However, populations of salmon and sea trout are often limited by poor migration conditions in these rivers, largely as a result of man-made obstructions. The dominant Shoreline Management Plan policy on the NCA coast is for 'no active intervention' with 'managed realignment' in the long term for coastal urban areas, such as Charmouth and Seatown, and some areas of 'hold the line'.	A general approach to managing the run-off from the sloping land around the NCA would be to maximise maintenance and restoration of semi-natural habitats, particularly grasslands and woodland, as these present a 'rougher' surface and are better at slowing and capturing surface water into ground waters. Creation of wetland areas along the Char and Brit rivers will help to store water in times of high flows and release them again in periods of normal or lower flow. Buffering the River Char and its tributaries with semi-natural habitats including grasslands, wetlands and woodland will protect the watercourse from erosion, sediment flows, help slow flood flows and increase biodiversity. Localised requirements for flood management works on smaller 'flash prone' streams could present opportunities for further wetland creation and 'soft engineering' that would benefit the functional structure and biodiversity of these waterbodies. Soft engineering could also be used to create areas where scour is desirable (spawning grounds) and specifically designed sediment dropping zones where lower energy flows will release sediment load. Water management structures should be (retro) fitted with fish passes to facilitate salmonids migration.	**Regulating water flow**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil quality	Soil types	This NCA has seven main soilscape types: ■ Freely draining slightly acid loamy soils (44 per cent of the area). ■ Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils (23 per cent). ■ Slightly acid loamy and clayey soils with impeded drainage (20 per cent). ■ Lime-rich loamy and clayey soils with impeded drainage (6 per cent). ■ Shallow lime-rich soils over chalk (5 per cent). ■ Very acid loamy upland soils with a wet peaty surface (1 per cent). ■ Loamy and clayey flood plain soils with naturally high groundwater (1 per cent).	Local	The freely draining slightly acid loamy soils may be valuable for aquifer recharge, requiring the maintenance of good structural conditions to aid water infiltration and requiring the matching of nutrients to needs to prevent pollution of the underlying aquifer. The slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils may suffer compaction and/or capping as they are easily damaged when wet. In turn this may lead to increasingly poor water infiltration and diffuse pollution as a result of surface water run-off. Both of these soils have potential for increased organic matter levels through management interventions. The slightly acid loamy and clayey soils with impeded drainage are easily poached by livestock and compacted by machinery when the soil is wet, with weak topsoil structures easily damaged. Careful timing of activities is required to reduce the likelihood of soil compaction. The vulnerability of the major soils in the NCA to compaction and poaching means that the current predominantly pastoral land use is the optimum agricultural land use. The forays into pig rearing that appear to have come and gone could possibly have caused damage to the soils and, at least temporarily, compromised other services (carbon storage, water availability and regulation of water flow and quality). The optimal changes to any systems would be to increase permanent grassland, reduce tillage, increase soil organic matter and reduce vehicular use in wet conditions.	Ensure levels of long-established organic matter are maintained in higher-value agricultural soils, where found, minimising tillage operations where possible. Similarly, avoid further ploughing of long-established grasslands (regardless of biodiversity value) to ensure the soil structure, organic content and ecosystems are maintained. Rehabilitate soil quality and the services good soil structure provides by: ■ Repairing compaction and seeking management techniques less reliant on heavy machinery in wetter parts of the year. ■ Increasing organic matter and soil ecosystems through less intensive management and more targeted and 'needs-based' use of biocides. ■ Reducing erosion and run-off through sensitive crop selection and management and reestablishment of semi-natural buffer features (grassland, scrub, hedgerows and woodland).	**Regulating soil quality** **Regulating soil erosion** **Sense of place / inspiration** **Biodiversity** **Regulating water flow** **Regulating water quality** **Water availability** **Climate regulation**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil erosion	Soil types Semi-natural vegetation principally grassland and woodland Hedgerows, buffer strips and field margins	The majority of soils covering the NCA (77 per cent) are at risk of soil erosion. The freely draining slightly acid loamy soils (44 per cent) have enhanced risk of soil erosion on moderately or steeply sloping land where cultivated or bare soil is exposed, often exacerbated where organic matter levels are low after continuous arable cultivation or where soils are compacted. The shallow lime-rich soils over chalk (6 per cent) are also particularly at risk on sloping cultivated ground or where bare soil is exposed along footpaths and tracks or as a result of outdoor pig rearing. Many of the slightly acid loamy and clayey soils with impeded drainage (20 per cent) are prone to capping and slaking, leading to increased risk of erosion. Both these and the lime-rich loamy and clayey soils with impeded drainage (6 per cent) are easily compacted by machinery or livestock if accessed when wet, increasing the risks of soil erosion by surface water run-off, especially on steeper slopes. The very acid loamy upland soils with a wet peaty surface (1 per cent) suffer from a combination of rapid run-off, easily damaged peat layers and steep slopes resulting in soil erosion. The slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils (23 per cent) and the loamy and clayey flood plain soils with naturally high groundwater (1 per cent) have a low erosion risk.	Local	Soils need to be managed carefully to reduce risks with careful timing of cultivations and maintenance of vegetation cover. Avoidance of ploughing permanent grasslands on the steeper slopes of the rising land should be a priority as the impact of rainfall events on the exposed soil and subsequent transport into water courses would be rapid and difficult to control. The optimal changes to any systems would be to increase permanent grassland, reduce tillage, increase soil organic matter and reduce vehicular use in wet conditions.	Enhance the quality and vegetation structure of both improved and semi-natural grasslands through optimised grazing regimes to prevent poaching and compaction and enhance the ability of the surface to 'capture' and slow overland water flows. Ensure the maintenance of areas of active soil erosion, where appropriate, to provide exposed mineral and skeletal soils necessary to plant and invertebrate species reliant on early successional habitats (especially on the coast). Hedgerows and banks should be maintained and new ones created for, among other services, their ability to intercept and slow water/soil movement. Footpaths, particularly the South West Coast Path National Trail, need to be managed to prevent excessive soil erosion. However some areas of erosion may usefully provide substrates that are used by various invertebrate species for hunting and basking.	**Regulating soil erosion** **Regulating soil quality** **Regulating water flow** **Regulating water quality** **Water availability** **Food production** **Biodiversity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pollination	Network of semi-natural habitats Cereal break crops	The main productive areas have a weakened and fragmented network of semi-natural habitats that provide what is a probably sub-optimal pollination service. Semi-natural grasslands and woodlands where management is lacking or absent will not feature the structural diversity that favours pollinators and their food plants. Predominantly pastoral systems do not require high densities of pollinators. Arable areas in the Brit Valley would be of greatest need.	Local	The main habitats for pollinators are likely to be the dense hedgerow network and remnant areas of semi-natural habitat. Cereal break crops provide large expanses of pollinator opportunities, though subject to appearing only infrequently in any location. To provide the maximum pollination potential, semi-natural flower-rich habitats need to be brought into closer proximity to the crops requiring pollination. The NCA has a high potential to provide pollinating services, but this is probably only being partially realised through lack of sympathetic management of many of the semi-natural habitats and the fragmented nature of the network. Maintenance of herb-rich hedgerows, banks, headlands, roadside verges, woodland edges and scrub are all features that can be accommodated within the agricultural system without undue effort.	Bring areas of semi-natural grassland into suitable grazing management, including areas of coastal grassland which appear to fall outside grazing units. Manage scrub to prevent/reduce invasion of open grassland habitats. Manage woodland to open up the floor and encourage floristic diversity. Ensure management of soft rock exposures does not destroy mining bee / invertebrate opportunities. 'Re-connect' semi-natural habitats with a network of herb-rich hedgerows, banks, headlands, roadside verges, woodland edges and scrub. Concentrate in and around areas of the NCA where arable cropping predominates. Encourage a reduction in the use of biocides with unwelcome side effects.	**Pollination** **Food provision** **Biodiversity** **Sense of place / inspiration** **Sense of history** **Tranquillity** **Recreation**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pest regulation	Network of semi-natural habitats Community of soil based fauna	The main productive areas have a weakened and fragmented network of semi-natural habitats that provide what is a probably sub-optimal pest regulation service. Semi-natural grasslands and woodlands where management is lacking or absent will not feature the structural diversity that favours pest regulating species and their food plants. It is likely that soil-based fauna are in poor condition due to structural and functional issues with soils.	Local	The main habitats for species providing the pest regulation service are likely to be the dense hedgerow network and remnant areas of semi-natural habitat. To provide the maximum pest regulation potential for crops, semi-natural habitats need to be brought into closer proximity to the crops. The NCA has a high potential to provide pest regulation services, but this is probably only being partially realised through lack of sympathetic management of many of the semi-natural habitats and the fragmented nature of the network. Maintenance of herb-rich hedgerows, banks, headlands, roadside verges, woodland edges and scrub are all features that can be accommodated within the agricultural system without undue effort. The issues highlighted in the soil quality section above will undoubtedly have implications for soil fauna, essential to keeping soil-based pests in check.	A reconnected network of semi-natural habitats should provide optimal conditions for pest regulators from invertebrates to birds. Encourage a reduction in the use of biocides with unwelcome side effects. Encourage a reduction in the use of insecticides which affect a broad range of insects, both pest and predator. Encourage the better management of soils to encourage a healthy soil-based fauna.	**Pest regulation** **Biodiversity** **Regulating soil quality** **Sense of place / inspiration**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating coastal erosion and flooding	Active erosion of cliffs, between 10 cm and 1 m / year Low levels of coastal sediment movement Soft geology	There is little or no movement of sediment in this area of the coast. One of the largest and most active landslide complexes in Europe. Cliffs are retreating at a rapid rate (Shoreline Management Plan estimates up to 50 m by 2025).	Local	This short stretch of the coast is a very actively eroding area. The classic coastal landslip features that are found here are dependent upon unregulated erosion of the coastal cliffs. The Durlston Head to Rame Head SMP2 predicts that 'at Golden Cap, total erosion of between 3 and 50 m is predicted by 2025, whilst at Stonebarrow erosion of 7 to 50 m is predicted. Up to 17 to 50 m of erosion is predicted at Broom Hill over the same period.'[12] The upper figure is based on a sudden dramatic collapse that is always a possibility on this stretch of coast. The range of coastal habitats, both on and offshore have developed with and depend upon naturalistic patterns of erosion and deposition as fundamental factors in determining community composition, succession and climax. There is little more than localised sediment movement along the coast as much material is silty and is taken out to sea in suspension and that of coarser size cannot pass the debris lobes at the foot of eroding headlands. This provides little to no service to the adjacent Weymouth Lowlands NCA in terms of sediment supply.	Intervene as little as possible in the natural coastal processes which dominate the coast of this NCA. Avoid construction of new structures/infrastructure that would, in time, require coastal defences. Continue with the principles of limited interventions along this coast, which in turn allow a representative suite of marine and maritime communities to develop. This actively eroding coast provides opportunities to study both the geological and geomorphological processes in action, and the wealth of fossil material released from the various strata.	**Regulating coastal erosion and flooding** **Sense of place / inspiration** **Biodiversity** **Geodiversity** **Sense of history**

[12] *Durlston Head to Rame Head SMP2 Shoreline Management Plan*, p.152

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of place/ inspiration	Small to medium sized dairy pasture fields with high hedgerows and frequent hedgerow oaks Broad, bowl-shaped clay vale Coastline of slumped, mobile cliffs punctuated by prominent headlands (Golden Cap) Heathland mosaics Dispersed settlement pattern with distinctive local vernacular and materials Greensand summits and iron-age hill forts such as Eggardon Hill Range of semi-natural habitats Remoteness and tranquillity Strong sense of a historic landscape little changed by the last two centuries Dark skies over much of the area	This NCA has a strong sense of place imparted by its pastoral character and uncluttered rural settlement pattern, largely unchanged for hundreds of years. AONB designation over the whole of the NCA reflects the value attached to the strong character, outstanding natural beauty and sense of place. The coast is of international repute and has a strong identity within the context of the whole Jurassic Coast, partly due to landmarks such as Golden Cap and because of the strong cultural links to dinosaurs, fossils and Mary Anning. The Marshwood Vale is also a very visually striking area and its regular fields, hedgerows and hedge oaks create a strong impression, to some extent, even the electricity pylons have become part of the landscape – their modernity acts to heighten the unchanged character of the landscape through which they pass. The Powerstock Vale is very remote and 'off the beaten track' and this decidedly adds to its sense of place. The influence of Bridport and its suburbs do not penetrate far into the surrounding countryside. The settlement pattern predominantly consisting of small hamlets and many large farmsteads linked by winding lanes, with a local vernacular of limestone, chalk, flint, tile and thatch is a unifying feature of the NCA.	International	The surrounding horseshoe of hills and high land defines the NCA and provides a substantial part of its inspiration. The expansive views across the vales and towards the sea are memorable and generally uncluttered by more recent development and infrastructure. The coast is rich in cultural associations and an internationally significant geological resource. The pioneering work of Mary Anning and her discovery of the ichthyosaur and other fossils is high in the English cultural psyche. The distributed settlement pattern and predominance of farmsteads and hamlets produce low levels of night time light pollution. Roads outside of the urban areas are not lit. Many will know the coast well but be unaware of the rest of the NCA. In some respects it is the contrast between the well-known and bustling coast and the undiscovered and remote hinterland that defines the place and provides inspiration. The area has inspired writers and poets, including Thomas Hardy and William Barnes, as a familiar place. Most people are now inspired by it as a visitor.	Ensuring that the distinctive densely hedged and well timbered character of the Marshwood Vale is maintained through suitable hedgerow management and succession planning for the hedgerow trees. Resist siting of communications and other infrastructure on the prominent hills encircling the NCA Identify and secure quarries able to provide locally distinctive stone for both repairs to existing and new builds. Provide advice on using vernacular in modern builds. Manage the use of the coastal strip to reduce clutter and risk of urbanisation, especially around car parks, camp sited and visitor facilities. Maintain the low levels of light pollution outside of urban areas and avoid brightly lit developments on the edges of settlements. Investigate alternative transport measures to reduce impact of vehicle use, especially in summer.	**Sense of place / inspiration** **Sense of history** **Geodiversity** **Tranquillity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of history	Bronze-age barrows Iron-age hill forts (for example Eggardon Hill) Evidence of early settlement at Beaminster and Roman influence at the northern and southern edges of the NCA Medieval remains, including frequent moated sites and castles (such as Powerstock, Marshwood and Chideock Castles) Lynchets surviving on the steeper slopes as at Netherbury, Loders and Powerstock Small irregular field patterns concentrated in the Marshwood Vale, on the Powerstock Hills and on steeper slopes of the Greensand ridges Traditional buildings such as the fine Ham Hill Stone church at Whitchurch Canonicorum	The NCA's historic assets are generally in good condition, mainly due to the low level of arable agriculture. The hill fort at Coney's Castle is quite heavily wooded around its perimeter and while this makes understanding the structure difficult, the wooded ramparts have become part of its character. Issues concerning Ancient Monuments include arable clipping and animal burrowing, but grant schemes have helped to reduce their impact.	Regional	While the NCA boasts an impressive suite of hill forts that form several of the most memorable viewpoints over the area, the majority of the historical interest is less visible. Lynchets are hidden away in the steep winding valleys around Loders and many of the remote farmsteads reveal parts as moated sites or are the remains of once larger hamlets or villages. There is a sense that the area has a lot to reveal about its past and much research potential exists. It is an area, like the adjacent Dorset Downs and Cranborne Chase, with some 8,000 years of human occupation and modification beneath it. However, unlike its neighbour much of the archaeology has yet to be discovered.	Research and field work into the occupation history and settlement pattern of the hamlets and farmsteads of the Marshwood Vale and areas around Powerstock and Beaminster could reveal important new information. Bringing together a 'story' of how the area evolved in the periods before the Middle Ages will add to the understanding of later evolution and appropriate current management. Support targeted grants such as the Dorset Monument Management Scheme Provide fingerposts to promote use of historic landscape characterisation.	**Sense of history** **Sense of place / inspiration** **Recreation**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Tranquillity	Low density of settlement Low density of roads Isolating patterns of topography (valleys) and vegetation woodlands, hedgerows) Windswept vantage points with broad panoramic views	Tranquillity is associated with many parts of this predominantly rural area, with 55 per cent of the area still classified as 'undisturbed'. Some of the semi-rural roads have become busy with commuting traffic. Increasing holiday traffic will reduce tranquillity in the A35 corridor.	Regional	This NCA has been relatively untouched by the post Second World War changes that have affected many areas. The coastal strip is, to an extent, hectic in the summer months with traffic on the A35 and tens of thousands of visitors, but it can also be tranquil on the coast path at any time of year. The largest 'undisturbed' areas occur in the north-west and north-east, away from Bridport and the major road corridors of the A35 and the A3066. A sense of tranquillity is likely to be particularly associated with the undeveloped valleys and pastoral landscapes where ancient hedgerows and mature hedgerow oaks predominate, as well as the undeveloped stretches of coastline. Maintain the NCA's tranquillity while accommodating the incremental increases in visitors and people living and working here is a significant challenge, especially on the coast.	Careful design of new developments (industrial or domestic) and the infrastructure that services them is essential. Maintaining the low levels of light pollution through strong planning policies and development control. Some of the impacts of increased vehicle use can be reduced through implementation of the Rural Road Protocol.[13]	**Tranquillity** **Sense of place / inspiration** **Sense of history** **Recreation** **Biodiversity**

[13] www.dorsetaonb.org.uk/our-work/rural-roads/dorset-rural-roads-protocol

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Recreation	437 km rights of way network (at a density of 2.75 km per km^2) 12 km of the South West Coast Path National Trail Wessex Ridgeway, Jubilee Trail and Brit Valley 240 ha of open access land (covering 1.5 per cent of the NCA) Bridport and West Bay provide gateways to this coast and link to the busy coastal A35 Limited beaches to the east Extensive geological/ paleontological resource Accessible hill forts with spectacular views Several nature reserves for relaxation and 'botanising' Bridport, Lyme Regis and Charmouth with museums and visitor attractions	This is a very important area for recreation, having a national as well as international pull. The area is well served with rights of way and the axes of South West Coast Path National Trail and the Wessex Ridgeway and Jubilee Trail serve long-distance walkers well. The coast offers several caravanning sites which give visitors easy access to the coast path, the National Trist's Golden Cap estate with provision for quiet enjoyment and of course the stunning views from Golden Cap itself. The eastern end of the coast offers traditional, albeit shingle, 'beach holiday' sites while the west offers a harsher shore backed by cliffs where the study of geology and palaeontology are the principal activities. Inland, the dense network of paths in the low-lying vales is less well known and used; however, the hill forts are very popular spots to visit and enjoy the breathtaking views over the vales and, ever popular with photographers, the mists which regularly shroud the low-lying land of the Marshwood Vale. Though straddling the border with the adjacent Dorset Downs and Cranbrook Chase NCA, the Kingcombe centre provides formal and informal opportunities for studying wildlife. The towns also offer museums and various visitor attractions where the history of the coast, both recent and geological, can be studied.	International	The coast forms part of the Jurassic Coast World Heritage Site and is a very popular visitor destination. Several caravan sites are situated along the coast and the gateway town of Bridport provides a hub for locals and visitors. The Wessex Ridgeway and the Jubilee Trail drop into the NCA from the north, while only a short distance outside the NCA, to the east, lies the South Dorset Ridgeway and its fine archaeological landscape. The degree to which this coast can offer 'traditional' seaside holidays is limited by the nature of the coast with few beaches and unstable cliffs along most of its length. The whole NCA's strength lies in its strong offer of cultural recreation and intellectual access. Geology, geomorphology, palaeontology, botany, and, to a lesser extent, archaeology and the arts are all strongly imprinted on this NCA.	The NCA's existing network of rights of way and permissive paths should be maintained and, where possible and appropriate, enhanced. Extend awareness of both the South West Coast Path National Trail and its linkages with the inland footpath network. Opportunities should be sought to enhance the interpretation of the landscape, geology, biodiversity and heritage 'assets' of the NCA. Ideally bringing a 'holistic' view. Development of new or expansion of existing recreational facilities should be sympathetic with and enhance their setting.	**Recreation** **Sense of place / inspiration** **Sense of history** **Geodiversity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity	3 SAC covering 425 ha 10 SSSI covering 933 ha 83 SNCI covering 511 ha 1,200 ha of priority habitats Coastal habitats with 350 ha of cliff and slope habitats 250 ha of wet woodland and fen mosaic Extensive network of hedgerows with hedgerow trees Network of springs, flushes and streams flowing from Greensand aquifer	The coast represents the most dynamic and naturally functioning element of the NCA's biodiversity. The mobile slumping and eroding cliffs present an area where human intervention is minimal. Both the habitats and species here depend on constant change and early successional environments. Inland, the picture is reversed and a lack of suitable human intervention can, and is in places, leading to community change – whether this is negative is a point for debate as the succession is natural and the resulting communities are valuable in their own rights. Much of the large resource of rough and semi-natural grasslands is receiving the management the habitat requires. Where this is not the case, succession to scrub and woodland ensues. The smaller, more remote fields can easily fall out of a holding's grazing system and these are most vulnerable to scrubbing over. The same is true of heathland. The relict heathy areas on the Greensands were once part of an extensive grazing system that has now 'retreated' from these most marginal of areas. Deliberate conservation effort has to be made to prevent them succeeding to scrub and woodland. **Continued over...**	International	A small NCA with much nature conservation and biodiversity potential. Along the coast the lack of human interventions in a dynamic system is the key asset. Within the cliff and undercliff system natural processes are the prime movers of biodiversity and as long as these remain naturally functioning they will remain favourable. The coastal grasslands and scrub that often back the break of cliff rely on either active grazing for grasslands or general non-intervention for scrub communities. Grasslands tend to be semi-improved or rough grassland right to the cliff edge. Inland, the range of habitat types present reflects the underlying geology and hydrology and a long history of human occupation, intervention and abandonment. The most valued habitats are all relict features of past or present agri and silvicultural practices. Their original functions have, in many cases, fallen out of favour with modern agricultural systems. Areas of semi-natural grassland remain where improvement has been technically difficult or access is difficult. Without active conservation measures (most often Environmental Stewardship payments to maintain or bring back grazing) these fields are reverting to scrub and woodland. The same is true of the relict areas of heathland on the Greensand plateau. **Continued over...**	Nationally and internationally designated sites need to be brought into favourable condition. Enhanced buffering, extension and linking of core habitat complexes should be undertaken, in line with Hopkins' and Lawton's principles. Landscape permeability, while quite good here, needs to be strengthened and extended in the face of anticipated climate change stresses on habitats and species. Sub-tidal habitats, though under less direct pressure than terrestrial, require better protection and study/interpretation. While a habitat-led conservation approach suits many species, special attention may need to be paid to species with very specific requirements. Continue non intervention in the natural process of driven cliff and undercliff communities. Enhance cliff top habitat by introducing where possible a buffer zone of semi-natural habitat. **Continued over...**	**Biodiversity** **Sense of place / inspiration** **Sense of history** **Recreation** **Regulating water flow** **Regulating water quality** **Tranquillity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity continued		**...continued from previous.** Woodlands, apart from conifer plantations, are again generally outside of the modern land use systems that maintained them. Apart from those where active conservation interventions are carried out, most are unmanaged and likely are not meeting their full ecological potential – though their landscape potential is still high. The hedgerow system and small copses are important 'stepping stones' that occur at high density and connectivity in much of the NCA. These also contribute strongly to character. Little appears to be known about the biodiversity of the NCA's network of streams, though their density makes them a valuable asset.		**...continued from previous.** Though these naturally regenerating woodlands have biodiversity value, they may be weakening habitat networks by isolating grassland and heathland patches from each other. In a similar manner, the wet woodlands of the NCA (and beyond) are a valuable habitat that has evolved from an actively managed timber resource. Maximisation of the nature conservation value of this woodland would entail returning the traditional coppice management that these woodlands underwent until around the 1950s. The same applies to the other broadleaved woodlands in the NCA. They currently provide useful biodiversity, landscape and ecosystem services, but all these could be enhanced if some aspects of traditional management techniques were re-introduced to them. The need to strengthen the network of semi-natural habitats here appears needs careful consideration as to where they are needed and how much of each needs to be created. Strengthening the semi-natural grassland resource in a sustainable manner requires a habitat that will 'pay its way' and function within a modern pastoral system.	**...continued from previous.** The influence of geodiversity, and human history upon the biodiversity of the NCA should be highly profiled in any interpretation.	

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity	Classic coastal structures and geomorphological processes Strong links to the development of geology and palaeontology as modern sciences Entire coastline is part of Jurassic Coast World Heritage Site Golden Cap well known feature, highest point on English south coast One geological SSSI and one with mixed interest 10 Regionally Important Geological Sites Jurassic stratigraphy, fossil record and palaeo-environments Jurassic vertebrate palaeontology (marine reptiles, pterosaurs, dinosaurs, fish) Jurassic invertebrate palaeontology (ammonites, belemnites, bivalves, corals and insects) Cretaceous stratigraphy and palaeo-environments	The whole coast is part of the Jurassic Coast World Heritage Site. Maintenance of the Outstanding Universal Value is a key management duty. For the most part the geodiversity of this section of coast is functioning in an unmodified way. Shingle is managed at West Bay to protect several built assets. The active geomorphological processes both maintain classic structures (including cliff falls, slumps, Chesil Beach) and, via erosion, a supply of new fossil material – still yielding undescribed species. Inland the legibility of the relationship between geology and landform makes this a valuable learning resource. Ancient erosion plain still clearly discernable on the plateaux topping the Greensand. The built environment reflects geodiversity through vernacular use of local stones – variability within the NCA – Upper Greensand Chert is favoured in the Marshwood Vale, Inferior Oolite dominates in the Powerstock Vale.	International	A key section of the Jurassic Coast and possibly the section with the greatest cultural importance via the associations with Mary Anning and the birth of modern palaeontology. Commercial fossil collecting is still, in some quarters, a controversial activity and requires a constant level of management and negotiation. Lyme Regis is and has been defended from the sea for a long time, modern efforts in this area have concentrated on the impacts of erosion due to water movement within the cliffs and seeks to stabilise and protect Lyme Regis itself and its flanks from slump. One area of active intervention is the shingle ridge at West Bay, where the ridge provides protection to a caravan park behind it. In terms of allowing unconstrained natural erosion and deposition processes to operate, this stretch of coast is a good example of how this can be achieved, albeit in an area with little coastal infrastructure to protect and mass movement that would be impossible to arrest. The local stones have seemingly fallen out of use with only a single quarry operating now. Ham Hill Stone from the adjacent Yeovil Scarplands NCA is still used.	Ensure the importance of this coast's geology and geomorphology are presented to both visitors and local people using interpretation of the highest quality. Maintain and, where appropriate, enhance levels of access to the geodiversity assets of the coast. Strive to maintain the current levels of unmodified coastal geomorphological processes. Aim for new developments in the area to reflect the vernacular in high quality builds using local stone (and other materials where appropriate) and styles. Seek to identify and re-open quarries that could supply locally distinctive stones for the restoration and new build markets. Investigate the ways in which marine geodiversity could be illustrated and interpreted, particularly in relation to the abundant marine biodiversity. Maintain a constructive dialogue between landowners, fossil collectors, museums, the scientific community and other interested parties to ensure that the fossil collecting code is as fit for purpose as possible at all times	**Geodiversity** **Biodiversity** **Sense of place / inspiration** **Sense of history** **Recreation** **Regulating coastal erosion and flooding** **Regulating water flow** **Regulating water flow**

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