National Character Area profile:

138. Weymouth Lowlands

Supporting documents

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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.

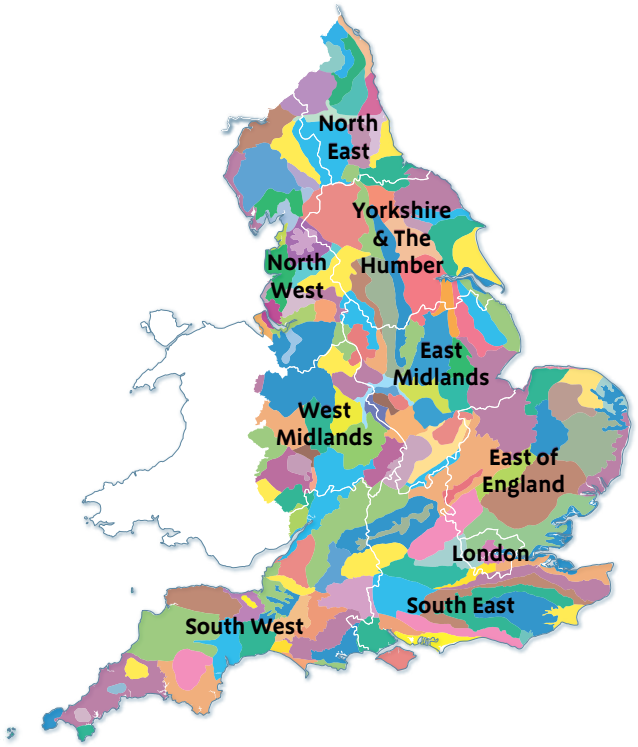
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and 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

Weymouth Lowlands National Character Area (NCA) is defined by its complex geology of a broad ridge-and-valley pattern of chalk, limestone and clay and associated landform, a dynamic coast and its cultural heritage. The 68-kilometre stretch of coast is part of the Dorset and East Devon Coast World Heritage Site; it is known as the Jurassic Coast and is designated as a Heritage Coast, reflecting its internationally important geology, beauty and access opportunities. The South West Coast Path traverses the whole stretch while from the Isle of Portland eastwards the path is covered by the new rights afforded by the England Coast Path. Sixty per cent of the NCA lies within the Dorset Area of Outstanding Natural Beauty (AONB). The underlying limestone geology, which extends into neighbouring Dorset Downs and Cranborne Chase NCA, is part of an important aquifer complex supplying water to Weymouth, Dorchester and beyond.

Sweeping coastal views from windswept ridges and cliffs at the coast are dominated by the Isle of Portland, linked to the mainland by the 28 kilometres of Chesil Beach, a natural barrier beach and tombolo. Chesil Beach and The Fleet lagoon which it encloses are designated as a Special Area of Conservation (SAC), Special Protection Area and Ramsar site for their outstanding biodiversity interest, including their overwintering bird assemblage, and geomorphological and geological features. The Isle of Portland to Studland Cliffs SAC (designated for coastal habitats including limestone grasslands) and Crookhill Brick Pit SAC (designated for its great crested newts) are also within the NCA. Agriculture is generally mixed, mainly arable, cattle and sheep. The landscape is largely treeless with pockets of woodland in the Bride Valley to the west and Osmington to the east. Sparse hedgerows, post-and-wire fencing and some low stone walls in the Bride Valley and on slopes add to the sense of openness.

Weymouth sits at the heart of the NCA, and is the only major urban development in the area. The rest of the area is dotted with small villages, isolated farmsteads and manors linked by a network of small roads. A strong local vernacular using varieties of local limestone brings a sense of harmony. The A354 from Dorchester is the only major road into the NCA and to Weymouth. The rail link via Dorchester takes a parallel route. The area generally has an isolated, intimate nature, with a sense of being cut off from the rest of Dorset by the chalk ridge which forms the northern boundary of the NCA.

Click map to enlarge; click again to reduce.

Statements of Environmental Opportunity

SEO 1: Conserve and promote the Weymouth Lowlands' historic landscape and geodiversity including the Jurassic Coast, The Fleet and Chesil Beach, the suite of national and local geological sites and the distinctive relationship between geology, coastal geomorphology, soils, landform and land use, promoting opportunities for recreation in the area and interpretation of the unique features while also ensuring that the interplay between biodiversity, geomorphology and land use is complementary.

SEO 2: Protect, manage and enhance the distinctive farmed landscape, retaining the balance of productive mixed farmed landscape and diversity of habitats and associated species. Create connecting corridors of calcareous grasslands at the coast and on limestone ridges, manage the diverse range of intimate wooded pockets, wetlands, coastal habitats and fens for their contribution to sense of place, and their positive role in reducing soil erosion and enhancing water quality.

SEO 3: Protect and manage the rich heritage located within the NCA and the Dorset AONB, engaging both visitors and local communities in understanding the relationship between the historic environment, geodiversity and biodiversity and the role that this has played in shaping the landscape of today.

SEO 4: Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; reduce flooding; and manage land to reduce soil erosion and water pollution and to retain and capture carbon.

The cliffs at Burton Bradstock.

Description

Physical and functional links to other National Character Areas

The chalk escarpment of the Dorset Downs and Cranborne Chase National Character Area (NCA) forms the northern boundary of the Weymouth Lowlands. This ridge provides a backdrop to the NCA and affords panoramic views towards the coast and north into Dorset. Sweeping coastal views in this NCA are dominated by the Isle of Portland lying off the southern tip of the area, linked by Chesil Beach to the mainland. Driving from Bridport on the B3157 towards Weymouth also reveals the well- known view of St Catherine's Chapel overlooking Chesil Beach and The Fleet.

This stretch of coast forms part of the longer stretch of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast) and the South West Coast Path, providing strong recreational, cultural and geological links between coastal NCAs. The dynamic coastal geology and maritime cliff habitats along the coast provide a strong ecological link to Marshwood and Powerstock Vales NCA in the east and South Purbeck NCA in the west.

The chalk and limestone geology of the NCA forms part of a wider aquifer system which underlies this and the Dorset Downs and Cranborne Chase NCA to the north. This is a primary source of water for the populations of Weymouth and to the north of the NCA, such as Dorchester and beyond.

Relatively unimpeded coastal processes also link this and adjacent NCAs via long-shore drift and sediment cells. Offshore, the submarine geodiversity and seabed morphology are as varied as on the land. Terrestrial biodiversity is mirrored by an equally diverse suite of reef communities.

Chesil Beach connects Weymouth to the Isle of Portland and protects The Fleet lagoon which sits behind it.

Transport links into and through the NCA are generally via a network of small roads linking villages. The A354 from Dorchester is the only major road into the NCA and to Weymouth. A rail link via Dorchester also runs to Weymouth, running parallel to the road.

Distinct Area

- Chesil Beach and The Fleet.

Key characteristics

- The Weymouth Lowlands are united by an underlying broad ridge-and-valley pattern of chalk, limestone and clay.
- Exposed, windswept coastal grassland with long, open seaward and coastal views enclosed by the Dorset chalk ridge in the north of the NCA.
- Open, largely treeless ridgetops and coastline with concentrations of valley woodlands and plantations in the Bride Valley and around Osmington.
- The shingle bar of Chesil Beach and enclosed saline lagoon of The Fleet are distinctive features linking the Isle of Portland to the mainland, a focus for sweeping views from along the coast, and a key biodiversity, geological/geomorphological and educational feature.
- The rivers Wey and Bride dissect the ridge-and-valley pattern of the Weymouth Lowlands, with the Wey in the east feeding Lodmoor, a wetland reserve in Weymouth, and Radipole Lake, a coastal lagoon in Weymouth, around which the harbour and town have developed.
- Predominantly rural and agricultural in character. A mosaic of arable on the higher ground with pasture on steeper slopes and in valley bottoms.
- Patches of limestone and chalk grassland on ridgetops and along the coast with characteristic calcicole species such as rockrose and quaking grass. Springline flushes, wetlands and coastal habitats such as reef complexes complement the mosaic of habitats present.
- Rectilinear fields on the inland ridges are enclosed by sparse hedgerows with few hedgerow trees and post-and-wire fencing where hedgerows are not present, lending an uncluttered feel to ridgetops.
- Drystone walls are characteristic and are strongly associated with areas where suitable stone is locally and readily available, especially where the Purbeck Beds, Corallian Limestone and Forest Marble outcrop. Their changing colours reflect the changing geology. Notable in the Bride Valley.
- Settlements are mainly located on the lower valley slopes or close to streams. Farmsteads or hamlets lie on valley sides, commonly close together and linked by narrow lanes.
- The urban area and fringe of Weymouth is extensive, ringing the southern and northern sides of Portland Harbour and linked by the busy A354.
- A strong local vernacular architecture using a mixture of materials which reflects the underlying geodiversity: Portland Stone at Portesham, Corallian Limestones at Abbotsbury and Osmington, and oolite also at Osmington. Flint and brick with thatch roofs are also seen, particularly near the coast, exemplified by Abbotsbury. In contrast, Weymouth has a mix of styles including a distinctive grandiose Georgian sea front.

Abbotsbury, nestled in a valley, is constructed from local Corallian Limestone. Sheep graze the surrounding, sparsely hedged, rectilinear fields.

Weymouth Lowlands today

This NCA is shaped by complex geology and associated landform, but also by its dynamic coast. The exposed chalk escarpment which bounds the NCA to the north slopes expansively into the more intimate coastal plain. The Bride Valley in the west has a particularly intimate feel lent by the rolling landform and patchwork of fields bounded by stone walls. To the east the landform around Osmington is noteworthy for its complexity. Sweeping coastal views are dominated by the Isle of Portland rising abruptly out of the sea, connected to the mainland by the thin strand of Chesil Beach. The Weymouth Lowlands are united by an underlying broad ridge-and-valley pattern of chalk, limestone and clay. The pattern is linked to a large, dome-shaped fold in the rock layers known as the Weymouth Anticline. Portland lies on the southern limb and the hard Portland Limestone dips below sea level at the Bill. To the north, the Portland Limestone dives steeply into the Ridgeway, where it is capped by chalk. In between, hard bands of limestone form ridges inland and headlands at the coast and Fleet shore while soft bands of clay form the vales and bays, including the large expanse of Portland Harbour.

Weymouth's Georgian seafront.

The NCA is predominantly rural and agricultural in nature and has a remote and tranquil appeal. It can feel isolated from the rest of Dorset by the chalk escarpment which bounds it to the north. Limestone ridges are crossed by rectilinear fields, bounded by low, sparse hedgerows, largely without hedgerow trees, or post-and-wire fencing. Arable farming characterises these open ridgetops with panoramic views to the coast and provides important feeding and breeding grounds for farmland birds such as corn bunting and grey partridge. Valley floors have a mixed farming pattern but remain largely treeless and open. Locally, and particularly in the Bride Valley, there are patches of drystone walls, strongly associated with areas where suitable stone is locally and readily available, especially where the Purbeck Beds, Corallian Limestone and Forest Marble outcrop. Soils are thin and brashy, and 76 per cent of the area is classed as Grade 3 agricultural land. There is a trend towards conversion to arable from pasture across the area.

The landscape around the Bride Valley is more varied, wooded and undulating. Woodland patches are characterised by oak, ash and hazel, and often associated with a network of streams. Towards the sea, the landscape is still more strongly undulating with wide views and no trees. Towards Osmington there is an intricate, enclosed landscape of pasture, small fields, irregular hedgerows, woodland and scrub, which rises to the high, open Chaldon Down.

There are two major rivers in the area which run across the ridge-and-valley pattern. These are the rivers Wey and Bride. The River Wey is only 8.9 km long, emerging from the Portland and Purbeck limestone ridge below the South Dorset Downs chalk ridge at Upwey. At Weymouth, the in-filled estuary of the Wey has been extensively built on and the beach ridge is backed by a sea wall and promenade, apart from a section at the northern end of Weymouth Bay where there is a clay cliff (Furzy Cliff) which exhibits landslide activity. The Bride runs through Burton Bradstock and flows across the shingle to the sea. Occasionally fluvial flooding can be a problem alongside tidal flooding at Weymouth and Preston which benefit from sea defences. Breakwaters help to reduce wave action on the Portland Harbour area. The rivers are important sources of water, supplying fish farming and a hydroelectric scheme at Upwey. The area is also underlain by limestone and chalk and forms part of the aquifer network which underlies the Dorset Downs and Cranborne Chase NCA to the north. The nature of the geology means that where chalk or limestone meets impermeable clays springlines and small fens are common. There is an association between the springlines and land use, particularly the position of historic withy beds.

Soil slippage and slumping can also be seen as a result of springlines, especially following high rainfall. Radipole and Lodmoor nature reserves have large areas of reedbed and marshland extending up the Wey Valley. Wetland reserves at the coast and springline flushes throughout the NCA are important. The hillsides around Abbotsbury are covered in a mosaic of ancient landslides that may have lain dormant since the last ice age or before. The back-tilted surfaces created by large rotational slips take on the appearance of enormous terraces which have been mistaken for ancient field systems in the past.

The area has a rich and diverse biodiversity resource exemplified by 1,756 ha of Biodiversity Action Plan (BAP) habitat, and 867 ha of Sites of Special Scientific Interest (SSSI) (7 per cent of the NCA) of which approximately 461 ha (3 per cent of the NCA) are Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Ramsar sites. The majority of the designations are contiguous, providing a strong network of habitats, particularly along the coast. Where gradients steepen along the chalk and limestone ridges, scrub and grazed semi-improved permanent grassland are found, generally calcareous in nature. Windswept cliff-top grassland adorns the soft, unstable cliffs of the coastal strip, supporting a rich mosaic of habitat which is particularly important for invertebrates. The coast and the limestone ridge account for much of the area's 472 ha of unimproved grasslands, which are particularly rich around Osmington and White Nothe and include the Isle of Portland to Studland Cliffs SAC, designated for maritime vegetated sea cliffs and calcareous semi-natural grasslands. These grasslands support silver-studded blue, chalk-hill blue and Adonis blue butterflies and plants such as green winged orchid, pyramidal orchid, early gentian, early spider orchid, wild cabbage and Nottingham catchfly. A lack of management of some of these sites, principally from a decline in grazing, has led to an increase in gorse and other scrub cover.

Chesil Beach and The Fleet, designated as an SAC, SPA and Ramsar site, dominate the coastline. The windswept, rugged nature of the beach contrasts with the gentle lakeside landscape on the inland edge of The Fleet with its mosaic of fields and hedgerows extending down to the water's edge. Chesil Beach, a 28-kilometre linear storm beach, is important in the study of coastal geomorphology.
The enclosed brackish lagoon of The Fleet is extraordinarily rich in wildlife. Outstanding communities of aquatic plants and animals are present, including the looping snail and a sea slug Tenellia adspersa, both only known from one other British site, and the scaly cricket. These in turn support large numbers of breeding waders and tern, including one of the largest common tern colonies in south-west England, and overwintering waders and wildfowl such as dark-bellied Brent goose. The Fleet is the only significant estuarine fish nursery and breeding area

between Swanage and Seaton and is identified specifically as a bass nursery area. The Fleet is also locally important for shellfish, in particular oysters, and a small fishing industry is supported. Flood defences are integral with Chesil Beach for a discrete length adjacent to Chiswell.

The NCA is relatively sparsely settled. There are a few compact nucleated villages, mainly on the lower slopes or near streams, while the ridgetops are almost entirely free of settlement. Farmsteads and hamlets lie generally on the valley sides, commonly quite close together along narrow lanes, with few main roads leading in or out of the NCA. Large farmsteads and manor houses, many dating from the 16th century or earlier, are also found in and around villages. The building style is generally mixed. There is a strong presence of locally derived Portland and Purbeck limestone in villages as well as flint and reed thatched cottages, although brick is also common. Abbotsbury to the west uses the more yellow coloured Corallian Limestone derived from the surrounding hills.

Weymouth, a vibrant coastal town in the middle of the NCA, extends inland from its sheltered east-facing harbour, with the historically important Portland Harbour lying between it and the Isle of Portland. Weymouth is fronted by an impressive Georgian sea front, but more recent urban development and land uses radiate along the main road corridors and associated infrastructure such as pylons is notable. Caravan parks and associated visitor infrastructure and pony paddocks are also more prevalent within the confines of Weymouth, especially to the west, but increasingly evident throughout the NCA. Two wetland reserves – Radipole Lake, fed by the River Wey, and Lodmoor – lie within Weymouth and are important for overwintering and breeding waders. Crookhill Brick Pit SAC in Weymouth is a disused brick pit supporting the highest counts of great crested newts in Dorset. Weymouth and Portland hosted the 2012 Olympic Games sailing events. Preparation for the Olympic Games and mitigation measures

Little tern.

arising from the construction of the Weymouth Relief Road enabled a number of regeneration projects to take place and a general enhancement of the Georgian sea front. These included the development of 200 ha of green infrastructure along the Lorton Valley Nature Park and a mix of access and nature reserves as well as a spectacular new geological section through the Purbeck Beds along the Weymouth to Dorchester cycle route.

The NCA is crossed by a network of footpaths, and in particular a 68-kilometre stretch of the South West Coast Path, and is also known for water-based recreation. The geology of the NCA makes it important for study and research into geology, stratigraphy and coastal geomorphology.

The landscape through time

The area is underlain by bands of limestone, mudstone, siltstones and sandstone running in an east– west formation. These are tilted slightly to the east with progressively younger rocks exposed at the coast. Lias Group mudstones and limestones are exposed at the western extremities of the area, with later Jurassic Corallian, Kimmeridgean and Portlandian sediments exposed further east. The early Cretaceous Purbeck Beds sit above the Portland Stone and these are found on the northern edge of the NCA. Later Cretaceous sediments – Greensand, Gault Clay and Chalk – form the Ridgeway at the boundary between the Weymouth Lowlands and the Dorset Downs. The strata were deposited during the Middle to Upper Jurassic and Cretaceous under fluctuating conditions and maintain a record of changing climate and sea depths from relatively deep seas to coastal swamps. Sea levels rose and fell in a series of cycles, depositing deep-water clays, followed by sandstones and finally shallow-water limestones. Significant fossil localities yield abundant invertebrate material as well as vertebrates including marine reptiles such as pliosaurs, plesiosaurs and ichthyosaurs. The coast around Osmington is known for natural oil seepage rising from the seabed. A film of oil can still be seen on the surface of the sea near Bran Point on calm days. The coast around Osmington Mills is also one of the best places to see trace fossils.

About 100 million years ago a large and deep fault formed running between what is now Abbotsbury and Poxwell as a result of the opening of the Channel Basin. It is known as the Abbotsbury Fault. Around the same time significant uplift to the west tilted the entire rock sequence here gently to the east. At about 20–25 million years ago the collision of the African and European plates compressed the rocks here, creating a structure known as the Weymouth Anticline. This folded the bedrock across almost the entire Weymouth Lowlands NCA with an east-to-west axis running roughly parallel with Nottington Lane. Erosion of this structure has created

White Horse at Osmington sculpted in 1808 in honour of King George III who regularly visited Weymouth making it 'the first resort'.

a cross section of the geology across the landscape, destroying the post-Jurassic rock record and creating the distinct geomorphology of the area where the ridges and valleys are aligned with the tilted hard and soft rocks.

The Abbotsbury Fault forms a major boundary at the northern edge of the NCA. It was reactivated during the formation of the Weymouth Anticline, allowing rocks to the south to be thrust upwards while the pressure pushed up the chalk ridge on the northern side. The result is a sudden change in geology across this fault with Upper Greensand and Chalk always on the northern side and much older rocks on the southern side. This boundary creates springlines and the sudden rise in topography that characterises the change from the Weymouth Lowlands to the Dorset Downs.

The influence of the Weymouth Anticline and the Abbotsbury Fault dies out west of Abbotsbury and does not affect the Bride Valley.

Chesil Beach and The Fleet lagoon owe their origin to changing sea levels and landslides through the late part of the last ice age. Around 125,000 years ago sea levels were slightly higher than today, as evidenced by the eastern raised beach on Portland Bill. When sea levels dropped during the final cold period of the last ice age, the west Dorset and east Devon cliffs decayed into vast debris slopes that spilled across the exposed sea floor. Rising sea levels after the ice age (about 10,000 years ago) pushed material onshore but less than 10,000 years ago they also encountered these large, degraded landslides and released huge volumes of chert and flint onto the shorelines. Long-shore drift carried these pebbles east, creating the beach.

Important Mesolithic sites are found along the edge of The Fleet. Pollen analysis shows that during the Neolithic period there was grazing on the high downland and coastal grasslands and cultivation of the valleys, and there is also evidence of early field systems and arable cultivation on higher ground. Continued cultivation on the thin, brashy soils of the limestone ridge caused low soil fertility and subsequent crop failure: Mesolithic skeletons showing signs of starvation have been found here, testament to the relative poverty of the soils and biodiversity compared with the Fleet area. Neolithic long barrows are in evidence, such as Hell Stone near Portesham. Iron-age forts are also present, such as at Chilcombe. Roman villa sites are found throughout and there is evidence of a temple near Preston. The area of Weymouth was used as a harbour to supply goods for Dorchester.

It is likely that the present settlement pattern of a mixture of nucleated villages concentrated in the valleys or on the lower slopes and scattered farmsteads throughout became established by the 10th century. The Ridgeway Hill Viking burial pit is a mass grave of Viking men executed by local Anglo-Saxons and gives a glimpse into the turbulent history of this period.

A Benedictine abbey was established at Abbotsbury in the mid-11th century. The substantial market town of Abbotsbury, the base for a successful fishing industry, grew up around the abbey. The abbey was destroyed in 1538 during the Dissolution of the Monasteries. The nearby and prominent St Catherine's Chapel was spared and later used as a lookout.

By the 12th century two competing ports were established across a narrow channel near Portland Harbour, Weymouth and Melcombe Regis. After the foundation of new boroughs in the 13th century both flourished. They grew rapidly as a base for fishing and for the exportation of wool to western France and importation of corn and wine from Gascony. It is thought that Melcombe Regis was one of the first towns to suffer the Black Death in the 14th century.

In 1571 the two ports were united by an Act of Parliament. The fortunes of Weymouth declined as Poole Port further along the coast grew. The rise in popularity in the 1760s

of sea bathing revived Weymouth and saw the development of its Georgian sea front. The White Horse at Osmington was carved in 1808 in honour of King George III whose regular visits to Weymouth meant it became known as 'the first resort'. It remained a modest seaside resort until the 19th century. The development of the railway encouraged leisure visitors on a larger scale, and its steady inland expansion began. In the 1850s new maritime defences were built and breakwaters enclosed Portland Harbour, coinciding with the establishment of Portland Naval Base as a coaling station opposite the French naval base at Cherbourg.

Evidence of medieval field patterns survives on the poorer land of the slopes and higher ground indicating that until the 14th century arable farming was extensive, combined with sheep grazing on the downland and coastal grasslands. The Black Death and other epidemics and climate change in the 14th century saw a contraction in the local population and deserted villages, evidence of which can still be seen at places such as Portesham, and in relict farming terraces. From the 14th century grazing increased and the most difficult land to plough was abandoned, but the mix of arable and pastoral farming boosted production and encouraged the growth of larger farms.

Most fields are of a rectilinear nature following a north–south grain, dating from Parliamentary enclosure, although to the west there are less regular field patterns which are thought to represent earlier enclosure from strip fields and some common land. There was an attempt to drain The Fleet and reclaim the land for agricultural use during the 17th century, and while this failed sluices and drains remain.

The area around Weymouth and The Fleet was important during the First and Second World Wars. The Fleet was used for testing military equipment such as the 'bouncing bomb'. This is a nationally important defence landscape with lines of anti-tank cubes, pillboxes, battery emplacements and observation posts, especially in the hills behind Abbotsbury.

The remains of St Catherine's overlooking a small road typical of those connecting scattered settlements in the valley bottoms. The intimate nature of the ridge-and-valley pattern is also obvious, with hedgerows and small wooded copses.

After the Second World War the area became valued for its tranquillity and rural nature and in 1957 sixty per cent of the area was designated as the Dorset Area of Outstanding Natural Beauty (AONB). Tourism has remained important and the infrastructure to accommodate this has increased accordingly, with caravan parks a prominent feature along the coast. Weymouth and its support infrastructure have expanded, radiating along main transport routes, including the completion of the Weymouth Relief Road. Rurally there has been a tendency away from pasture to arable production with some removal of hedgerows to produce larger rectangular fields.

This coastline was designated as the West Dorset Heritage Coast in 1972 for its natural beauty and access for visitors and in 2001 as part of Dorset and East Devon Coast World Heritage Site.

Ecosystem services

The Weymouth Lowlands 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 Weymouth Lowlands NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision:** There is a mixed farming pattern in the area, with arable, dairy and meat (beef and lamb) production most important. A small amount of horticulture is present and Weymouth is a fishing port supporting a small but active fishing and shellfish industry. There is a trend towards more arable and a reduction in livestock, particularly notable in relation to sheep which have experienced a 63 per cent drop in numbers.

- **Water availability:** This NCA is important for water supply to Weymouth and further afield outside the NCA including Dorchester. The chalk and limestone geology which underlies much of the area forms primary and secondary aquifers for the supply of drinking water, being part of the larger aquifer which stretches under the Dorset Downs and Cranborne Chase NCA to the north. These aquifers have capacity for further abstraction. Surface water generally supplies fish farming and a local hydroelectric scheme. Monitoring indicates that there is abstraction capacity although this may be limited at times of low flows.

The open sheep grazed limestone ridge-tops, sparse hedgerows and post-and-wire fencing with evidence of soil creep beneath.

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

- **Regulating soil erosion:** Wet clayey soils and thin lime-rich soils found in this area are both prone to erosion and in recent years ploughing of steep land adjacent to watercourses has led to sudden increases in sediment loads in rivers after heavy rain. This is adversely affecting water quality in some rivers and in particular increasing sediment loads in the rivers Wey and Bride. This has the potential to have an impact on aquatic SSSI such as Lodmoor and Chesil Beach and The Fleet SAC.

- **Regulating soil quality:** Soils are intimately linked to the geology and vary from seasonally wet deep clays over clay bedrock with impeded drainage to freely draining shallow loams and shallow lime-rich soils over the limestones. Most are classified as Grade 3. Soils support biodiverse habitats such as limestone grassland on the ridges and at the coast. The soils are susceptible to both compaction and loss of organic content, particularly when ploughed, so sympathetic management is crucial.

- **Regulating water quality:** Under Water Framework Directive monitoring the aquifer water quality is assessed as good in this NCA. The rivers Wey and Bride are of moderate quality, failing their target; phosphate and sedimentation are the main factors affecting quality and may have increased owing to an increase in arable production in the area. The waters of The Fleet are eutrophic owing to diffuse water pollution. Its SSSI status is recorded as being in unfavourable condition. Initiatives are in place to address this.

- **Regulating water flow:** Parts of the area are susceptible to fluvial and surface water flooding, particularly Burton Bradstock, Nottington and Westham in the Weymouth area. The underlying chalk and limestone geology helps to mitigate this effect where the ground is porous, although the wetter clay vales can increase surface water flow when drainage is impeded. Both Radipole and Lodmoor wetlands in Weymouth offer water storage capacity but are at risk of flooding themselves when rainfall is particularly high combined with a high tide.

- **Regulating coastal flooding and erosion:** Large-scale erosion regulation and flooding is not provided as a service in this area as there are no features such as salt marshes which would mitigate this. However, Chesil Beach does provide a flood defence feature along much of its length, protecting farmland and communities beyond it, particularly for a discrete length adjacent to Chiswell.

Coastal geomorphological processes mean that it is gradually moving inland and may well be entirely lost in the future. The coast of the NCA is of international importance, forming the central part of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast). Active geomorphological processes are one of the elements of the World Heritage Site's Outstanding Universal Value.

In the far west around Burton Bradstock and in the east around Osmington the sea cliffs are chalk, limestone and clays of varying resistance to erosion, with differential erosion rates, resulting in the dynamic cliffs and landslides seen today. Erosion occurs with irregular cliff falls that are characteristic of the chalk and slumping of the clays and is particularly in evidence at Burton Bradstock. At Weymouth, the in-filled estuary of the Wey has been extensively built on and the beach ridge is backed by a sea wall and promenade apart from a section at the northern end of Weymouth Bay where there is a clay cliff (Furzy Cliff) which exhibits landslide activity. The Shoreline Management Plan recommends maintaining defences at Weymouth and no active intervention for the rest of the coastline. Flood risk can be exacerbated by stormy conditions raising Chesil Beach and blocking the outlet of the River Bride into the sea. This causes water levels to back up in Burton Bradstock.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** This area has a strong identity underpinned by the Weymouth Anticline and provided by the interplay between the gently rolling landscape of rounded hills that overlooks a highly distinctive coastline and across The Fleet and Chesil Beach to the Isle of Portland. The area is part of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast) and is well recognised for its importance to geological and stratigraphical knowledge, and for its beauty, biodiversity and dynamism. The views from Abbotsbury across The Fleet and Chesil Beach have no doubt inspired and drawn many visitors to

the area. Some sixty per cent of the NCA falls within the Dorset AONB and the coastline is part of Purbeck and West Dorset Heritage Coast. The development of Weymouth and Portland has been influenced by landform and distinct areas remain apparent, influencing the sense of place.

- **Sense of history:** This area is known for its rich history, visually prominent across much of the area, and in particular it's traditional architecture, the medieval monuments and buildings around Abbotsbury and its Second World War anti-invasion defences.

- **Tranquillity:** Despite a drop in tranquillity from 70 per cent to 50 per cent, tranquillity still represents a significant resource in the very rural central and western parts of the NCA with its dramatic coastline and The Fleet backed by the rolling limestone hills of the Bride Valley, giving visitors and residents a sense of remoteness and openness. Weymouth at its centre continues to expand and develop, and peri-urban development radiates out along the main access routes to Weymouth, reducing tranquillity in this area.

- **Recreation:** This NCA is a popular destination for different users, as it provides a range of recreational experiences ranging from the more traditional beach experience of Weymouth and its various watersports opportunities to the quieter pursuit of walking the coast path. The wetlands of Radipole and Lodmoor nature reserves provide the opportunity for the local community and visitors alike to engage with nature, and visitor centres at Radipole and on Chesil Beach broaden awareness of the natural heritage of the whole area. This NCA is well supported for walking with 61 km of the South West Coast Path and 302 ha of open access land (covering more than 2 per cent of the area). Overall there is a 310-kilometre network of rights of way at a density of 2.33 km per km^2 and 105 ha of National Trust land. The South West Coast Path traverses the whole coastal stretch and from the Isle of Portand eastwards the path is covered by the new rights afforded by the England Coast Path.

- **Biodiversity:** This NCA is relatively rich in biodiversity with 11 per cent of it covered by BAP priority habitats. This is in part owing to its geology, coastal position and undeveloped nature. There are 867 ha of SSSI (7 per cent of the NCA) of which approximately 461 ha (3 per cent of the NCA) are SAC, SPA or Ramsar sites. There are also 481 ha of Sites of Nature Conservation Interest (4 per cent of the NCA). SSSI condition in this area is good with 92 per cent in either favourable or unfavourable but recovering condition. There is a risk that as land managers move to a more arable-based systems grassland condition will fall with reduced grazing and a consequent loss in biodiversity.

- **Geodiversity:** The whole coastline is important for its geological interest and its educational value to coastal geomorphology and natural coastal geological processes and palaeontology. Most of the length of the coast functions naturally, with the exception of the coast around Weymouth and at Burton Bradstock where coastal defences protect settlements. The full length of this NCA's coastline forms part of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast). It was selected for a near continuous exposure of 195 million years of geological history, for important Mesozoic fossil localities and a series of classic geomorphological structures and processes. The Weymouth Anticline forms part of the system of Alpine structures in southern Britain and is synonymous with the Purbeck Monocline, which has a similarly controlling effect on the character of the adjacent Purbeck landscape. Local limestone is the most common building stone and the use of different varieties is strongly associated with availability in the immediate area. The small and now largely abandoned quarries that were the source of this stone remain as important geological sites including SSSI and Local Geodiversity Sites.

Statements of Environmental Opportunity

SEO 1: Conserve and promote the Weymouth Lowlands' historic landscape and geodiversity including the Jurassic Coast, The Fleet and Chesil Beach, the suite of national and local geological sites and the distinctive relationship between geology, coastal geomorphology, soils, landform and land use, promoting opportunities for recreation in the area and interpretation of the unique features while also ensuring that the interplay between biodiversity, geomorphology and land use is complementary.

For example, by:

- Conserving, managing and enhancing the nationally and locally important geological and geomorphological sites and features which represent the characteristic Jurassic sequences of the area, many of which are exposed at the coast through active cliff movement.
- Ensuring that the natural function of coastal geomorphological processes is unimpeded and that intervention measures are adopted only where essential, especially along Chesil Beach.
- Continuing to develop detailed understanding of coastal geomorphological processes to inform development and planning, particularly around Burton Bradstock and Weymouth where development pressures are greatest.
- Continuing to provide high-quality interpretation and engagement activities to local people and visitors to the Jurassic Coast to highlight its importance on an international and local scale.
- Managing the coastal strip and hinterland to ensure that new or existing developments neither impact upon the setting or visual coherence of the coast nor pose a future threat to continued unimpeded natural processes.
- Developing and providing interpretation for sites which illustrates the relationship between underlying geology and soils, thus providing a link with historical and present biodiversity, land use and management, and aiding interpretation of the wider landscape.
- Ensuring that measures are taken to maintain or bring about favourable condition of the geological Sites of Special Scientific Interest running the length of the coast and that the sites of local geological importance are appropriately managed and, where possible, accessible for study.
- Protecting important features for geological/geomorphological interpretation from inappropriate changes in land use, for example planting woodland on the cliffs around Osmington.
- Seeking to ensure that this resource is available as an accessible scientific and educational asset to study stratigraphy, palaeontology and the relationship between geology, biodiversity, landscape and building stone, and in particular characteristic features such as Chesil Beach.
- Conserving the visually outstanding and unspoilt coastline.
- Ensuring that the policies outlined in the Jurassic Coast and Dorset Area of Outstanding Natural Beauty (AONB) Management Plans are implemented.
- Utilising the Dorset AONB Landscape Character Assessment and Management Guidance (Conserving Character) to inform agricultural management and development choices.
- Planning for Weymouth's continued protection from rising, stormier seas while managing coastal processes in as natural a state as possible as set out in the Shoreline Management Plan.

Continued over...

SEO 1 continued...

- Maintaining multi-user paths and improving connectivity between settlements, both within and outside the area, using and extending the existing network of public rights of way and links to and from the South West Coast Path National Trail, Jurassic Coast, Weymouth and other assets.
- Providing ongoing, high-quality access to the coast, via the South West Coast Path, and ensuring that inland linkages to the public rights of way network are maintained and, where appropriate, enhanced.
- Developing new permissive access where appropriate to historical and geological sites and other areas of interest as part of a cohesive network of inspiring access provision.
- Maintaining the South West Coast Path National Trail and its corridors to the highest standards of management and visitor experience while taking account of dynamic cliff systems in order to provide the focus for both environmental connectivity and a corridor of interest of cultural, historical and environmental significance.
- Supporting the role of the Dorset AONB and Jurassic Coast Unit activities to improve wider partnership in delivery and management across the AONB and the National Character Area (NCA), such as improving access, signage and interpretation to ensure a high-quality visitor experience.
- Continuing to develop, with other partners, the Natural Weymouth and Portland Partnership and build on the 2012 Olympic Legacy to promote Weymouth and Portland's natural environment.

The complex coastal geology at Osmington Mills supporting coastal grasslands.

SEO 2: Protect, manage and enhance the distinctive farmed landscape, retaining the balance of productive mixed farmed landscape and diversity of habitats and associated species. Create connecting corridors of calcareous grasslands at the coast and on limestone ridges, manage the diverse range of intimate wooded pockets, wetlands, coastal habitats and fens for their contribution to sense of place, and their positive role in reducing soil erosion and enhancing water quality.

For example, by:

- Assisting the maintenance of distinctive farming patterns across the area, and encouraging initiatives which seek to support sustainable agriculture while retaining a mixed farming pattern which currently supports the mix of habitats and species found in the area, and utilising farming methods which reduce sediment, phosphate and nitrate pollution.
- Understanding the systemic changes which may be occurring in the agricultural system of the area. Working with farmers, land managers and communities 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 historic landscape that is so highly valued by local people and visitors alike.
- Helping land managers to develop profitable and sustainable agricultural systems to provide sufficient stock to effectively graze this and the adjacent NCAs' large areas of semi-natural grassland.
- Identifying opportunities for managing, restoring and creating areas of limestone grassland, maritime cliff and slope habitats, springline flushes and fens, pockets of woodland and wetlands to strengthen the connectivity of these habitats across the area, supporting species movement and for the benefits that they will bring in managing soil erosion and water quality and flow.
- Managing the diverse range of intimate wooded pockets, wetlands, coastal habitats and fens for their contribution to biodiversity and sense of place, and their positive role in reducing soil erosion and enhancing water quality.
- Understanding and promoting the services provided through specific management of ecosystems by land managers and seeking financial mechanisms which reasonably reward and incentivise those practices.
- Maintaining, restoring and sympathetically enhancing the network of small woodlands and copses typical of the Bride Valley and Osmington, utilising their potential for wood fuel and to help to manage soil erosion in order to bring them into positive management.
- Maintaining and reinstating hedgerow management, including laying and coppicing existing hedgerows on the steeper slopes and in valley bottoms, to retain these important landscape features for the future and safeguard their role in supporting the biodiversity of the area; assisting in the reduction of soil erosion by slowing cross-land movement of soils, nutrients and water (encouraging coppice residues to be used as a source of low-carbon fuel); and planting new hedgerow trees where appropriate and where they do not restrict current open views.
- Maintaining and restoring the network of drystone walls found on the steeper ground and in the Bride Valley, and the skills to do this, and the resulting field patterns of land use, reinforcing a clear sense of place and history and retaining these important landscape features which also provide a rich wildlife habitat.

Continued over...

SEO 2 continued...

- Encouraging land use which maintains long views along the coast and ridges and headlands, especially of places such as St Catherine's Chapel, Chesil Beach and The Fleet.
- Protecting the contrasts in character between ridge, slope, valley and coast by using their defining characteristics to inform new development, land management, access opportunities and woodland creation initiatives, particularly through the use of agri-environment schemes.
- Maintaining and promoting biodiversity interest which extends into the marine environment, including reefs found offshore and on the edge of the Portland Special Area of Conservation which borders this area.

Looking east across the NCA to White Nothe and beyond into South Purbeck NCA. Sweeping views taking in the mixed farming pattern of hedged rectinlinear fields and small scattered settlements leading to the coast.

SEO 3: Protect and manage the rich heritage located within the NCA and the Dorset AONB, engaging both visitors and local communities in understanding the relationship between the historic environment, geodiversity and biodiversity and the role that this has played in shaping the landscape of today.

For example, by:

- Encouraging arable reversion to grassland where appropriate, and sensitive scrub removal where current landcover and use threaten the integrity of important earthworks and remains, both buried and visible, including Neolithic long barrows, bronze-age round barrows, Roman remains, medieval settlements and Second World War remains.
- Managing the levels of grazing on historic features to prevent poaching and erosion damage on the one hand and ensuring that scrub encroachment is prevented on the other.
- Maintaining the nucleated settlement pattern of small villages in valleys and isolated farmsteads and manor houses, further characterised by fine churches, a strong vernacular architecture and a small network of roads.
- Ensuring that the wealth of heritage assets, including above-ground and buried archaeological features such as earthwork remains, Roman remains, abandoned villages and traditional farm buildings found across the area, are protected, conserved and enhanced, and are effectively and traditionally managed where necessary.
- Conserving and interpreting archaeological earthworks and sub-surface archaeology, while recognising the potential for undiscovered remains.
- Using an understanding of the area's traditional and historical architecture, and its distinct patterns of settlement, to inform the appropriate conservation of historical buildings, and to plan for and inspire any environmentally beneficial new development which makes a positive contribution to local character.
- Promoting access for all to the natural environment across the area, managing access in a way which balances the desire of people to enjoy and experience the area while preventing damage to assets; making the most of natural, historical, inspirational and tranquil places that are available to all, particularly incorporating sustainable multi-user access to and from the South West Coast Path National Trail and from Weymouth, particularly along the Lorton Valley.
- Encouraging the continued use of local stone as a building material in existing and new drystone wall field boundaries, new developments and conservation projects to further conserve and enhance the scenic beauty of the area and to provide a rich habitat for a range of wildlife.
- Maintaining the diversity of geology and traditional buildings that contributes to the NCA by using, promoting and encouraging locally sourced materials and skills for walling and building repair and construction.
- Recognising that sourcing traditional building stone locally can enhance geodiversity by creating new temporary or permanent exposures or by improving existing ones.
- Promoting, through engagement, people's understanding of the combined effect that multiple historic features have on the landscape character and the importance of their conservation and presentation.
- Bringing all heritage assets within the NCA into sympathetic management, seeking communities' engagement in the process of restoring and maintaining their heritage, and explaining English Heritage's Heritage at Risk register.

Continued over...

SEO 3 continued ...

- Protecting historic barrows and areas of known archaeological interest that are at risk from ploughing by reverting to pasture.
- Maintaining the setting of St Catherine's Chapel and the Second World War remains along The Fleet.
- Continuing to build on the 2012 Olympic Legacy and encouraging other forms of recreation, for example water-based ones, while being sympathetic to geological and biodiversity resources; and continuing to promote the value of the natural heritage of Weymouth through initiatives such as the Natural Weymouth and Portland Partnership.
- Promoting sustainable tourism initiatives that target a broad range of visitors and reduce car dependency, particularly in and around Weymouth, accommodating high visitor numbers while conserving the landscape and its tranquillity.
- Developing multi-user routes and improved route connectivity characterised by high-quality surfacing and signage and providing sustainable transport options wherever possible to enable more people of varying abilities to enjoy the natural environment.

On the edges of The Fleet, Rodden Hive is an ideal location to view overwintering birds.

SEO 4: Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; reduce flooding; and manage land to reduce soil erosion and water pollution and to retain and capture carbon.

For example, by:

- Continuing to support farming at a sustainable level with grazing and cropping levels that provide food, lead to improved soil quality, reduce soil erosion, benefit biodiversity and reinforce a sense of place and current patterns of land use.
- Increasing the amount of farmland managed under principles established by the Catchment Sensitive Farming Programme and the Farmland Bird Initiative for the associated benefits that this will bring in relation to water flow management and regulation, water quality and, in particular, reduction in nitrate and phosphate pollution, prevention of soil erosion and increased biodiversity.
- Maintaining and restoring hedgerow boundaries that are characteristic of the valleys and associated field patterns, especially where these help to control cross-land flows and prevent soil erosion and nutrient leaching.
- Creating woodland in appropriate locations to help to reduce the impact of flooding and for the benefit to water quality, particularly around Weymouth where this may help to improve the setting of the town and peri-urban development.
- Restoring and enhancing remnant wetland habitats, including springline marsh at the foot of the scarp and rare patches of valley mire and fen meadow in the valley bottoms, to the benefit of flood storage, water quality, landscape diversity and biodiversity.
- Creating grassland buffer strip verges running across slopes to provide a buffer to soil erosion and nutrient run-off in areas of arable production, including the catchments of The Fleet and River Bride.
- Continuing the opportunity to plan for the creation or extension of new broadleaved woodland and grassland habitat mosaics to provide the landscape setting for Weymouth and robust, attractive new landscapes, thereby strengthening the ecological network throughout this NCA and adjacent NCAs, particularly along the length of the coast and limestone ridgeways.
- Enabling the recommendations of relevant implementation measures under the Water Framework Directive and Catchment Flood Management Plans.
- Seeking opportunities to reinstate riverine habitats and connect rivers to their flood plains, for example the surface water management scheme at Burton Bradstock, to help to reduce flooding and increase water storage capacity in order to assist with reducing flood risk at Burton Bradstock.
- Ensuring the reversion of areas of arable land on steep slopes, choosing locations according to opportunities to assist biodiversity adaptation to changes in climate, improvements in groundwater quality, and in particular nitrate, phosphate and sedimentation issues and aquifer recharge; and managing grasslands in favourable condition through extensive grazing.
- Ensuring continued efforts to maintain beach water quality through investment by water companies in sewage treatment plants and infrastructure and land management-based initiatives such as those which seek to reduce soil erosion, slow down and store water during high rainfall, increase water quality and enhance biodiversity.
- Ensuring that farming patterns around The Fleet are sympathetic to reducing nutrient loss and soil erosion to lessen eutrophication of the waters and a loss in biodiversity as a result.

Additional opportunity

1: Plan for the creation of new landscapes around settlements, particularly around Weymouth, and appropriate development within the area. Reinforce the existing landscape structure as part of any identified growth of urban areas, hard infrastructure and other settlements, ensuring that quality green infrastructure is incorporated, enhancing health, access, recreation, the landscape, biodiversity and geodiversity.

For example, by:

- Avoiding development that detracts from the character, natural beauty and tranquillity of the NCA and identifying approaches which enhance and reinforce them.
- Planting new woodland, using native broadleaved species, between and within new developments to filter views and preserve the tranquillity of the area.
- Promoting the use of sustainable building design and construction, using traditional materials and styles wherever possible, incorporating renewable energy generation and water recycling technologies.
- Exploring the role of short rotation coppice and other biomass crops within the framework of new development; and keeping fuel sources close to demand.
- Creating reedbeds as part of developments to filter potentially polluted water before it is discharged to rivers and at the coast.
- Providing access opportunities and natural open spaces close to where people live linked to wider multi-modal routes.
- Ensuring that extensions to settlements, such as those around Weymouth and its environs, are designed so they visually and functionally integrate with the surrounding landscape and the existing urban edge. Key views to and from settlements should be retained.
- Providing access to quality green space through well-designed green infrastructure which will benefit health and wellbeing and provide habitats that increases the permeability of the urban landscape to biodiversity.
- Ensuring that new developments provide biodiversity enhancement rather than just mitigation as with the Lorton Valley.
- Designing sustainable drainage systems and surface water management plans that can create new wetland features close to urban areas and new development, becoming part of a green infrastructure network.
- Conserving the area's traditional architecture and manors, vernacular and historical buildings in local limestone, encouraging the use of appropriate styles and locally distinctive materials, ensuring that the repair, restoration and/or conversion of vernacular buildings are carried out with due regard to this historical interest using local and appropriate materials, styles and detailing.

Supporting document 1: Key facts and data

Total area: 13,251 ha

1. Landscape and nature conservation designations

Sixty per cent of the NCA falls within the Dorset Area of Outstanding Natural Beauty (AONB). More than a third, 37 per cent, of the NCA is recognised as Heritage Coast (23 per cent West Dorset Heritage Coast, 14 per cent West Purbeck).

The management plan for the protected landscape can be found at: http://www.dorsetaonb.org.uk/

Source: Natural England (2011)

1.1 Designated nature conservation sites

The NCA includes the following statutory nature conservation designations:

Tier	Designation	Name	Area (ha)	Percentage of NCA
International	Ramsar	Chesil Beach and The Fleet	237	2
European	Special Protection Area (SPA)	Chesil Beach and The Fleet SPA	237	2
	Special Area of Conservation (SAC)	Chesil and The Fleet SAC; Isle of Portland to Studland Cliffs SAC ; Crookhill Brick Pit SAC	461	4
National	National Nature Reserve (NNR)	n/a	0	0
	Site of Special Scientific Interest (SSSI)	A total of 16 sites wholly or partly within the NCA	867	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.

Land covered by international and European nature conservation designations totals 461 ha (3 per cent of the total land area); national designations cover 867 ha (7 per cent). Chesil Beach and The Fleet Ramsar Site and Chesil Beach and The Fleet SPA lie within Chesil Beach and The Fleet SAC. All the internationally designated sites are also within a SSSI designated area.

There are 55 local sites in the Weymouth Lowlands covering 481 ha which is 4 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

A breakdown of SSSI condition as of March 2011 is as follows:

SSSI condition category	Area (ha)	Percentage of SSSI in category condition
Unfavourable declining	33	4
Favourable	585	67
Unfavourable no change	33	4
Unfavourable recovering	216	25

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 rises from 0.2 m below sea level to a maximum height of around 208 m with the mean being about 52 m.

Source: Natural England 2010

2.2 Landform and process

The area is bounded by the Chalk to the north and by a varied sequence of Jurassic limestones to the south, between which there are gentle limestone hogs-back ridges with clay vales between. The long bar of Chesil Beach is a shingle storm beach.

Source: Wessex Vales Natural Area Profile, Isle of Portland/Weymouth Lowlands Countryside Character Area description

2.3 Bedrock geology

The rocks of the Weymouth Lowlands are of outstanding geological interest. The strata, laid down in marine environments, are tilted slightly to the east so progressively younger rocks are exposed there: Lias Group mudstones and limestones are exposed at the western extremities of the area, with later Jurassic Corallian and Kimmeridgean sediments exposed further east. Early Cretaceous sediments – Greensand, Gault Clay and Chalk are present along the boundaries shared with the surrounding character areas. The sediments jointly maintain a record of changing climate and sea depths. The coastal cliffs, part of the Jurassic Coast World Heritage Site, include rocks rich in fossil invertebrates and some vertebrates including plesiosaurs, ichthyosaurs, dinosaurs and early mammals.

Source: Wessex Vales Natural Area Profile, Isle of Portland/Weymouth Lowlands Countryside Character Area description, British Geological Survey maps

2.4 Superficial deposits

The Weymouth Lowlands were not glaciated, but they were affected by permafrost during glacial periods and fluctuating sea levels during temperate interglacial periods. Small areas of alluvium remain along former watercourses, and there are small areas of clay-with-flints capping the limestones. Just north of Abbotsbury there is an area of landslip where the Upper Greensand is undermined by water percolating through it and meeting the impermeable Gault Clay.

Modern coastal processes remain important and The Fleet and Chesil Beach - a brackish lagoon lying behind a linear shingle storm beach - are unique. Chesil Beach is principally composed of flint although limestone pebbles are an important component at the eastern end.

Source: Wessex Vales Natural Area Profile, Isle of Portland/Weymouth Lowlands Countryside Character Area description, British Geological Survey maps

2.5 Designated geological sites

Tier	Designation	Number
National	Geological Site of Special Scientific Interest (SSSI)	6
National	Mixed interest SSSI	5
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

Soils in the Weymouth Lowlands vary from seasonally wet, deep clays over clay bedrock to shallow loams over the limestones.

Source: Natural England (2010)

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	0	0
Grade 2	0	0
Grade 3	10,100	76
Grade 4	808	6
Grade 5	700	5
Non-agricultural	296	2
Urban	1,076	8

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 Wey	9
River Bride	n/a

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.

The principal rivers are the Bride and the Wey, the former arising on the Chalk and shaping a broad shallow valley adjacent to the Upper Greensand at the edge of the area. The latter cuts through the ridge and valley to form a coastal lagoon (Radipole Lake) at Weymouth, around which the harbour has been formed.

3.2 Water quality

The total area of Nitrate Vulnerable Zone is 4,694 ha, or 35 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 at: http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e

4. Trees and woodlands

4.1 Total woodland cover

The NCA contains 650 ha of woodland (5 per cent of the total area), of which 150 ha is ancient woodland.

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

4.2 Distribution and size of woodland and trees in the landscape

Woodland is generally sparse. There are a few plantations around Langton Herring and more extensive woodlands in the sheltered valleys around Abbotsbury. Trees around the villages, and particularly clustered around the more exposed farmsteads, are a distinct feature and, within the Bride Valley, there are several small woodlands and attractively sited tree clumps.

Source: Wessex Vales Natural Character Profile, Weymouth Lowlands Countryside Character Area

4.3 Woodland types

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

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

Woodland type	Area (ha)	Percentage of NCA
Broadleaved	540	4
Coniferous	42	<1
Mixed	13	<1
Other	55	<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	119	<1
Planted ancient woodland sites (PAWS)	31	<1

Source: Natural England (2004)

5. Boundary features and patterns

5.1 Boundary features

Boundaries tend to be low hedgerows although, inland, there are areas with drystone walls, notably in the Bride Valley. On the steeper slopes, especially around Osmington, there is mainly pasture with more substantial hedgerows and hedgerow trees.

Source: Weymouth Lowlands Countryside Character Area description; Countryside Quality Counts (2003)

5.2 Field patterns

Fields are generally large and rectilinear.

Source: Weymouth Lowlands 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

The main farm type is 'other types' with 36 holdings (31 per cent). This is followed by lowland grazing with 33 holdings (28 per cent) and dairy with 19 holdings (16 per cent). The only other farm types of any significance are cereals with 14 holdings (12 per cent), mixed farms with 6 holdings (5 per cent) and horticulture with 5 (4 per cent) holdings. During the period 2000 to 2009

several farm types declined. Dairy experienced the largest reduction by 15 holdings (44 per cent) followed by grazing lowland by 9 holdings (21 per cent). 'Other types' and cereals increased by 9 holdings (33 per cent) and 2 holdings (17 per cent) respectively.

Source: Agricultural Census, Defra (2010)

6.2 Farm size

Farm size is generally small. The most common farm size is between 5 and 20 ha, covering an area of 335 ha followed by farms over 100 ha, covering an area of 6,643 ha. During the period 2000 to 2009 there was no change in numbers of holdings in many of the farm size brackets. Farms less than 5 ha and between 20 and 50 ha declined by 8 and 7 holdings respectively.

Source: Agricultural Census, Defra (2010)

6.3 Farm ownership

Owned land makes up 63 per cent of the total farm area, while the remainder is held in tenancy. There has been a decrease in owned land by 6 per cent while land held in tenancy has increased by 1 per cent over the 2000 to 2009 period.

2009: Total farm area = 9,108 ha; owned land = 5,737 ha
2000: Total farm area = 9,334 ha; owned land = 6098 ha

Source: Agricultural Census, Defra (2010)

6.4 Land use

The most common crop type is 'grass and uncropped' land with 6,574 ha, 69 per cent of the total farmed area, followed by cereals with 1,329 ha or 15 per cent. Between 2000 and 2009, cereals and 'grass and uncropped' land fell by 337 and 328 ha respectively. Other arable crops and oilseeds increased by 341 and 96 ha respectively.

Source: Agricultural Census, Defra (2010)

6.5 Livestock numbers

The most common livestock animals are cattle with 10,000 animals followed by sheep with 5,400 animals then pigs with 3,100 animals. Between 2000 and 2009 the number of all livestock fell sharply. Sheep suffered a sharp reduction; 9,400 animals or (63 per cent). Cattle numbers reduced by 2,500 animals (20 per cent) while pigs reduced by 1,000 (49 per cent).

Source: Agricultural Census, Defra (2010)

6.6 Farm labour

The total number of holdings run by principal farmers is 168 with 12 units managed by salaried managers. From 2000 to 2009 there was been a decline in principal farmers, down by 21, full-time workers, down by 15 and casual/gang workers, down by 10. The number of salaried managers increased by 2 and part-time workers by 15.

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

Radipole Lake has large areas of reedbed and marshland extending up the Wey Valley. Chesil Bank's shingle ridge, with areas of vegetated shingle and sheltering the saline lagoons of The Fleet is a key concentration of BAP habitats. Quite extensive areas of chalk grassland can be found along parts of the northern edge of the NCA where the chalk ridge forms part of the boundary with the adjacent Dorset Downs and Cranborne Chase NCA. To the west of Weymouth the cliffs of limestone and chalk around Osmington and White Nothe support large areas of maritime cliff and slope habitats.

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
Reedbeds	521	4
Broadleaved mixed and yew woodland	472	4
Coastal vegetated shingle	282	2
Lowland calcareous grassland	195	1
Maritime cliff and slope	170	1
Coastal and flood plain grazing marsh	72	1
Lowland meadows	25	<1
Lowland dry acid grassland	10	<1
Saline lagoons	5	<1
Mudflats	4	<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

Settlements are mainly located on the lower valley slopes or close to streams. Farmsteads or hamlets lie on valley sides, commonly close together linked by narrow lanes. The urban area and fringe of Weymouth is extensive, ringing the southern and northern sides of Portland Harbour and linked by the busy A354.

Source: Weymouth Lowlands Countryside Character Area description; Countryside Quality Counts (2003)

8.2 Main settlements

The main settlement within the NCA is Weymouth. The total estimated population for this NCA (derived from ONS 2001 census data) is: 58,108.

Source: Weymouth Lowlands Countryside Character Area description; Countryside Quality Counts (2003)

8.3 Local vernacular and building materials

The older buildings are in a mixture of materials. Grey limestone is common, but brick is also widely used. Thatch, using reeds gathered from The Fleet, was a traditional roofing material in the southern part of the area. Along the attractive main street of the medieval town of Abbotsbury, it covers buildings of golden yellow limestone construction.

Source: Weymouth Lowlands Countryside Character Area description; Countryside Quality Counts (2003)

9. Key historic sites and features

9.1 Origin of historic features

In general, the early settlement history of this area appears to have been similar to that of the Chalk landscapes further inland. There are important Mesolithic sites on the edge of The Fleet. It is likely that an economy of grazing of the high downland and coastal grasslands, and cultivation in the valleys, developed at an early date although there is evidence of early field systems on some of the more inhospitable high ground.

A shift from downland sites to lower ground in the Roman period was accompanied by quarrying of Portland Stone. This appears to have ceased in the Anglo-Saxon period, but at the same time the present pattern of settlement became established, although there may well have been continuity from Romano-British times.

By the 12th century an abbey had been established at Abbotsbury, which developed as a substantial market town and formed a base for a fishing industry. Weymouth began to develop after the foundation of new boroughs in the 13th century although the locality, long recognised as an important harbour, appears to have been used by the Romans. It grew rapidly as a centre of the wool industry, drawing on the large grazing resources of its hinterland. By that time an open field system had become fully developed on the valleys and slopes, and extended to the Portland plateau where a few unenclosed common fields still survive.

In the rural landscape the post-medieval period saw a retreat from arable and mixed cultivation to a sheep-based economy, with an expansion of arable farming in the last century. Weymouth remained a modest seaside resort until the 19th century when its steady inland expansion began. At about the same time, in the 1850s, new maritime defences were built.

Source: Draft Historic Profile, Countryside Quality Counts, Weymouth Countryside Character Area description

9.2 Designated historic assets

This NCA contains the following numbers of designated heritage assets:

- 1 Registered Park and Garden covering 16 ha.
- No Registered Battlefields.
- 78 Scheduled Monuments.
- 930 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

- Three per cent of the NCA, 445 ha, is classified as being publically accessible.
- There are 310 km of public rights of way at a density of 2.3 km per km2.
- There is 1 National Trail, The South West Coastal Path, extending over 61 km.

Sources: Natural England (2010)

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

Access designation	Area (ha)	Percentage of NCA
National Trust (Accessible all year)	105	1
Common Land	61	<1
Country Parks	0	0
CROW Access Land (Section 4 and 16)	303	2
CROW Section 15	80	<1
Village Greens	<1	<1
Doorstep Greens	0	0
Forestry Commission Walkers Welcome Grants	0	0
Local Nature Reserves (LNR)	10	<1
Millennium Greens	0	0
Accessible National Nature Reserves (NNR)	0	0
Agri-environment Scheme Access	6	<1
Woods for People	38	<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) some of the NCA is quite heavily disturbed particularly around Weymouth and its environs. The most tranquil areas can be found to the west of the NCA along the Bride valley and coast.

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

Tranquillity	Score
Highest value within NCA	45
Lowest value within NCA	-63
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 the NCA suffers quite considerable disturbance.

A breakdown of intrusion values for this NCA is detailed in the table below.

Intrusion category	1960s (%)	1990s (%)	2007 (%)	Percentage change (1960s-2007)
Disturbed	18	30	39	21
Undisturbed	70	55	51	-19
Urban	7	7	10	3

Sources: CPRE (2007)

Notable trends from the 1960s to 2007 are the increase in areas experiencing disturbance.

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)
- BAP 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

- Woodland cover at only 650 ha is relatively low but has remained stable in the recent past.
- In 2003 23 ha of new planting was undertaken. This planting has been in a cluster to the west of Weymouth and a few small parcels elsewhere, mainly on higher ground. This is in character for the woodland distribution in this NCA and sensitive to current landcover patterns.
- The NCA contains 650 ha of woodland (5 per cent of the total area), of which 150 ha is ancient semi-natural woodland. A lack of management of these woodlands, and in particular those valley woodlands to the east of Osmington is of concern with only 17 per cent of ancient woodland and about 16 per cent of other woodland types under a Woodland Grant Scheme in 2003.
- Woodland comprises part of several SSSI including Lorton, South Dorset Coast and Abbotsbury. While all of these woodlands are in favourable condition there is some indication that grazing pressure from deer may be an increasing issue which will impact on the regeneration of these woodlands.

Boundary features

- Data from between 1999 and 2003 shows that Countryside Stewardship had secured capital agreements for linear features included fencing (67 km), hedgerow management (43 km), hedgerow planting and restoration (21 km), restored boundary protection (21 km) but no stone wall repair or stone wall restoration to the NCAs estimated boundary length of 775 km equivalent to about 7 per cent of this resource.
- Since 2005 Entry Level Schemes have put 42 km of hedgerow into landscape management and a further 12 km into landscape and wildlife management.
- Since 2005 6 km of stone wall has been maintained under Environmental Stewardship. It is clear that stone walls are receiving less attention than hedgerows, possibly due to the costs and skills required to do so.
- Evidence within the AONB suggests that the condition of many of the hedgerows and stone walls within the area has declined in the past, particularly towards the coast and around the urban fringe, for example around Osmington. This could be for a number or reasons, including the cost, a lack of skills in the area to undertake this management and changes to farm type from livestock to arable.

Agriculture

- There was a small reduction in total farmed area by 226 ha from 9,334 ha in 2000 to 9,108 ha in 2009
- There was a drop of 11 per cent of total agricultural holdings from 131 in 2000 to 116 in 2009. The most significant drop in numbers of farms was in those under 5 ha with a 35 per cent reduction; from 23 holdings in 2000 to 15 in 2009. There was also a 27 per cent drop in the number of holdings between 20 and 50 ha a

reduction from 26 in 2000 to 19 in 2009. It is difficult to determine any specific causes for this decline but mirrors the reduction in total farmed area as there have been no increases in the numbers of larger farms.

- Between 2000 and 2009 grazing livestock numbers across the area fell sharply. Sheep numbers reduced by 63 per cent from 14,786 sheep in 2000 to 5,411 sheep in 2009. Cattle numbers fell by 20 per cent from 12,493 animals in 2000 to 9,997 animals in 2009. Pig numbers decreased by a 1,000 animals between 2000 and 2009 to 3,146 animals. Dairy holdings reduced by 44 per cent and general grazing holdings by 21 per cent while cereal holdings rose by 17 per cent. These figures reflect the changes in grazing livestock numbers. This suggests that management of grasslands may be affected across the area through decreased numbers of grazing animals. This will affect the condition of limestone and coastal grasslands and increase scrub encroachment. However it is difficult to ascertain drivers for this change and draw conclusions.

- The area has exhibited high levels of agri-environment scheme uptake since Countryside Stewardship was introduced, and has always been above the national average. Since 2005, uptake of Environmental Stewardship has also been good with Entry Level Schemes and Higher Level Schemes agreements valued at £899,255 in the NCA with management of permanent grasslands the most extensive option.

Settlement and development

- Overall development pressure has been low in this area and there has been limited growth across the majority of the NCA.

- The exception to this is Weymouth which continues to expand. There is evidence of concentrated development in the peri-urban and open countryside areas inland from Weymouth to Portesham, which is locally significant and influencing local character. Much of this development is based on tourism infrastructure, such as caravan parks. The Weymouth Relief Road, A354 opened in 2011. The road resulted in two major cuttings through the chalk ridges. The opportunity was taken to create a significant extent of new chalk grassland that provides a valuable and potentially important wildlife corridor along these cuttings.

- The locating of the sailing venue for the London 2012 Olympic and Paralympics Games at Weymouth and Portland in Dorset provided a catalyst for wider investment in green infrastructure. By integrating existing nature reserves, ancient woodland and land secured through environmental mitigation for the new A354 Weymouth Relief Road, a new 'nature park' has been established in the Lorton Valley to the north of Weymouth town centre. This has improved accessibility and access for local people to green spaces.

Semi-natural habitat

- Landscape character assessment suggests that the conversion from historical pastoral grassland to an arable land use on the valley sides and floors has been one of the most significant changes affecting the landscape, with the arable fields and their geometric boundaries detracting from grassland character. This has resulted in a loss and fragmentation good condition neutral, acid and calcareous grasslands within the NCA, although data is limited to determine the extent of impact.

- In 2003 Countryside Stewardship annual agreements included lowland pastures on neutral/acid soils (529 ha), recreating grassland on cultivated land (agreement renewals only) (18 ha) and lowland hay meadows (22 ha).

- There is some evidence to suggest that small areas of grasslands, for example those around Osmington, are subject to scrub encroachment and a lack of management which threatens the biodiversity and landscape value of these grasslands.

- Reduction in the numbers of grazing animals is limiting availability of grazing for biodiverse grasslands and in particular marginal features such as wet grassland and limestone grasslands along the scarp face and coastal grasslands.

- Concerted effort over the last decade has seen 67 per cent of SSSI achieve favourable condition, with 25 per cent in unfavourable but recovering condition.

Historic features

- The settings of historic monuments are largely in good condition, with high quality vernacular farm buildings at the foot of the escarpment.

- Arable ploughing, erosion and animal damage and plant growth are the greatest risks to heritage assets in this area and which has seen a loss of condition for many sites, particularly prehistoric monuments. There are a number of sites on the English Heritage at Risk register, including the medieval settlement at West Ringstead which is at risk due to ploughing.

- A general trend to arable cultivation from livestock grazing has the potential to erode current field patterns.

Coast and rivers

- The majority of the coastal SSSI areas are in favourable condition. The north-west end of The Fleet is in unfavourable condition due to eutrophic conditions.

- Beach water quality has improved considerably, as a result of investment by the water companies in sewage treatment plants and infrastructure and has resulted in the retention of European beach awards at major tourist beaches such as at Weymouth. Coastal water quality as assessed under Water Framework Directive is in good ecological condition, except for the stretch along Chesil Beach which indicates a moderate condition.

- A small 2 ha oyster farm has been set up in The Fleet lagoon in the last thirty years and provides an ongoing shellfishery interest.

- Thirty-five per cent of the area is designated a Nitrate Vulnerable Zone/ Eutrophic Vulnerable Zone primarily focused on the area behind The Fleet up to Abbotsbury. This is due to continuing substantial blooms of planktonic algae in the West Fleet and The Fleet lagoon is considered eutrophic. This has affected shellfish harvesting from The Fleet.

- Coastal defences have not increased over the area in the last decade. Weymouth and Preston Beach at Overcombe are subject to management to retain protection and in these stretches 'managed realignment' and 'hold the line' are recommended approaches in the Shoreline Management Plan. The rest of the coast is recommended as requiring no active intervention.

- Rivers and streams are classified as moderate to good ecological and chemical quality under Water Framework Directive assessment. Water quality has improved although nitrate and phosphate levels remain high in The Fleet.

Drivers of change

Climate change

- Remnant limestone and calcareous grasslands on the escarpment and at the coast may come under further pressure with higher temperatures, warmer winters and more frequent drought conditions; this could potentially encourage the spread of invasive weeds and woody species with resultant potential loss of species diversity.

- More rapid coastal erosion will increase 'squeeze' on the coastal strip of semi-natural grasslands against inland farmland and in some places result in significant loss of extent. The ongoing retreat of semi-natural habitats needs to be managed to allow inland spread onto currently agriculturally improved land as the coast erodes.

- Risk that small flushes, and wetland habitats such as Lodmoor and Radipole Lake will suffer fluctuating water levels as chalk streams come under increased stress with drier summers, wetter winters and more extreme weather. The upper reaches of the River Wey have shown signs of drying up in hot summers and this risk could increase.

- Increasing sea levels will impact Weymouth and may prompt the need for further sea defences. The current Shoreline Management Plan adopts a 'hold the line' approach for the urban coastal units.

- Potential sea level rise and more extreme weather conditions could influence a more dynamic coastline depending on geomorphologic processes, increasing landslide and slumping activity where softer clays underlie the more resilient limestone, for instance at Ringstead Bay and around Osmington. This could be exacerbated by increased heavy rainfall, particularly in the summer, which could increase landslide activity through increased percolation destabilising already fragile cliffs. Increases in localised tidal flooding from the sea in places like Weymouth could be possible, related to increased sea level and extreme weather events such as increase in storminess.

- Extremes in weather will also potentially impact upon established agricultural systems and further impacts upon ecosystems may arise due to farmers' responses to these changes. This may encourage the introduction of new crops, as growing conditions change alongside different crop timings.

- Increases in average temperature will continue to provide conditions in which species introduced or migrating from outside the United Kingdom may flourish and breed. This will have as yet unanticipated impacts upon our native flora and fauna. For example streams in this area, particularly shallow ones are vulnerable to small temperature increases which will impact on native species such as brown trout and salmon and on non-native species. These impacts may also be seen in the marine environment where increased average sea temperatures will facilitate establishment of non-native, potentially invasive species.

- Chesil Beach will continue to migrate inland, with a resultant shrinkage of The Fleet. While this is an accepted natural progression for this beach, and one which is studied, increasing sea levels and storminess may exacerbate the process and speed of change. It is however unlikely that Chesil Beach will breach, although the important connection with Portland may be lost due to natural processes leaving the Isle of Portland an island.

- Bridport, Nottington and Broadway and Weymouth, could experience fluvial flooding due to increases in heavy rainfall events. Tidal flooding could exacerbate these events especially as sea levels rise.

Other key drivers

- Drier warmer summers may continue to increase the popularity of the area with visitors, adding to current pressures at key locations along the coast, particularly at places like Weymouth, Osmington and along the South West Coast Path. This could increase the demand for facilities such as caravan parks and associated infrastructure and increase erosion of coastal access features. Increased access may possibly be detrimental to wildlife in certain areas that are currently rarely disturbed, such as parts of The Fleet lagoon.

- Continued reductions in the area of farmed land and numbers of full-time farmers could see a change in the landscape, with a tendency towards horse paddocks and hobby farming. Conversely, an increase in non-professional 'hobby farmers' and small holders may actually see an increase in the numbers of traditional breeds available within the NCA.

- Continued expansion of arable production and reductions in numbers of stock maintained in the NCA could have negative knock-on effects upon traditional management of semi-natural habitats and the maintenance of the landscape in general.

- Demand for elevated positions, for example South Dorset Ridgeway, for structures such as communications masts will potentially grow alongside growing pressure for wind energy developments on land and out to sea which could challenge conserving the character of this NCA.

- Continued coastal change in the short and long term will provide new exposure opportunities for geological study but could see challenges around loss of farmland and the South West Coast Path in sections. In particular coastal erosion and flood mitigation work at Weymouth and Overcombe could see the loss of some parts of Lodmoor Reserve and potentially housing and realignment of A353 Preston Beach Road.

- Continued enrichment of The Fleet as farming patterns change could result in further eutrophication of the waters and a loss in biodiversity as a result.

- There is increased development pressure as the rural nature of the NCA continues to be a draw and there is pressure for new built development particularly at the base of the escarpment and at the edges of Weymouth. This is leading to the erosion of the traditional nucleated character of the settlements and an expansion of Weymouth and infrastructure along transport routes.

Lorton Valley Park, a green infrasturcture initiative connecting Weymouth to surrounding countryside, providing both access opportunities and sites for biodiversity.

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.

The wetlands at Radipole Lake rature reserve in the heart of Weymouth. A good place for breeding little terns, for people to access nature and as a stepping stone for wildlife.

Statement of Environmental Opportunity	Ecosystem service: Food provision	Timber provision	Water availability	Genetic diversity	Biomass energy	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: Conserve and promote the Weymouth Lowlands' historic landscape and geodiversity including the Jurassic Coast, The Fleet and Chesil Beach, the suite of national and local geological sites and the distinctive relationship between geology, coastal geomorphology, soils, landform and land use, promoting opportunities for recreation in the area and interpretation of the unique features while also ensuring that interplay between biodiversity, geomorphology and land use is complementary.	↔ **	↔ **	↔ **	↔ **	↔ *	↗ *	↔ **	↗ *	↗ **	↗ **	↔ *	↔ *	↑ ***	↑ ***	↗ ***	↗ ***	↑ ***	↗ ***	↑ ***
SEO 2: Protect, manage and enhance the distinctive farmed landscape retaining the balance of productive mixed farmed landscape and diversity of habitats and associated species. Create connecting corridors of calcareous grasslands at the coast and on limestone ridges, manage the diverse range of intimate wooded pockets, wetlands, coastal habitats and fens for their contribution to sense of place, and their positive role in reducing soil erosion and enhancing water quality.	↑ ***	↑ ***	↗ ***	↗ *	↑ **	↑ ***	↗ ***	↗ ***	↗ ***	↗ ***	↗ ***	↗ ***	↔ ***	↗ ***	↘ ***	↗ ***	↔ ***	↑ ***	↘ **
SEO 3: Protect and manage the rich heritage located within the NCA and the Dorset AONB, engaging both visitors and local communities in understanding the relationship between the historic environment, geodiversity and biodiversity and the role that has played in shaping the landscape of today.	↗ ***	↔ **	↔ ***	↔ *	↔ ***	↔ ***	↔ ***	↗ ***	↔ ***	↔ ***	↗ *	↔ *	↗ *	↑ ***	↑ ***	↗ ***	↑ ***	↗ ***	↑ ***
SEO 4: Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; reduce flooding; and manage land to reduce soil erosion and water pollution and to retain and capture carbon.	↑ ***	↗ ***	↑ **	↗ *	↗ ***	↑ **	↔ ***	↔ ***	↔ ***	↑ ***	↔ ***	↔ ***	↔ *	↑ ***	↑ ***	↘ ***	↘ ***	↗ ***	↗ ***

Note: Arrows shown in the table above indicate anticipated effect 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 effect is available .

Dark plum = national importance; mid plum = regional importance; light plum = Local Importance

Landscape attributes

Landscape attribute	Justification for selection
Geological interest of predominantly Jurassic limestones, chalk and clays with a complex and distinctive landform.	■ A distinctive Jurassic geology bounded by chalk and a major geological fault to the north and by a varied sequence of limestone to the south, between which are gentle limestone hogs-back ridges with clay vales in between bringing a sense of unity to the complex landform and an intimate relationship between this and land use. ■ Six geological SSSI, 5 SSSI with mixed biodiversity and geodiversity interest and 10 Local Geological Sites. ■ Local vernacular architectural style reflecting local materials including Portland and Purbeck Stone, Corallian Limestone and Forest Marble, and a series of stone walls found in close association with these stone types, especially where they form the bedrock, that bring a sense of harmony to the landscape.
Distinctive coastal landscape dominated by the shingle ridge of Chesil Beach and a dynamic coastal cliff system.	■ Internationally recognised geological record and geomorphological processes as reflected in inclusion of this coastal stretch in the East Devon and Dorset World Heritage Site (Jurassic Coast). ■ Unique 28 km shingle ridge of Chesil Beach linking the Isle of Portland to the mainland and enclosing The Fleet lagoon recognised as the finest shingle barrier beach in Europe. ■ Exceptionally well used educational resource for all levels of study. ■ Obvious coastal erosion features and landslips at Burton Bradstock, and the East Weare landslips at Church Ope Cove. ■ Extensive and almost unbroken maritime cliff and slope habitats along coastal strip, designated as a Special Area of Conservation extending from east of Weymouth to Studland in the adjoining South Purbeck NCA. ■ Aesthetically outstanding and unspoilt coastline recognised as a Heritage Coast.

Landscape attribute	Justification for selection
Uncluttered, windswept views from limestone ridges and coastal cliffs, austere views along Chesil Beach with a more intimate series of valley views further inland.	■ Largely treeless landscape with open ridgetops with valley woodlands and plantations in the Bride Valley in the west and around Osmington in the east. ■ Fields on the ridges are bounded by sparse hedgerows and often post-and-wire fencing giving unrestricted views across to the coast. Drystone walls are used on steeper land but are unobtrusive. It is only when in the valleys that views are more intimate, with glimpses of the coastline. ■ Bounded by the chalk ridge of the Dorset Downs in the north, this landscape can feel hidden and removed from the rest of Dorset as it only reveals itself after descending from this ridge, which gives it an intimate quality. ■ Chesil Beach when viewed at close quarters along its length is a dramatic austere landscape. The view from cliffs to the west encompassing St Catherine's Chapel and along the length of Chesil Beach and The Fleet epitomises the timeless, windswept nature of this NCA. ■ Sixty per cent of area falls into Dorset AONB.
Evidence of long-standing human occupation throughout NCA.	■ Visible signs of human habitation, agriculture and industry from evidence of Mesolithic sites on the edge of The Fleet to present day. There is a Roman temple near Preston irregular fields in the north-west representing enclosure of medieval fields, remnants of the mediaeval abbey site at Abbotsbury and Second World War invasion landscape features where Chesil Beach meets Abbotsbury. ■ The area contains 1 Registered Park and Garden covering 16 ha, and 78 Scheduled Monuments. ■ The pattern of settlement throughout most of NCA is significantly unaffected by 20th-century development and expansion. There are 930 Listed Buildings highlighting the notable local vernacular.
Mixed farming pattern with predominantly large open arable fields on ridge tops and a more intimate pattern of mixed farming in the valleys.	■ Unusually this area retains a strong sense of a mixed farming economy although at the fringes of Weymouth smaller land holdings and paddocks are in evidence. ■ Arable dominates the higher ground of ridges and flatter valley sides and evidence suggests that the area of arable expanded in the 20th century. ■ Pasture and grasslands are found on the steeper slopes, often biodiversity rich, especially around Osmington and at the coast. In valley bottoms there are flood plain grasslands. ■ The predominant field pattern is of rectilinear fields with a distinct north south grain. Towards the west of the NCA, north of Abbotsbury, the fields are less regular and generally date from 17th-century or earlier enclosure.

Landscape attribute	Justification for selection
Distinctive settlement pattern united by vernacular style.	■ Settlement is relatively sparse across much of this area and includes a mixture of nucleated villages concentrated in valley bottoms and scattered farmsteads of medieval or earlier origin. ■ Smaller manor houses and gentry houses are distinctive features. ■ A strong vernacular architectural style is characterised by the use of limestone, brick, flint and stone slates. Thatch is frequent, obtained from the managed reedbeds at Abbotsbury. Weymouth is the exception in strong contrast with the rest of the area. However it too retains traces of its past including the incorporated settlement of Melcombe Regis. It displays a distinct grid pattern leading to the quay laid out in the 13th century. From the 1780s it became a popular seaside resort, with evident Georgian seafront architecture and it remains popular to this day.
A diverse network of habitats and associated species particularly evident at the coast.	■ A rich and diverse biodiversity resource exemplified by 1,756 ha of BAP habitat and a number of designations within this area. There are 867 ha of SSSI (7 per cent of NCA) of which approximately 461 ha (3 per cent of NCA) are Special Areas for Conservation (SAC), Special Protection Areas (SPA) or Ramsar site, including Crookhill Brick Pit SAC for its great crested newts. The majority of the designations are contiguous providing a strong network of habitats particularly along the coast. ■ Calcareous, species-rich grasslands on the Dorset ridge and along the coast support silver-studded blue, chalk-hill blue and Adonis blue butterflies and plants such as green winged orchid, pyramidal orchid, early gentian, early spider orchid, wild cabbage and Nottingham catchfly. The Isle of Portland to Studland Cliffs SAC extends along part of the NCA and highlights the quality of the grasslands found here. ■ Wetlands reserves at the coast and springline flushes throughout the NCA are important. Radipole and Lodmoor nature reserves have large areas of reedbed and marshland extending up the Wey Valley. ■ Chesil Beach shingle ridge with areas of vegetated shingle and the saline lagoons of The Fleet are extraordinarily rich in wildlife, with outstanding communities of aquatic plants and animals. This network of wetlands sites is important for overwintering and breeding birds. Chesil Beach and The Fleet are designated SAC, SPA and Ramsar site. **Continued over...**

Landscape attribute	Justification for selection
A diverse network of habitats and associated species particularly evident at the coast. Continued	**...continued from previous** ■ Strong developing network of green infrastructure in Weymouth particularly through the Lorton valley and Radipole and Lodmoor reserves see strong links developing between urban and rural habitats. ■ Work on the Weymouth Relief Road highlighted sympathetic measures that can be used to embed development in the landscape and make the most of opportunities to enhance biodiversity. ■ The summer song of skylarks, climbing far into the sky and the cacophony of bumble bees, crickets and grasshoppers are most evocative sounds to be heard in the NCA, along the coastal grasslands and chalk ridge. ■ Biodiversity interest extends into the marine environment with reefs found offshore and at the edge of the Portland SAC bordering this area. ■ Migratory salmonids use the rivers Char, Brit, Bride and Wey. However, populations of salmon and sea trout are often limited by poor migration conditions in these rivers, largely as a result of artificial obstructions. The loss of habitat has resulted in the demise of priority species such as water vole, otter and kingfisher. Habitat loss adjacent to watercourses has had the greatest effect on confining the river into increasingly narrow corridors.
A good footpath network and other recreational features.	■ Seventy km of the South West Coast Path extend through the area. ■ There are 61 ha of common land. ■ Water sports are popular at and closely associated with Weymouth. ■ The Dorset and East Devon World Heritage Site (the Jurassic Coast) is the only natural World Heritage Site on mainland Britain and attracts many visitors.

Landscape opportunities

- Protect the visible relationship between exceptionally diverse geology, geological processes and varied landscape morphology and biodiversity and land use.

- Continue to encourage and appropriately manage the area's diverse geology and in particular the dynamic cliff system at the coast, promoting its importance to landscape and biodiversity and as an educational resource and the access opportunities associated with the coastal strip.

- Continue to protect and enhance views and the contrasts between uncluttered, limestone ridges, enclosed clay valleys, the windswept coastline and the austere views along Chesil Beach that give the NCA a unique sense of place.

- Protect from damage and appropriately manage the area's rich cultural heritage, both buried and exposed, most notably bronze- and iron-age remains, hilltop earthworks, Roman villas, medieval features and Second World War invasion defence lines, for the benefit of sense of place and cultural heritage, and of for benefits to biodiversity, geodiversity, recreation. Enhance the visibility and interpretation of, and access to features to raise awareness of the importance of features, and to provide opportunities for education and sustainable tourism.

- Ensure the matrix of habitats is retained and where possible extended including the maritime cliff and slope habitat strip, limestone and other species rich grasslands, fens and springline flushes and woodlands. Ensure species such as dark-bellied Brent goose, little tern, calcicole species and invertebrates are catered for and continue, or introduce, active interventions on habitats that depend upon 'traditional' management, principally grasslands and where present, woodland. Plan for the extension and linking of existing habitats in order to increase climate change resilience and strengthen landscape permeability and the benefits that these habitats bring to soil erosion, water quality, flood regulation and recreation.

- Conserve the undeveloped coastal strip, including rich biodiversity assets, significant geological and geomorphological elements, such as Chesil Beach, and unimpeded coastal processes.

- Manage the distinctive boundary features (hedgerows, hedgerow trees and drystone walls), the small field pattern and network of public rights of way which not only delineate patterns of occupation and provide excellent access but also provide an essential network of ecological connections across the wider countryside.

- Manage and reinforce settlement patterns, particularly Weymouth's, to ensure that sense of place is maintained and any growth is sustainable and maintains or, preferably, enhances the character of this NCA. Plan for Weymouth's continued protection from rising, stormier seas while allowing coastal processes to continue in as natural a state as possible.

- Manage and reinforce the local vernacular architecture ensuring new builds follow local styles, conversions are completed sympathetically and sense of place is strengthened and retained.

- Plan for changes in farming types, cropping patterns and crops in the face of climate change and the need to enhance biodiversity, retain landscape character and ensure water flow and drainage patterns that continue to provide good quality water to features such as The Fleet and the underlying aquifer.

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 - sheep, cattle, pigs Arable Horticulture Fishing port Shellfish including small oyster farm	The area contains a mix of farm types and holdings including grazing, dairy, cereals and horticulture. Horse paddocks are also present and numbers are increasing. During the period 2000–2009 several farm types declined including dairy and grazing. Cereals increased in this same period. Between 2000 and 2009 livestock numbers across the area fell sharply. The numbers of sheep and cattle declined markedly. Seventy-six per cent of the area is classed as Grade 3 agricultural land. There are a number of fishing fleets of various sizes operating from Weymouth. There is small scale shellfish operation and an oyster farm in The Fleet.	Regional	This is a predominantly rural area with a mixed farming pattern that has only seen a small decrease in the area of farmed land between 2000 and 2009. However, trends would suggest a move from livestock to arable farming, with decreases in all livestock numbers, but most evident in sheep. This will have an impact on the ability to find grazing for biodiverse sites such as limestone grassland on the escarpment and possibly for water availability, flow and soil erosion management. There has been an increase in horse paddocks, particularly around Weymouth with a subsequent impact on holdings size, type and the landscape. There is potential to develop local food culture - from land and sea - to support local farming, particularly within and around Weymouth and Abbotsbury and along the coast linked to tourism within the area. Uptake of agri-environment schemes remains above average in this area.	Work with the local farming community to safeguard future food production while enhancing key ecosystem services such as biodiversity, water quality and regulation, soil quality and erosion, pollination and genetic diversity. Use a Catchment Sensitive Farming approach where appropriate. Work with local land managers to maintain the diverse and mixed enterprises across the area and in particular the retention of permanent pasture and grassland. Seek opportunities to retain and enhance the network of calcareous grassland on the escarpment and at the coast through measures such as arable reversion and investment in 'flying flocks'. **Continued over...**	**Food provision** **Biodiversity** **Water availability** **Regulating water quality** **Regulation of soil erosion** **Regulating soil quality** **Sense of place/ inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Food provision continued					**...continued from previous.** Encourage the purchase of local produce to benefit climate regulation and local culture. In particular explore land to sea links and maximise the potential of local food to support tourism. Support extensive grazing schemes which are suited to much of this NCA's grassland types and to help retain the mixed farmland system in this area.	

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Timber provision	Existing woodland Hedgerows	Existing woodland cover is low at 5 per cent with concentrations in the Bride Valley and around Osmington with scattered trees elsewhere. Sparse hedgerows with few hedgerow trees across most of the area, with denser hedgerow lines around Osmington.	Local	Tree cover for this NCA is low but in keeping with the character of the area and as such the opportunity for timber provision is limited. Woodland planting is not a high priority across much of this NCA. There may be benefits to well-placed tree planting on the outskirts of Weymouth to soften the transition from rural to urban which could supply some small scale local timber or woodfuel. A lack of management of woodlands, and in particular those valley woodlands to the east of Osmington is of concern. Bringing existing deciduous woodland into traditional management, where possible, would create a local supply of timber or woodfuel. Increased biodiversity and soil stability may result from positive, targeted management. Management should include a policy of deadwood retention for benefits to biodiversity, soil formation and nutrient cycling. Sites supporting other semi-natural habitats, important species and heritage assets will need to be avoided in any plans to increase timber provision.	There may be limited opportunities for woodland planting to buffer current stock around Osmington, in the Bride Valley and on some valley sides to help to reduce flows of water and limit soil erosion; however, their use for timber production will be limited. There may also be limited opportunity for local timber provision through re-instatement of woodland management on existing sites. Manage traditional hedgerows for the provision of timber in the form of local wood-fuel supply.	**Timber provision** **Biodiversity** **Water availability** **Regulating water quality** **Regulation of soil erosion** **Sense of place/ inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Water availability	Aquifer recharge Rivers Wetlands Reedbeds Springline flushes	The south Dorset chalk escarpment at the northern edge of the NCA forms part of the aquifer complex of Cranborne Chase and Dorset Downs and represents a significant proportion of the groundwater licensed for public water supply. Throughout the rest of the NCA there are Jurassic limestone hogs-back ridges with clay vales between which form secondary aquifers. The major rivers in this NCA are the Wey and Bride that rise on the Chalk to the north in Cranborne Chase and the Dorset Downs NCA. The River Bride rises on the Chalk and shapes a broad shallow valley running adjacent to the Upper Greensand at the edge of the area while the Wey, one of the shortest river catchments in the country, cuts through the ridge to form a coastal lagoon, Radipole Lake, at Weymouth, around which the harbour has been formed.	Regional	Environment Agency data indicates that there remains capacity for additional water abstraction in this NCA. The central and northern part of the NCA has 'restricted water available for licensing' status and the reminder of the area has water available for licensing. Water is restricted when flows are low and abstraction will be stopped when water levels reach this point. The chalk aquifer is more difficult to assess; however its capacity generally matches the water availability of surface water sources as outlined above. It must be noted that chalk aquifers can take time to recharge and this is considered in assessment. Most of the licensed abstraction volume from surface waters is for fish farming. These have no net impact on water resources at this scale as the water is returned close to the point of abstraction. Public water supply comes from the groundwater supplies. Water availability may become an issue for places like Weymouth should its expansion continue. Due to the nature of the geology many of the rivers and streams are shallow. Water availability for both groundwater and rivers is dependent on usage and re-charge in adjoining NCAs, which may become an issue during hotter drier summers. Drought could result in winterbornes, rivers and streams having a fluctuating or reduced flow but the Catchment Abstraction Management Strategy makes recommendations to help mitigate these conditions.	Seek to maintain and restore semi-natural habitats, particularly grasslands and woodlands on the steeper slopes which present a rougher surface and are better at slowing water flows and capturing surface water into the groundwater reservoir. Seek to maintain the ecological flow levels in rivers, seasonal winterbournes and groundwater through management of abstraction, particularly in periods of low flow and ensuring the profile of river courses are maintained. Seek to slow water flow and aid infiltration through natural drainage patterns and use of features such as hedgerows, ditches and appropriate tree planting. Ensure appropriate on-farm management of water supply and conservation through measures such as farm reservoirs, field drains and through cropping patterns. Follow recommendations laid out in the Catchment Abstraction Management Strategy for Dorset. Seek opportunities for sustainable drainage system (SuDS) schemes, and water efficiency measures in all new development.	**Water availability** **Regulating water flow** **Regulating water quality** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biomass energy	Existing woodlands Hedgerows	Existing woodland coverage is low with concentrations in the Bride Valley and around Osmington. Hedgerow extent is also fairly limited. On the escarpment and along the coast hedgerows are small and thin, while in valley bottoms, such as the Bride Valley and around Osmington hedgerows are thicker. Scrub encroachment and subsequent clearance on the grasslands of the escarpment and coast may also yield some potential biomass material in the short term. There are no recorded energy crop scheme plantings in the area.	Local	Low woodland coverage means that there is limited opportunity to increase biomass production from increasing woodland management, although very local investment around Osmington and in the Bride Valley where there is more woodland concentration would be worth exploring. Woodland planting is not a priority in this NCA and therefore scope to increase this resource is limited and the main opportunity is through improving woodland management. Hedgerow management has the potential to yield local amounts of biomass, alongside scrub management on the escarpment and at the coast, but across much of the NCA this will be a limited opportunity. The Bride Valley and Osmington have thicker hedgerows which offer more potential if managed correctly for local supply. Defra yield maps for biomass material also indicate that the potential yield from miscanthus is high across most of the NCA, while that from short rotation coppice is low. Facilities for processing and using this material do not exist within the vicinity.	Bring local woodlands into management, generating a local supply of biomass, particularly around Osmington and the Bride Valley, accepting the levels of provision will never be high in this NCA Similarly use arisings from hedgerow and scrub management to supply local demand for biomass. Seek opportunities to restore hedgerows and the hedgerow network to provide future biomass potential and benefits to biodiversity and sense of place. Explore other opportunities for biomass production only where in keeping with landscape character.	**Biomass energy** **Biodiversity** **Timber provision** **Regulating water flow** **Regulating soil erosion** **Sense of place/ inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Climate regulation	Wet deep clay soils Shallow loamy soils Woodland Unimproved grasslands Wetlands including coastal marsh, reedbeds and coastal grasslands	Soils in the Weymouth Lowlands vary from seasonally wet deep clays over clay bedrock to shallow loams over the limestones. Carbon storage in the soils of the Weymouth Lowlands is generally low ranging from 0 to 10 per cent, with very small areas to the south reaching 20 per cent almost certainly relating to areas of coastal marsh, reedbed and coastal grasslands associated with The Fleet. Trees and woodland cover is sparse so the amount of carbon stored and absorbed is limited.	Local	This NCA has limited potential to contribute significantly to carbon sequestration due to the nature of its soils. Hotter drier summers will contribute to stress levels on soils in the NCA further reducing their sequestration ability. A switch from livestock to arable production will increase soil disturbance and will impact on carbon stores in soils, particularly on more fragile soils on the escarpment. Farming trends in this NCA show a move to arable. The area of coastal marsh, reedbed and coastal grasslands associated with The Fleet, Lodmoor and Radipole should be managed and retained for their potential enhanced carbon sequestration role. Planting trees in Weymouth could help counter the impacts of the urban heat island effect and offer shade in future decades when the impacts of higher summer temperatures could be felt.	Seek opportunities to sensitively expand the area of woodland adjacent to existing ancient semi-natural woodland sites in the Bride Valley and around Osmington to realise the potential for further, long-term carbon storage associated with woodland management. Seek opportunities to increase the potential carbon storage abilities of mineral soils under arable production through increasing organic matter inputs and by reducing the frequency or area under cultivation. Seek to expand the area of permanent pasture, fens, coastal marsh, reedbeds and limestone grassland to further realise the carbon storage potential of soils underlying these habitats. Consider planting trees in urban areas to aid local climate regulation.	**Climate regulation** **Biodiversity** **Regulating soil erosion** **Water availability**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water quality	Rivers and streams – principally the Bride and Wey Aquifer The Fleet lagoon Semi-natural habitats	Groundwater quality is good and forms part of the aquifer underlying neighbouring Cranborne Chase and Dorset Downs NCA and is classed as good quality throughout. The River Bride is of moderate ecological quality and the River Wey is of good ecological quality although both rivers suffer from significant sedimentation. There is no information available on the chemical quality of groundwater. The Fleet (SPA, SAC and SSSI) is suffering from diffuse phosphate and nitrate pollution that is causing its eutrophication and the SSSI is currently recorded as being in unfavourable condition.	Regional	Work to maintain the water quality of the aquifer needs to be linked to initiatives such as Catchment Sensitive Farming across the whole catchment to ensure the water infiltrating down remains of good quality. The Fleet and all the streams that drain into it and a small area around the mouth of the River Bride are in a Nitrate Sensitive Zone and are classified as a Priority Catchment under the Catchment Sensitive Farming Delivery Initiative. Continued focus is needed to ensure The Fleet SSSI is moved from unfavourable condition to 'recovering' or good condition. A Chesil and Fleet Diffuse Water Pollution Plan is in place. The River Basin Management Plan identifies sedimentation, phosphate and nitrate pollution as the main impacts on water quality. These could be related to an increase in arable farming in the area, particularly on the slopes of the ridges. Semi-natural habitats with little input from fertilisers or pesticides such as limestone grassland, small woodland copses and fens help bind soil reducing soil erosion, slow water flow thereby helping to filter it and overall provide a beneficial impact on water quality.	Seek to support initiatives which give tailored farm advice about agricultural inputs and water management to help address water quality issues within the area, particularly sedimentation and water flowing into The Fleet for example through the Catchment Sensitive Farming Initiative. Seek to put in place measures outlined in the River Basin Management Plan. Seek to put in place measures such as relocation of gates and associated gapping up of hedgerows, livestock and machinery tracks and associated livestock fencing to help reduce run-off from yards, tracks and gateways to alleviate water quality issues. Cross drains, sediment ponds and traps, pesticide handling and 'biobed' options, roofing of manure, slurry and silage storage facilities and livestock gathering areas will help reduce risks of contaminating water with sediment, nutrients or chemicals. **Continued over...**	**Regulating water quality** **Regulating water flow** **Regulating water availability** **Regulating soil erosion** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water quality continued					**...continued from previous.** Seek opportunities to manage and buffer river and streamside habitats to slow or prevent sediment from entering watercourses. Seek opportunities to retain and manage habitats sympathetically to realise the benefits they bring to water quality, particularly limestone grasslands on steeper slopes and alongside river courses.	
Regulating water flow	Rivers and streams particularly the rivers Bride and Wey Semi-natural habitats such as Lodmoor and Radipole SSSI reedbeds and those in The Fleet The Fleet and Chesil Beach	The area is susceptible to fluvial, surface water and tidal flooding. Areas particularly affected by fluvial flooding include Bridport (just outside the NCA to the west), Burton Bradstock, and Nottington and Westham forming part of the Weymouth area. Within the NCA flood defence schemes are in place at Burton Bradstock, and Nottington and Preston (close to Weymouth) comprised of raised flood walls and embankments. In Weymouth the promenade and breakwater play a role. Flood risk can be exacerbated by stormy conditions raising Chesil Beach and blocking the outlet of the River Bride into the sea. This causes water levels to back up in Burton Bradstock. Chesil Beach acts as a flood defence feature along much of its length protecting farmland and for a discreet length adjacent to Chiswell. **Continued over...**	Local	The topography of the area is characterised by broad clay vales incised by steep sided river valleys. The River Bride and River Wey are fed by chalk springs, with the absorbent chalk tending to dampen the response of these rivers to major rainfall events. Water is absorbed into the underlying chalk bedrock unless heavy rainfall occurs following a period of prolonged wet weather when there is likely to be rapid surface water run-off and river flooding may occur. It is anticipated that over the next 100 years climate change may lead to a 20 per cent increase in peak flows, while urban development may lead to an additional 10 per cent increase in peak flows and a potential 5 per cent increase in peak flows associated with rural land management practices in this NCA which may exacerbate current flood risk. **Continued over...**	Put in place measures outlined in the Shoreline Management Plan and the Catchment Flood Management Plan. Seek opportunities to expand areas of wetland habitats (such as grazing marsh) and riverside habitats to help reduce sedimentation and flow into catchments. Seek opportunities which allow rivers to follow natural courses and re-engage with their flood plains to increase storage capacity. Investigate opportunities to re-align the River Bride to its original course. **Continued over...**	**Regulating water flow** **Water availability** **Regulating water quality** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water flow continued		**...continued from previous.** There is a risk of flooding in Weymouth and its environs which is affected by flooding from the River Wey as well as the Preston Brook and River Jordan. Within the Wey flood plain are the Lodmoor SSSI, Radipole Lake SSSI and the Portland Harbour Shore SSSI, which offer some flood storage capacity. However, these are at risk of flooding themselves as high rainfall and high tides together can exacerbate problems. Surrounding housing, amenities and visitor infrastructure can be affected and depending on the season for flooding, the success of breeding birds, such as little tern and other wildlife at the reserves can be affected negatively. Burton Bradstock is also susceptible to flooding close to the outfall of the River Bride into the sea.		**...continued from previous.** Measures such as realigning the River Bride to its original course, reducing sediment run-off through careful habitat creation and woodland planting, and siting facilities such as caravan parks more sympathetically will help. For Weymouth the Catchment Flood Management Plan identifies measures to decrease this flood risk, these include; land management to reduce the siltation of the Wey and Radipole Lake (bringing significant benefit to wildlife); potential long term relocation of caravan and camping sites and other inappropriate development at risk of flooding within the flood plain, to ensure that the flood plain can be used to store flood waters; and investigation into opportunities to create flood plain grazing marshes as part of flood storage proposals. At Burton Bradstock opportunities to reduce flood risk may include land management measures to reduce the siltation of the river and restoration of the river channel combined with habitat improvements.	**...continued from previous.** Investigate potential for land use and land management changes in reducing surface water run-off in the Bride catchment. For example seek opportunities to slow down water flow through good soil management and appropriate habitat creation such as field margins, copses and small wetlands. Seek opportunities to focus new development in locations outside of flood plains and over time manage relocation of most at threat temporary settlements such as caravan parks. Encourage land management which increases water holding capacity along river courses through habitat creation and re-connecting rivers to their flood plains in places like Burton Bradstock.	

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil quality	Lime-rich loamy and clayey soils in the vales inland Saltmarsh soils in The Fleet Shallow, lime-rich soils towards the coast and on ridgetops inland. Loamy and clayey flood plain soils around Radipole and long river corridors of the rivers Wey and Bride. Sand dune soils along Chesil Beach	Soils in the Weymouth Lowlands vary from seasonally wet deep clays over clay bedrock with impeded drainage to feely draining shallow loams and shallow lime-rich soils over the limestones. These soils follow the bands of geology with thinner soils on the limestone ridges and the more clayey soils in the valleys. Pockets of saltmarsh soils are found along the coast and underlay Radipole and Lodmoor and The Fleet with some patches of flood plain soils along the rivers Wey and Bride. Seventy-six per cent of the soil is classified as Grade 3 under Agricultural Land Classification.	Local	Thin, lime-rich soils overlaying the ridges of limestone which cross this area support arable production but also support important habitats, in particular limestone grasslands. These soils are also important for aiding aquifer recharge due to their freely draining nature. Any decrease in soil quality may impede the quality of the aquifer recharge. Controlling nutrient inputs to avoid excessive nutrient levels will ensure the water remains of a good quality and will also benefit habitats and prevent unnecessary pollution entering the water system. Saltmarsh soils found within The Fleet, Lodmoor and Radipole nature reserves may play a role in carbon sequestration if managed well and they remain wet. The more loamy clayey soils within the valleys have the potential to become compacted, impeding drainage, which could pose some risk around urban areas and reduce crop viability, but are well suited to mixed farming management to manage soil quality. The sand dune soils which underlay Chesil Beach are permeable allowing the slow infiltration of brine water into The Fleet, although preventing the complete inundation by sea water, thus maintaining this feature. Work linked to initiatives such as Catchment Sensitive Farming across the whole catchment will provide opportunity to maintain soil quality particularly in areas north of The Fleet where eutrophication is a factor.	Increasing the area of low nutrient input arable land will both introduce a more sustainable nutrient cycle for this productive land and help retain water quality for aquifer recharge. In areas with shallow, lime-rich soils seek to improve soil structure and quality by increasing organic matter content through management interventions such as increasing areas under grassland cover and green cover crops. On lime-rich loamy soils exercise careful management of weak topsoils to help maintain a good soil structure. Minimum tillage such as direct drilling can work well on some of these soils. Where organic matter is low increasing organic matter inputs can help improve soil structure. Seek management that increases organic matter levels in seasonally wet soils to help reduce problems of compaction and or capping and avoid use of heavy mechanised machinery.	**Regulating soil quality** **Biodiversity** **Regulating water quality** **Regulating water flow** **Regulating soil erosion**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil erosion	Permanent pasture and a range of semi-natural habitats. Hedgerows Woodland Riparian vegetation	Soil erosion is an increasing problem in catchments across the NCA. This adversely affects water quality in rivers and in particular increased sediment loads in the rivers Wey and Bride. This in turn adversely affects aquatic SSSI such as Lodmoor, Radipole and The Fleet. Wet clayey soils and thin lime-rich soils found in this area are both prone to erosion. In recent years ploughing of steep land adjacent to watercourses has led to sudden increases in sediment loads in the rivers as soil is washed away after heavy rain. This has been exacerbated by the recent increase in maize cropping and further increases in arable production, exposing the shallow soils to erosion after cultivation. Semi-natural habitats such as permanent pasture and in particular semi-natural grassland such as limestone grassland, hedgerows and woodland all help impede the flow of water and reduce soil erosion. Riparian vegetation is particularly important in reducing sedimentation in rivers by slowing sediment flow and binding soil.	Local	A change in farming practices to arable cropping and a reduction in grazing is contributing to increased soil erosion. Cropping patterns, soil management including increasing organic content of thin, brashy soils and location of arable crops away from steep land could help alleviate these problems. The loss of permanent pasture and a reduction in quality of species-rich grasslands through measures such as lack of grazing also impacts on soil quality as site fabric deteriorates. Ensuring well managed sites in places such as on vulnerable slopes and in river corridors will help reduce run-off risk. For example measures in the Bride Valley and north of The Fleet to instigate management of river corridors and habitats to reduce soil erosion will have beneficial impacts on sediment flow, which is contributing to eutrophication, into The Fleet. Work linked to initiatives such as Catchment Sensitive Farming across the whole catchment will provide opportunities to reduce soil erosion.	Seek and realise opportunities for introducing permanent grassland and restoring field boundaries along escarpment and valley sides in areas particularly prone to soil erosion or adjacent to main rivers and their tributaries. Maintain permanent pasture across the escarpment and valley sides where still present to promote soil stability and reduce run-off. Manage arable land in ways that build up organic matter and avoid compaction, and introduce good soil husbandry and management such as cross field ploughing and reducing wet weather access and other measures as proposed by the Catchment Sensitive Farming Initiative. Seek to manage and restore hedgerows and woodland along valley sides in areas particularly prone to soil erosion or adjacent to main rivers and their tributaries to help reduce soil run-off. Consider opportunities for sympathetic hedgerow planting where opportunities exist.	**Regulating soil erosion** **Regulating water flow** **Regulating water quality** **Regulating soil quality** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pollination	Limestone and chalk grassland	There are small areas of semi-natural calcareous grassland that will provide a nectar source for pollinating insects, although main beneficiaries of this service may lay in neighbouring NCAs such as South Purbeck where horticulture is more prevalent.	Local	This NCA provides a significant and well distributed source of nectar for pollinating insects. However, much of the coastal grassland, while floristically quite diverse and still displaying many flowering plants, appears under-grazed (apart from rabbit grazing in places) and at risk of losing floristic diversity. Other grasslands in the NCA are in much the same position with reduced grazing and increasing scrub (mainly gorse) encroachment. The current extent of pollinator friendly habitats in the NCA is relatively high. However, the condition of these habitats is such that they may be supporting fewer pollinators than they could. Management regimes that should be in place to achieve a favourable habitat condition would, in turn, promote greater densities of pollinating species.	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 or reduce invasion of open grassland habitats. Manage woodland to open up the woodland floor to encourage floristic diversity. Ensure management of soft rock exposures does not destroy mining bee and other invertebrate habitat opportunities.	**Pollination** **Biodiversity** **Sense of place/ inspiration**
Pest regulation	Well-distributed semi-natural habitats provided a habitat for pest predators. Woodland Mixed farming	Pest regulation is currently provided by the existing spread of semi-natural habitat across the NCA. They provide habitat for natural predators which assist in controlling pest species, although there is little information on the exact contribution they make in this NCA.	Local	While the impact and interactions of the majority of pest reducing predator species is not well understood, the status of farmland birds in this NCA is still apparently either stable at very low levels or still declining. Reasons are not clearly understood, though it is likely to be due to perturbations in the predator and prey populations lower down the food chain.	Opportunities to enhance existing and create new semi-natural habitats should increase numbers of natural predators. Attempt to realise the full potential of the NCA's farmed landscape for the suite of farmland birds that should be flourishing there.	**Pest regulation** **Pollination** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating coastal flooding and erosion	Natural and dynamic cliff systems Chesil Beach and The Fleet Series of bays with protective beaches	In the far west around Burton Bradstock and in the east around Osmington the sea cliffs are chalk, limestone and clays of varying resistance to erosion, with differential erosion rates, resulting in the dynamic cliffs and landslides seen today. Erosion occurs with irregular cliff falls and slumping of the clays. It is particularly in evidence at Burton Bradstock. At Weymouth the in-filled estuary of the Wey has been extensively built on and the beach ridge is backed by a seawall and promenade. There is a section at the northern end of Weymouth Bay where there is a clay cliff (Furzy Cliff) that exhibits landslide activity. Chesil Beach is the result of continued rollback of this shingle barrier over the centuries under rising sea levels since the end of the last ice age. This has led to the erosion of the backing cliffs and these have emerged to become headlands. A section of Chesil Beach is attached to the mainland and at its eastern end links to the Isle of Portland to form a tombolo backed by The Fleet; an extensive area of brackish water. In some places The Fleet is backed by the toes of coastal slopes; there are no cliffs along this section although they may form in the future as these slopes are eroded, due to beach retreat. There has been and continues to be slow landward retreat along this frontage. Cliffs at the far western end of the beach are made up of clay beds and exhibit landslide characteristics although erosion here is also slow.	Regional	The coast of the NCA is of international importance forming the eastern end of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast). Active geomorphological processes are one of the elements of the WHS's Outstanding Universal Value. Chesil Beach and The Fleet are SPA, SAC and SSSI for both their wildlife and geological interest. It is expected over the next 100 years there will be further rollback of the beach, and in the long term The Fleet will be lost. Although coastal settlements do not currently suffer from coastal flooding the Catchment Flood Management Plan suggests that sea levels may rise by 950 mm as a result of climate change over the next 100 years. Rising sea levels combined with overwash events could lead to the breach of the Chesil barrier and its eventual breakdown, creating a significantly altered hydrodynamic regime. There has been little coastal defence in this section, although Weymouth and West Bay are subject to defence. The Shoreline Management Plan outlines a 'hold the line' policy for Weymouth and West Bay while the rest of this coastline (Chesil Beach and The Fleet included) is under the policy of 'no active intervention'. The route of the South West Coast Path follows the coast and the many beaches along this stretch of coast. Coastal erosion can interfere with access to these features.	Intervene as little as possible in the natural coastal processes which dominate the coast of this NCA. Avoid construction of new structures and infrastructure that would, in time, require coastal defences and secure new approaches to secure these features, and in particular caravan parks and other features, around Weymouth. Investigate new approaches to securing coastal assets rather than attempt to defend the receding cliff, including considering more appropriate siting of development, habitat restoration along cliff edges and roll back land. Seek to implement findings of Shoreline Management Plans. Ensure coastal access opportunities remain while adapting to a dynamic coastline through the provision of roll back land and information and advice to users.	**Regulating coastal flooding and erosion** **Geodiversity** **Biodiversity** **Sense of place/ inspiration** **Sense of history** **Recreation**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of place/ inspiration	Long open views over dramatic coastline of cliffs, Chesil Beach, The Fleet and Isle of Portland Strong link between vernacular and local materials Great time depth visible in a range of heritage assets Contrasts between exposed ridges and sheltered valleys and the more intimate landscapes around Osmington	This area has a strong identity provided by the interplay between the gently rolling landscape of rounded hills that overlooks a highly distinctive coastline and across to the Isle of Portland. This forms part of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast) and includes the linear lagoon of The Fleet behind the shingle ridge of Chesil Beach and dramatic cliffs east of Weymouth, each of outstanding wildlife, scenic and geological interest. The views from Abbotsbury across The Fleet and Chesil Beach have no doubt inspired and drawn the many visitors to the area. Sixty per cent of NCA falls within Dorset Area of Outstanding Natural Beauty and the coastline is part of Purbeck and West Dorset Heritage Coast. There is a distinctive visual influence of traditional building materials, including the local pale grey Portland and Purbeck Limestones, brick and stone slate or thatch roofing, bringing unity to the built environment outside Weymouth, with villages located on valley floors and at the foot of the chalk escarpment and farmsteads or hamlets found on valley sides and linked by narrow lanes. The development of Weymouth and Portland has been influenced by distinct areas within the main urban district, as these areas originally developed as small villages separated by landscape features. Radipole Lake, for example, is a barrier between Melcombe Regis and Westham. **Continued over...**	International	This NCA's strong identity is recognised in its inclusion within the Dorset AONB and Purbeck and West Dorset Heritage Coast and as part of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast). It is relatively unspoilt and presents an area considerably untouched by post-war development and is still rural in character. Weymouth has a strong association with visitors since its establishment as a coastal resort in the 18th century. The character of Weymouth and peri-urban land use compromises the overarching sense of ruralness retained by the rest of the NCA. The hosting of sailing events for the 2012 Olympics at Weymouth has left a legacy that will continue to inspire visitors to this area.	Protect open views and the sense of openness from the Dorset Ridgeway and across the coastline to the Isle of Portland as a key feature of the NCA's sense of place. Land management practices should be sympathetic and enhance the biodiversity and rich cultural heritage found here. Opportunities exist to protect and restore patterns of drystone walls and hedgerows and the vernacular architecture of settlements, manor houses and barns. Ensure that development respects local settlement patterns and building materials, and avoid the loss of historical evidence through insensitive development.	**Sense of place/ inspiration** **Sense of history** **Recreation** **Tranquillity** **Geodiversity** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of place/ inspiration continued		**... continued from previous.** Sense of place is further supported by the remnant tracts of calcareous grasslands, other unimproved grassland and wetland habitats within valleys, as well as the steep chalk escarpment of the Dorset Downs in the north providing far reaching views overlooking the NCA. Artists have been inspired by this coastline with paintings of Weymouth and Osmington by John Constable and J.M.W. Turner.				

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of history	Evidence of long term human occupation of the landscape Neolithic long barrows Bronze-age round barrows Iron-age hill forts Roman remains Medieval landscape particularly around Abbotsbury Distinctive settlement pattern Weymouth and associated harbour Second World War invasion defence lines	The area contains 1 Registered Park and Garden covering 16 ha, 78 Scheduled Monuments and 930 Listed Buildings, illustrating a rich history including Neolithic, iron-age, Roman and medieval remains, including iron-age hill forts, Roman villa sites, and irregular fields in the north-west representing enclosure of medieval fields. The distinctive medieval landscape of Abbotsbury, with its abbey in the village and St Catherine's Chapel prominently sited nearby as well as the distinct geomorphological formation of Chesil Beach itself are particularly prominent. Second World War invasion defence lines, including anti-tank cubes, pillboxes, battery emplacements and observation posts form a nationally important defence landscape where Chesil Beach meets the hills behind Abbotsbury.	National	This area is known for its rich history, visually prominent across much of the area, and in particular its medieval features around Abbotsbury and Second World War defence structures. These have survived largely because of sympathetic land management and work to highlight the remaining assets. The main emphasis is on protecting the range and diversity of these features, exposed and unexposed, and on providing interpretation to develop wider public understanding and appreciation of the area's heritage. New threats possibly posed by climate change induced severe weather events may have an impact, for example, accelerated cliff erosion speeding the loss of Second World War defensive structures.	Seek opportunities to protect, manage and enhance historic features and their setting, particularly in the face of land management or land use change notably around Weymouth and at the coast. Seek to continue and enhance interpretation of the many layers of historic evidence for educational and recreational purposes. Continue to ensure that the restoration of vernacular buildings is carried out using local styles and appropriate materials, particular in and around Weymouth, villages and any barn conversions. Continue to ensure that land management practices and developments do not damage archaeological evidence or historic features. Enhance opportunities to use the network of paths to gain access to, reveal and interpret the area's rich history, particularly Second World War defensive structures along The Fleet and the medieval landscape around Abbotsbury.	**Sense of history** **Sense of place/ inspiration** **Recreation** **Tranquillity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Tranquillity	Rural landscape with open views away from Weymouth. Large stretches of accessible coastline with little development away from Weymouth Quiet rural lanes, hamlets and footpaths	Around half of the NCA is still classified as 'undisturbed', a decline from 70 per cent in the 1960s (according to the CPRE Intrusion Map 2007). Away from Weymouth and peri-urban development and the main A354 and A353 roads the NCA retains uncluttered open vistas, and in particular Chesil Beach, The Fleet and the area around the Bride Valley is noticeably 'undisturbed', despite large numbers of visitors. Chesil Beach in particular has a wild, windswept aspect which adds to its distinctive appeal.	Regional	Despite a drop in tranquillity from 70 per cent to 50 per cent, tranquillity still represents a significant resource in the very rural central and western parts of the NCA with its dramatic coastline and The Fleet backed by the rolling limestone hills of the Bride Valley giving visitors and residents a sense of remoteness and openness. Peri-urban development and visual intrusions such as power lines around Weymouth have contributed to a loss of tranquillity in this part of the NCA and further opportunities should be sought through planting and landscaping to minimise the effect, as seen in the work around the Weymouth Relief Road.	Seek opportunities to retain the open vistas on the limestone ridges and coastline by protecting them from inappropriate development. Protect and enhance the features of undeveloped valleys, intimate field systems and winding country lanes which add to the sense of tranquillity. Where possible, existing obtrusive features (power lines, masts and disused structures among others) should be removed or more sensitively incorporated into the landscape.	**Tranquillity** **Sense of place/ inspiration** **Sense of history** **Recreation**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Recreation	Extensive rights of way network South West Coast Path National Trail Countryside and Rights of Way Act access land National Trust land Weymouth seaside resort	This area is well supported for walking with 61 km of the South West Coast Path and 302 ha of open access land (covering over 2 per cent of the area). Overall there is a 310-kilometre network of rights of way at a density of 2.33 km per km^2 and 105 ha of National Trust land. The South West Coast Path traverses the whole stretch of coast. From the Isle of Portand eastwards the path is covered by the new rights afforded by the England Coast Path. Weymouth is a popular visitor destination for a more traditional beach experience, but the whole coast is a draw for quiet recreation or watersports. Villages like Osmington in the east and the Abbotsbury Swannery on The Fleet, with its sub-tropical gardens, are also major visitor draws. Work to improve green infrastructure in Weymouth and to help improve access opportunities for local residents has seen the development of a network of RSPB and Dorset Wildlife Trust nature reserves in and around Weymouth, particularly through the Lorton Valley. In 2012 a refurbished RSPB Wild Weymouth Discovery Centre at Radipole Lake and a new Fine Foundation Chesil Beach Centre, run by Dorset Wildlife Trust were opened to inspire, educate and promote the diverse natural environment of the local area. Both the Dorset AONB and Jurassic Coast management plans highlight the recreational potential of this NCA, particularly the coast with its excellent access infrastructure.	National	This NCA is a popular destination for different users as it provides a range of recreational experiences ranging from the more traditional beach experience of Weymouth and its various watersports opportunities, to the quieter pursuit of walking the coast path. Tourism is a key feature of the area with numerous caravan, camping and holiday parks located along the coastline and the major seaside town of Weymouth. Weymouth hosted the sailing events of the 2012 Olympics and is also a major gateway town, near the centre of the 'Jurassic Coast' World Heritage Site. A World Heritage Coast Centre is to be built in the town. Some areas are heavily used for recreation, particularly in the summer. The dense network of paths, tracks and lanes allows visitor pressure to disperse somewhat across the landscape. Outside of the seaside resort of Weymouth villages like Osmington, the Swannery at Abbotsbury, and its associated medieval remains, and Chesil Beach and The Fleet are the main destinations with numerous small access points and car parks along the coast. The Weymouth Relief Road has relived congestion through the town aiding access, and new visitor centres for Chesil Beach have all improved the visitor experience.	The existing network of public rights of way and permissive paths should be maintained and, where possible and appropriate, enhanced. Full consideration should be given to wildlife vulnerabilities, for example in The Fleet lagoon, if changes to access are proposed. Extend awareness of both the South West Coast Path 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 and the interplay between these assets. Development of new or expansion of existing recreational facilities and related visitor infrastructure such as caravan parks, car parks and new green infrastructure should be sympathetic with and enhance their setting.	**Recreation** **Sense of place/ inspiration** **Sense of history** **Tranquillity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity	Approximately 1,756 ha of priority BAP habitat (11 per cent of NCA) 867 ha of SSSI (7 per cent of NCA) of which approximately 461 ha (3 per cent of NCA) are SAC, SPA or Ramsar sites, including Chesil and the Fleet SAC; Isle of Portland to Studland Cliffs SAC; Crookhill Brick Pit SAC 481 ha of Sites of Nature Conservation Importance (4 per cent of NCA) Diverse range of habitats and species due to geology, topography and coast Offshore, areas of multiple reef features	This NCA is relatively biodiversity-rich with 11 per cent of the area covered by BAP priority habitats. This is in part due to its geology, coastal position and relatively undeveloped nature. Reedbeds covering 500 ha and coastal vegetated shingle covering 200 ha are particularly noteworthy features. Radipole Lake has large areas of reedbed and marshland extending up the Wey Valley. Chesil Bank's shingle ridge, with areas of vegetated shingle and sheltering the saline lagoons of The Fleet are extraordinarily rich in wildlife, due in part due to the salinity, gradient, hydrographic regime and relative lack of pollution. Outstanding communities of aquatic plants and animals are present, supporting large numbers of wintering water birds, including dark-bellied Brent goose. In spring and summer Chesil Beach is an important breeding site for little terns which feed in the shallow waters of the lagoon, as well as the adjacent waters outside the SPA. In addition the most extensive occurrence of both sea kale and sea pea can be found on Chesil Beach. Crookhill Brick Pit SAC is important for great crested newts. Areas of chalk grassland can be found along parts of the northern edge of the NCA where the chalk ridge forms part of the boundary with the adjacent Dorset Downs NCA. To the west of Weymouth the cliffs of limestone and chalk around Osmington and White Nothe support large areas of maritime cliff and slope habitat.	Regional	SSSI condition in this area is good with 92 per cent in either favourable or unfavourable recovering condition. There is a risk that grasslands on limestone ridges and at the coast may show a decline in status as the reduction in grazing animals in the area may make it hard to continue favourable grazing regimes. Scrub may become an issue, with patches already in evidence on some grassland. Utilising options available under agri-environment schemes may be useful. The western Fleet is eutrophic and the eastern portion is at risk of eutrophication. The eutrophication of the western Fleet is due to phosphates, the eastern portion is due to nitrates. Management of risks through initiatives such as Catchment Sensitive Farming should be utilised to minimise inputs. Continued management of visitor access to limit pressures on breeding birds will also be of benefit to wildlife but also to retaining the open and wild nature of this habitat. Topography and extensive blocks of habitat mitigate climate change impacts, though connectivity and permeability may need to be strengthened to facilitate greater migration and adaptation. Work such as that in Weymouth along the Lorton Valley strengthens the network of habitats and efforts should be extended throughout the NCA. Offshore habitats appear to be in good condition and are not threatened by excessive discharges from this NCA's coast.	Enhanced buffering, extension and linking of the core of designated sites should be undertaken, to ensure the network of habitats across the area is retained and enhanced, particularly along the coast. Seek opportunities to secure grazing of coastal and limestone grasslands to ensure good condition is reached and scrub managed. Seek to instigate land management practices which reduce nutrient input into The Fleet. Seek opportunities to create new habitats or restore degraded habitat, such as in the examples in the Lorton Valley, to strengthen this network. Ensure the needs of key species such as dark-bellied Brent goose, little tern, calcicole species and invertebrates on dynamic cliff systems are catered for. Enhance interpretation of the importance of the area's biodiversity and its intimate relationship with geodiversity and land management at every opportunity, with a particular focus on Chesil Beach and The Fleet. Sub-tidal habitats, though under less direct pressure than terrestrial, require better protection, study and interpretation.	**Biodiversity** **Sense of place/ inspiration** **Tranquillity** **Recreation** **Regulating water quality** **Regulating soil erosion** **Climate regulation**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity	Entire coastline is part of East Devon and Dorset World Heritage Site (the Jurassic Coast) Shingle storm beach of Chesil Beach Important educational assets for outstanding geological interest 6 geological SSSI, 5 SSSI with mixed biodiversity and geodiversity interest and 10 Local Geological Sites	The whole coastline is important for its geological interest and its educational value to coastal geomorphology and natural coastal geological processes and palaeontology. Most of the length of the coast functions naturally with the exception of the coast around Weymouth and at Burton Bradstock where coastal defences protect settlements. The strata, laid down in marine environments, are tilted slightly to the east so progressively younger rocks are exposed there; Lias Group mudstones and limestones are exposed at the western extremities of the area, with later Jurassic Corallia and Kimmeridgean sediments exposed further east. The sediments jointly maintain a record of changing climate and sea depths. These include rocks rich in fossil invertebrates and some vertebrates including marine reptiles, dinosaurs and early mammals. Chesil Beach and the lagoon it encloses – The Fleet - is of particular interest and their formation remains the topic of some debate and as such remains of high educational interest. The shingle beach exhibits evidence of rollback and eventually The Fleet will be lost, although this outside of the timeframe of this document. The geological SSSI are all in favourable condition. **Continued over...**	International	The full length of this NCA's coastline forms part of the Dorset and East Devon Coast World Heritage Site (the Jurassic Coast). It was selected for a near continuous exposure of 195 million years of geological history, for important Mesozoic fossil localities and a series of classic geomorphological structures and processes. It is also recognised as a Heritage Coast. This geology offers excellent educational opportunities and school visits from primary through to A-level, university and adult learning groups all use this stretch of the coast. Chesil Beach and The Fleet are of particular interest. The WHS is managed by a small team, hosted within Dorset County Council. Over the ten years following inscription on the list of World Heritage Sites, the WHS team ensured that the educational, scientific and cultural aspects of the coastal geology and geomorphology were given a high profile and quality interpretation. The cultural significance of the coast is high, having evidenced and influenced theories which had profound impacts on the study of geology, palaeontology and evolution. **Continued over...**	Ensure the importance of this coast's geology and geomorphology is 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 geomorphological processes. Maintain the current policy of requiring new developments in the area to reflect the vernacular in high quality builds using local stone (and other materials where appropriate) and styles. Recognise opportunities to enhance geodiversity by extracting building stone at a local level for appropriate projects such as drystone wall repair. Investigate the ways in which marine geodiversity could be presented and interpreted, particularly in relation to the abundant marine biodiversity.	**Geodiversity** **Biodiversity** **Sense of place/ inspiration** **Regulating coastal flooding and erosion** **Tranquillity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity continued		**... continued from previous.** Limestone is the local building stone and was historically quarried locally, particularly from the northern edge of the NCA where Portland and Purbeck limestone outcrops. Corallian Limestone was, and is quarried at Abbotsbury and Forest Marble was used extensively in the Bride Valley and at Langton Herring.		**... continued from previous.** Apart from the Bride Valley, the entire landscape of the Weymouth Lowlands is defined by the geological fold structure known as the Weymouth Anticline. This forms part of the Alpine structures of southern Britain and is synonymous with the Purbeck Monocline to the east. Important geological sites inland are typically old, inactive quarries especially along the outcrop of Portland and Purbeck stone between Poxwell and Portesham. A new spectacular cutting through the Purbeck beds was created during the excavations for the Weymouth Relief Road and is now permanently accessible on the Weymouth to Dorchester cycle route.		

Photo credits

Front cover: The full extent of The Fleet, Chesil Beach and Isle of Portland can be appreciated from the slopes of the sheep grazed limestone ridges with the remains of St Catherine's in the foreground. © Dorset AONB/Mark Simmons
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