National Character Area profile:

158. Isles of Scilly

NATURAL ENGLAND

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Introduction

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

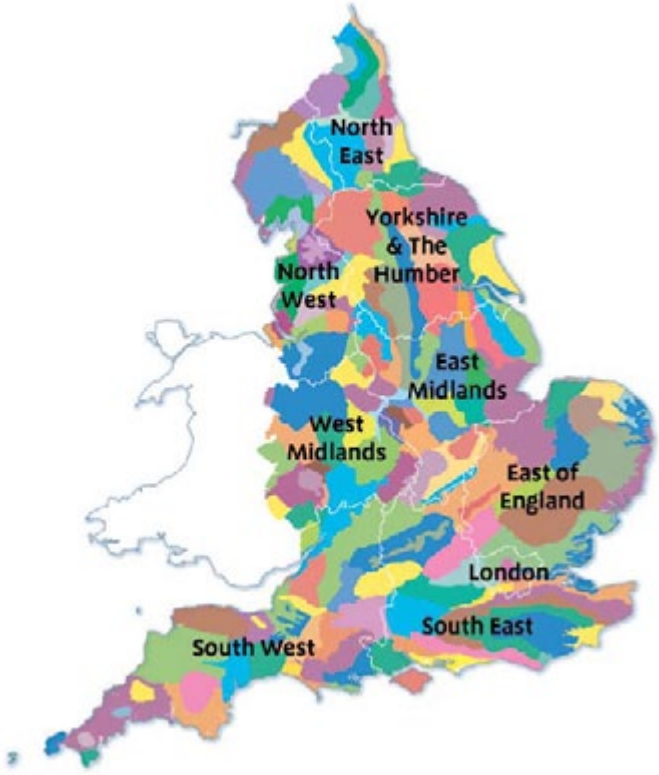
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and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

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

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

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

National Character Areas map



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

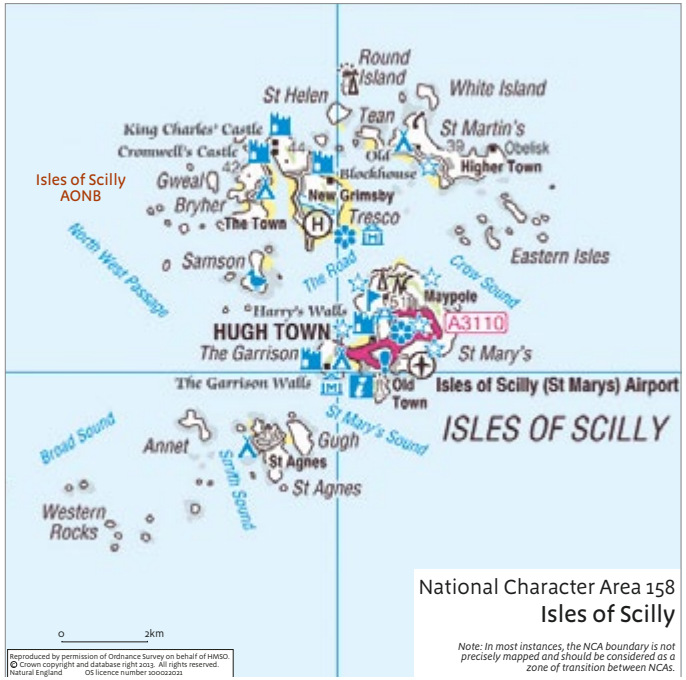
Summary

The Isles of Scilly comprise over 200 granite islands scattered across 200 km2, set out in the Atlantic some 45 km south-west of Land's End. Of these islands only five are currently inhabited, namely the islands of St Mary's, St Agnes, St Martin's, Tresco and Bryher. The occupied islands cover a total area of just over 14 km2.

Only around 50 of the islands have some form of plant life, often just a few tufts of grass and wind-swept sea pink and lichens. The great majority are low outcrops of granite, sometimes barely breaking the surface at high tide. The islands contain 26 Sites of Special Scientific Interest and one Special Area of Conservation (SAC), designated for a range of geological and biological features, including maritime heathland and grassland, as well as one Special Protection Area and Ramsar site, highlighting the important seabird colonies of puffins, Manx shearwater and terns. The marine environment between and around the islands is designated as an SAC and a Marine Conservation Zone for the wealth of marine species it supports, from diverse rocky reef to grey seals that breed around the islands.

For such a small land area, the islands display a striking diversity of landscape, including lowland heath and small pastures enclosed by stone walls and banks, plus tiny hedged bulb fields and a varied coastline. Many of these features have been in place for 4,000 years, and still retain their original purpose. Harsh conditions created by the maritime climate mean that woodland cover is minimal. It is a landscape rich in history, with 900 historic monuments. The most notable features are the outstanding prehistoric monuments of chambered barrows and standing stones of the late Neolithic and early Bronze Age. The entire National Character Area has been designated as an Area of Outstanding Natural Beauty and is recognised as a Heritage Coast.

The future challenges are to ensure that the islands can continue to be supported in a sustainable way that is beneficial to the amazing natural environment. Importantly, the impact of increased visitors and the impact of climate change are major considerations.



Click map to enlarge; click again to reduce.

Statements of Environmental Opportunity

- **SEO 1:** Protect and manage the rich cultural and natural heritage of the Isles of Scilly. Increase enjoyment and understanding of the biological, geological and cultural heritage, including the islands' strong sense of place, tranquillity and remoteness.

- **SEO 2:** Understand, plan for and manage the impact of climate change on the Isles of Scilly, especially securing sustainable management of biodiversity and the historical, marine and coastal environments. In particular, consider the implications on the islands' water and use.

- **SEO 3:** Protect, manage and enhance the distinctive farmed landscape, retaining the balance of productive mixed farmed landscape and diversity of habitats and associated species. Retain the intimate mosaic of productive fields, unimproved heathland and grassland.

- **SEO 4:** Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; promoting water conservation initiatives to visitors and communities; and managing land to reduce soil erosion and water pollution.

The craggy granite outcrop of Peninnis.

Description

Physical and functional links to other National Character Areas

The islands are the westerly example of a series of granite outcrops stretching along the spine of the south-west of England. The Cornubian Batholith stretches from Dartmoor National Character Area (NCA) to Bodmin Moor NCA, Carnmenellis NCA and West Penwith NCA, with the Isles of Scilly being the last time that it breaks the sea surface.

The islands support a resident population of around 2,500, increasing by 100,000 over the summer period. An independent unitary authority, the Council for the Isles of Scilly, oversees the administration of services; however, due to efficiencies a number of services are delivered jointly with neighbouring Cornwall Council and health trusts.

The isolated nature of the Isles of Scilly means that transport links to the mainland are significant in bringing resources and tourists to the islands. West Penwith NCA is of particular importance: both Penzance ferry (journey time to the islands: 2 hours 45 minutes) and Land's End Airport (journey time: 15 minutes) are located here. The A30 main road link and main rail lines also run to Penzance, providing important access via the ferry link to the rest of the country for the export of island produce and import of resources. The marine waters linking the islands are used for the passage of cruise ships, small recreational sailing vessels and a small number of fishing boats.

Looking towards Round Island across the heathland.

Key characteristics

- The area is made up of low-lying granite islands with a strong maritime influence.
- The uninhabited islands and offshore rocks form complex seascapes.
- The area is isolated from the UK mainland, with a strong sense of remoteness and tranquillity.
- The unique pattern of small fields enclosed by evergreen hedges, called fences locally, protects the bulb and vegetable fields from salt spray and strong winds.
- Many of the islands are largely treeless and wind-swept, apart from the occasional pine shelterbelts on Tresco and English elm copses on St Mary's.
- Hugh Town and Old Town on St Mary's form the principal settlement, with small hamlets and solitary farmhouses elsewhere on St Mary's.
- Settlement patterns of the off islands (Tresco, Bryher, St Martin's, St Agnes and Gugh) vary, with small clusters of buildings around quays or in sheltered spots and solitary farmhouses located in the centre of smallholdings.
- White sandy beaches, embryonic sand dunes and unenclosed areas of maritime heath and grassland fringe the islands; some heathland is dominated by gorse and bracken.
- There are outstanding examples of long-term human occupation, including chambered barrows and standing stones with forts and castles prominent on areas of higher ground.
- The sea is a dominant influence that both unites and divides the islands; the crystal white sand and the turquoise sea of summer contrasts with a grey thundering sea that is typical of autumn and winter in the western rocks.
- A network of roads and tracks and about 200 km of permissive paths provide access to all parts of the islands.

Island fortifications on The Garrison.

Isles of Scilly today

The Isles of Scilly comprise 200 granite islands scattered across 200 km2, set out in the Atlantic approximately 45 km beyond Cornwall. Only St Mary's, St Agnes, St Martin's, Tresco and Bryher support resident populations. Of the remaining islands only 50 support basic vegetation, often just small tufts of grass, wind-swept sea pinks or lichens. Many of the rest of the islands are rocky outcrops barely breaking the surface at high tide.

The islands possess a diversity of scenery that belies their small scale: panoramas of sea and sky punctuated by low-lying, slightly undulating land that rises to around 40 m. The archipelago combines rugged granite cliffs and headlands, sparkling sandy bays, hidden coves, shifting dunes and saline lagoons. These features are visible across both the inhabited and the uninhabited islands.

The landscape of the islands shows how over 4,000 years of human occupation has led to the development of the lowland heath, enclosed pasture, hedged bulb strips, small harbours and quays, and scattered rural settlement punctuated by tiny townships. At low tide, historical field patterns are also exposed; an artefact of lower sea levels in the past and evidence of early human occupation.

Due to the size of the islands, there are only small streams that radiate from the highest point straight to the coast. These streams occasionally pass through damp habitat immediately prior to entering the sea. There are a number of small pools on each island, with Great Pool on Tresco being the largest fresh waterbody.

Clockwide from left: Inter-island boat - Bryher; Skybus; Sillonian III.

All the inhabited islands include areas for agriculture. These are characterised by crops grown in small fields with high boundaries of tall evergreens such as Pittosporum (locally called fences) and drystone walls. The islands are known for the production of early flowers, predominantly narcissi and pinks, and small quantities of vegetables such as potatoes. This early production is because of the mild climatic conditions experienced on the islands. While the contribution made by the agricultural sector to the island economy had decreased to 5 per cent of Gross Value Added by 2005, flower farming complements the main tourist economy, especially by providing out-of-season alternative employment. A small amount of fishing is carried out from a

Clockwide from top: Jewel anemone; Grey seal; Seagrass beds.

number of boats, focusing on fish and lobster to supply local restaurants and retail outlets. Many local people also lay pots for personal use.

Even though the islands import a vast proportion of foodstuffs, markets are emerging for the supply of local food, such as cattle, sheep, pigs and chickens. This is marketed on the roadside and through regular farmers' markets.

The nature conservation interest of the Isles of Scilly lies in the key geological and wildlife features, many of which are of importance at a European and international level. A total of 26 sites of Special Scientific Interest (SSSI) cover 34.7 per cent of the islands' landmass. The islands' seabirds and their terrestrial habitats are designated as a Ramsar site, making them of global importance; their European importance is recognised through their Special Protection Area (SPA) designation. The island provides nesting habitat for Manx shearwater, puffin, common tern and storm petrel.

The seas around the Isles of Scilly are designated a marine Special Area of Conservation (SAC) and Marine Conservation Zone (MCZ), important for the subtidal and intertidal features. These areas include many rare marine species, including eel grass beds, cowries, soft corals, sponges and sea squirts.

The Isles of Scilly Biodiversity Audit (2008) identified 293 priority species and 18 priority habitats including maritime cliff and slope and coastal vegetated shingle as well as other nationally important species. Many of these habitats are in very close proximity, allowing species to move between them. Rare arable plants survive in the islands' small bulb strips, where species found include smaller tree-mallow and purple ramping-fumitory. The islands are also the only UK location for many Mediterranean species, including dwarf pansy and adder's tongue fern, as well as being strongholds for many unusual

lichen communities due to the clean air quality. Many of these habitats occur on the uninhabited islands that are leased to Isles of Scilly Wildlife Trust from the Duchy of Cornwall for the sum of one daffodil per year. The Isles of Scilly are an important staging post for migrating birds and are often the first landfall for rare species blown off course. As such, 'twitching' by keen bird watchers makes an important contribution to the islands' economy in late March and October.

The Isles of Scilly are exceptionally rich in archaeological heritage, with over 238 Scheduled Monuments. These range from the chambered barrows and standing stones of the Bronze Age and in some cases early Neolithic to the prominent fortifications that defended the islands during the 16th century such as Star Castle and the fortifications constructed to defend the islands from invasion during the two World Wars.

The Isles of Scilly have been part of the Duchy of Cornwall since its foundation in the 14th century. The Duchy still owns the freehold of most of the land and nearly a third of the residential buildings on the islands.

The five inhabited islands (St Mary's, Tresco, St Martin's, St Agnes and Bryher) consist of small hamlets of granite and rendered buildings on sheltered slopes, with quayside cottages on Bryher and in New Grimsby on Tresco. The exceptions to this are the main population centres of Old Town and Hugh Town on St Mary's. Hugh Town has spread, from a centre near the quayside to the surrounding area. This expansion includes a number of historically prominent buildings, including the 16th-century Star Castle and 17th-century garrison. Old Town is the ancient centre of the islands, located on the more sheltered eastern side of St Mary's and centred on the original main church of the island.

Manx shearwater.

The terrestrial, marine and intertidal archaeology of the Scillies is an internationally important cultural resource that is remarkable in its richness and diversity. The islands have the greatest density of statutorily protected terrestrial sites in Britain. The Isles of Scilly's 238 Scheduled Monuments represent at least 4,000 years of social, economic, cultural and religious activity. These scheduled areas protect over 900 individual sites. In some locations, such as the Island of Samson, the entire landscape is a Scheduled Monument, reflecting the fact that landscape context underpins our understanding of the Isles of Scilly's historic environment.

Some 85 per cent of the islands' economy is tourism related, with around 100,000 visitors attracted annually. Visitors come to experience island life, and the wealth and breadth of opportunities for both active and passive engagement with the rich environment and heritage through walking, beachcombing, drawing, bird and wildlife watching, diving and boating, as well as the solitude and peace that can be found on the islands.

Access across the islands is varied. A network of surfaced roads, tracks and about 200 km of paths provide access to many of the coves and beaches. Inter-island boats transport residents and visitors between islands. Freight boats also operate regularly between the islands, including the Royal Mail delivery boat.

The islands have inspired many artists and writers. The author Michael Morpurgo has taken much inspiration from the islands; they feature in many of his books, including *Why the Whales Came*.

Puffin.

The landscape through time

The Isles of Scilly are the most westerly visible example of a series of granite outcrops; they are part of the Cornubian Batholith, which forms the spine of south-west England and which first emerges on Dartmoor about 320 km to the east. Formed 290 million years ago, the granite has a distinctive crystalline and granular texture. This is a result of the slow cooling of the granite over several thousand years. During the Devonian and Carboniferous, this area was covered by sea and formed part of a marine gulf where sand and mud deposits accumulated. This gulf closed during the Carboniferous–Permian Variscan Orogeny, the mountain-building period 320 to 280 million years ago. It was during this phase that the batholith was uplifted and the islands created.

The low-lying islands demonstrate a similar type of exposure to the other sections of the batholith, which have steep slopes and high cliffs. The islands are just the top of the intrusion and have similarities to the tors on Dartmoor. High cliffs similar to those in West Penwith are present in Scilly, but are submerged on the edge of the batholith a number of kilometres away from the islands. More recent sediments include sequences of raised beach, organic silts and sands, and head and loess deposits, which together demonstrate environmental change in south-west England during the Quaternary.

The maximum glacial limit during the Quaternary reached as far south as the north of Scilly, the glacial ice eroding the rocks that it passed over and depositing glacial tills at its limits. Periodic glacial weathering of the granite created granite tors with weathered mantles around their bases. Solifluction also mobilised these head deposits, which flowed downslope over the permafrost. The result was the low cliffs and platforms that we see today. In areas such as Porthloo, the head deposits may reach a thickness of several metres.

Bulb strip of Soleil d'Or Narcissus.

The Isles of Scilly have effectively formed as a drowned landscape. Following the downward movement of southern Britain, after the retreat of the ice at the end of the last ice age, the sea level has risen. Much of the current shallow sea areas between the islands became uncovered during the glacial periods. This shows that the larger islands have been predominately formed by the linking together of smaller islands by sand banks and tombolas. The Isles of Scilly contain the largest assemblage of tied islands in Britain outside of the Scottish Northern Isles of Orkney and Shetland. Islands are linked by low terraces underlain by glacial deposits, for example Hugh Town, built on a low isthmus fringed by sandy beaches. Records show that the Romans used to regularly be able to walk between the islands; this can still be achieved today with local knowledge on very low tides.

Burial chamber on Samson.

The rugged coastline experiences one of the highest energy wave climates in Britain, due to its extreme offshore westerly location. In common with other high wave energy and hard geology environments in Britain, such as south-west Wales, the wave climate has been extremely influential in shaping a rugged coastline from the resistant geology. Fantastic weathered outcrops form landmarks such as the Tooth Rock, the Nags Head and Monk's Cowl.

The islands have been a focus for human activity from at least the Neolithic, when their extent was much greater due to lower sea levels. However, human habitation on the Scillies was at a subsistence level until the 20th century, with the level of occupation varying throughout history. Occupation has always been based on eking a living from both the marine environment and the land.

The islands have outstanding prehistoric monuments, including chambered tombs and standing stones from the late Neolithic/early Bronze Age. They contain more prehistoric monuments than the whole of Cornwall. There is also evidence of Roman occupation of the islands, during which any remaining stands of woodland were removed to build shelters and provide fuel.

Following the Roman period there is a long shadowy period in which Christian hermits were possibly the main users of the islands, St Elid being the best known. Historical accounts indicate that following this, Vikings, Spaniards and pirates made the Isles of Scilly their base due to the shelter the islands provided and their strategic location at the entrance to the Irish Sea and English Channel.

A clearer picture emerged in the 12th century when the priory on Tresco was established. Henry I linked the priory to the abbey at Tavistock, and this dominated the islands until the abbey was dissolved during the Reformation. Although available land on the islands was cultivated and the seabirds and

other natural resources were widely exploited, piracy and raiding dominated the islands in the Middle Ages. Fortification of the islands occurred in the 16th century, and Star Castle is the most obvious surviving feature of that period. In the mid-17th century, Tresco had a prominent role in the Civil War and saw fighting, with Cromwell's Castle built in the early 1650s to strengthen the defences of New Grimsby harbour. About this time there seems to have been a larger-scale influx of 'newcomers' connected with the acquisition of the monastic holdings by lay lords. In the following centuries, the islanders had a precarious existence from agriculture, kelp burning, piloting and wrecking. By the early 19th century, the population began to dwindle.

In 1834 Augustus John Smith became the Lord Proprietor of Scilly, effectively the role of island governor on behalf of the Duchy of Cornwall. This saw a change in fortunes. The abbey garden on Tresco was laid out, and a boat-building industry was developed, often on beaches, including Porth Cressa Beach in the centre of Hugh Town.

As boat building decreased in the 1870s, a greater emphasis was placed on agriculture, with the cut flower industry being supported by the mild, frost-free climate. By the turn of the 20th century, over 40 tonnes of flowers were being shipped to markets in London several times a week. This was facilitated by the arrival of the main train line in Penzance. In January, the fields often still contain the budded Soleil d'Or narcissus, the most commonly grown flower. The impact of the flower industry is significant. The small, box-like fields, dominated by tall evergreen hedges, became one of the characteristic features of the islands, protecting the fragile flowers. The flowers also provided a vital income for the islands then – and still do today. The warm, mild climate and improved soils also saw other early crops such as vegetables grown. These were exported to the mainland, generating a steady income and raising the standard of living of many Scillonians. Contemporary flower farming continues to contribute significantly to the character of the landscape. Flower farming is the most economically productive agricultural activity in the Scillies. The reintroduction of cattle grazing as part of the fallow period required between bulb crops is also allowing businesses to diversify. The increased numbers of cattle on the islands are being used to enhance the semi-natural habitats and provide high-quality local meat.

The Isles of Scilly have been part of the Duchy of Cornwall since its foundation in the 14th century. The freehold reverted to the Duchy in 1920 after the demise of the last Lord Proprietor of the islands, Arthur Algernon Dorrien-Smith. After the two World

Flower picking - St Martins.

Wars, tourism interest grew, especially after the Duchy sold the freeholds of Hugh Town in 1949, allowing expansion and change in use of buildings.

In 1975 the whole of the Isles of Scilly and hence the NCA was designated as an Area of Outstanding Natural Beauty (AONB) and recognised as a Heritage Coast. The Isles of Scilly AONB is the smallest AONB in the country, at 16km2. The AONB partnership works alongside organisations and individuals to conserve and enhance the special qualities of the islands.

Not surprisingly, the islands have led to many artists and writers seeking inspiration from the landscape and from the legends associated with the area; the drowned Kingdom of Lyonesse is captured in the poems and writings of John Milton, John Dryden and William Morris. The famous narrative poem Enoch Arden was written by Alfred, Lord Tennyson while he was staying on St Mary's in the 1860s.

Last gig race of the season.

Ecosystem services

The Isles of Scilly 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 Isles of Scilly NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision:** Food sustainability is a key issue for the islands. Currently the majority of food is imported. The islands produce early vegetables and flowers, which are sold to both local and national markets. Local markets are also increasing on the islands, supplying residents and visitors with island-produced food. Small numbers of livestock are also being re-introduced to help manage the fallow period during flower bulb rotation. They also complement the management of the semi-natural grassland and heathland, bringing these habitats back into condition. These cattle supply local markets including restaurants and butchers. Small-scale local fishing, potting and crabbing occur in shallow waters around the islands, providing fish for local markets. Catches from deeper waters are landed and exported around the world.

- **Water availability:** There is a fragile balance between water supply and demand on the islands. The impact of the tourism industry means that the supply often needs to double in summer. The production of flowers and vegetables and the development of grazing place significant pressure on the islands' water resource. The water availability of the islands relies on boreholes and shallow wells. This supply is increased on St Mary's by the use of a desalination plant that employs reverse osmosis technology. There are no surface water resources available for domestic supply on the islands, although limited resources are available for irrigation.

Local produce for sale at the farm gate on Bryher.

- **Genetic diversity:** The long-term use of the islands to produce significant numbers of flowers has led to the development of specific Scilly varieties that are suited to the environmental conditions on the islands (that is, salt tolerance and the climatic conditions). The Soleil d'Or is the most well-known narcissus.

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

- **Regulation soil erosion:** All the soil types within the NCA are susceptible to erosion from wind and water. Soil erosion from surface water flow is a problem during the preparation of land for bulb production, due to the sandy nature of the soil. Eroded soils are often nitrogen rich; this can then have a detrimental impact on water quality, including the seawater.

- **Regulating soil quality:** Soil quality has reduced significantly through the focus on developing early flower production. Friable soils and regular working have decreased the quality and, in particular, the organic content. This loss of quality is supplemented by use of nitrates to promote flower growth.

- **Regulating water quality:** Water quality is a significant issue due to a legacy of the use of nitrates, some of which has washed into the groundwater. Water quality is regulated by diluting nitrate-rich aquifer water with desalinated water on St Mary's, but water quality remains a significant issue on most of the islands.

- **Regulating water flow:** Water conservation is an important aspect on the islands, especially due to the expansion of visitor accommodation and changes to agriculture (for example increased cattle numbers). Both domestic and agricultural use of water is increasing. The demand – teamed with rapid water pathways across the land, which have resulted in localised flooding – means that significant strain is placed on the water supply system on the islands.

- **Pollination:** The diversity of natural habitats and species on the islands supports a large number of insects that in turn pollinate the early vegetables and flower crops. The islands have achieved a varroa-free status from the Department for Environment, Food and Rural Affairs. The islands support their own species of bumblebee, the Scilly bee, which is known to provide pollination. Beekeeping has seen a small increase on the islands following an awareness campaign.

- **Regulating coastal flooding and erosion:** The risk of coastal flooding is significant in the low- lying areas of St Mary's, especially around Porth Cressa and Old Town, and on many of the other islands. With an expected increase in sea level, the islands' resilience will be further tested.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** The Isles of Scilly have a strong sense of place, heavily influenced by their maritime location, set out in the Atlantic approximately 45 km from Cornwall. The shallow seas between the islands lapping on rock-strewn beaches and their rugged coastline are particular characteristic features. The ancient field patterns, highlighted by the tall fences of the bulb production fields, and the nestled hamlets and farmsteads give a very intimate nature. The sense of place is enhanced by the constant influence of the Atlantic and the oceanic waves breaking. This rugged, remote environment, with its complex mix of natural features and a bustling community, continues to be an inspiration for many artists, writers, poets and photographers.

- **Sense of history:** The area has a rich cultural heritage stretching back at least 4,000 years. The islands have one of the richest archaeological records in western Europe from Neolithic/prehistoric tombs, cairns and standing stones and defences spanning the centuries from the Tudor period to the

Second World War. In particular, the area has excellent examples of now submerged prehistoric field systems, demonstrating the significant change caused by rising sea levels.

- **Tranquillity:** The remoteness and isolation of the area, the lack of roads and large-scale infrastructure, the limited development and light pollution and the dominance of the sea lead to a high level of tranquillity.

- **Recreation:** Tourism is the main industry on the islands; the recreation opportunities for both organised and self-guided enjoyment are large and well documented. The network of permissive pathways and open land allow access to the many areas of white sandy beaches. The shallow seas between islands lend themselves to watersports such as swimming, diving, snorkelling, sailing, gig rowing and canoeing.

- **Biodiversity:** The islands and surrounding seas are rich in biodiversity, with 26 SSSI covering approximately 35 per cent of the islands. The islands' seabird populations are internationally important and are designated as a Ramsar site and an SPA. A recent survey has shown the presence of 18 priority habitats, including lowland heathland, coastal sand dunes and coastal vegetated shingle, and over 200 priority species. The islands' marine environment is particularly rich, with surveys revealing a complex and varied distribution of marine habitat types. This has led to the recognition of the richness of the area and the designation of a marine SAC and an MCZ for subtidal and intertidal features such as sand banks and rocky reefs.

- **Geodiversity:** The underlying hard granite geology provides boulder-strewn beaches with large rocks and is also the underlying geology of hundreds of small islands. Granite is the main constituent of the marine sands and gravels, giving the area its famous white sands. The formation of the tombolas between the islands is nationally important, having informed thinking on the development of coastal geomorphology associated with flooded dune systems.

Bee keeping on Scilly.

Statements of Environmental Opportunity

SEO 1: Protect and manage the rich cultural and natural heritage of the Isles of Scilly. Increase enjoyment and understanding of the biological, geological and cultural heritage, including the islands' strong sense of place, tranquillity and remoteness.

For example, by:

- Establishing and sustaining appropriate grazing levels to maintain and increase the diversity of open habitats, focusing on heathland and grassland.
- Establishing viable populations of hardy livestock breeds suited to the conditions of the landscape and the requirements of the heathland habitat.
- Conserving, interpreting and understanding the islands' many archaeological earthworks and sub-surface and marine archaeology, while recognising the high potential for undiscovered remains of prehistoric and later land use across the islands.
- Conserving and enhancing, through careful management, the historical environment of the islands' area, including its designated and undesignated historical assets, and the landscape's potential to reveal the prehistoric and later archaeology of land use and settlement.
- Enhancing the interpretation of the islands' historic features in recognition of the area's importance as one of the most highly concentrated areas for archaeological artefacts in western Europe.
- Providing interpretation and access to the geology and geomorphology of the area, ensuring that the features remain accessible to enable study and understanding of the islands' development.
- Protecting the varied marine archaeology around the islands that demonstrates not only the rich maritime history but also the changes in climate that the islands have experienced.
- Increasing understanding of the cultural and biodiversity importance of the historical field systems, demonstrating how they provide connectivity for habitats and species.
- Identifying and realising opportunities to conserve and enhance the outstanding natural and scenic beauty of the area in line with the aims and aspirations of the Isles of Scilly AONB Management Plan.

SEO 2: Understand, plan for and manage the impact of climate change on the Isles of Scilly, especially securing sustainable management of biodiversity and the historical, marine and coastal environments. In particular, consider the implications on the islands' water and use.

For example, by:

- Undertaking research to evaluate the potential impacts of climate change on biodiversity (terrestrial and marine), archaeological and historical resources, tourism, settlement, infrastructure and farming.
- Adapting to identified threats, including engineering works in accordance with the Shoreline Management Plan, strategic coastal realignment and conservation of natural and cultural resources.
- Considering the implications of climate change on the fishing and farming industries and investigating ways of adapting and benefiting from the changes, for example crop changes and changes in crop timing. Consider, in partnership with the islands' farmers and tourist industry, the impact of changing farming practices and tourism enhancements on the islands' water supply, and promote rainwater gathering and use where suitable.
- Recognising that planning for change due to natural processes, such as sea level rise and increased rainfall events and periods, may also be required, though some losses may be offset by habitat creation.
- Implementing a regular species and habitat-monitoring programme to ensure that suitable information is available to underpin decisions.
- Investigating and promoting the sustainable management of 'blue carbon sinks' such as seagrass beds. This would conserve a special feature of the AONB and would mitigate the effect of carbon emissions.

SEO 3: Protect, manage and enhance the distinctive farmed landscape, retaining the balance of productive mixed farmed landscape and diversity of habitats and associated species. Retain the intimate mosaic of productive fields, unimproved heathland and grassland.

For example, by:

- Continuing to develop markets for the islands and the production of high-quality food, supporting fishing and farming at a sustainable level with grazing and cultivation regimes that lead to improved soil quality, reduce soil erosion and benefit biodiversity.
- Encouraging the use of local products, for example locally caught crabs and rare breed beef from the heathland, within suitable businesses and ensuring that links to the landscape are promoted.
- Maintaining the tradition of market gardening and horticultural production, increasing sustainability in the processes where possible.
- Using the export of flowers to promote the importance of the islands for biodiversity, landscape and the historical environment and demonstrate the links between the industry and the protection/ enhancement of these features.
- Managing invasive species and developing strategies for removal of any existing invasive, non-native species, focusing on those that are impacting on the unique habitats and species on the islands. This would include rat removal to benefit seabird populations.
- Encouraging sustainable grazing regimes on permanent pasture and rough land, particularly on the coastal fringes and on the uninhabited islands.
- Achieving and maintaining the rat-free status of the off islands, which provide ideal nesting sites for many pelagic seabirds.
- Supporting local initiatives to share information, training and knowledge, to continue to add value to Isles of Scilly products, for example through the Farmers' and Growers' Initiative.
- Encouraging farm businesses to embrace their role as managers of the islands, to promote the important messages of sustainability that are so necessary on islands.

SEO 4: Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; promoting water conservation initiatives to visitors and communities; and managing land to reduce soil erosion and water pollution.

For example, by:

- Using water in an efficient way to minimise pressure on borehole supplies and championing water conservation through, for example, rainwater harvesting.
- Investigating the viability and appropriateness of different renewable energy sources, including solar, wind, and wave and tide energy, to reduce the dependence on fossil fuel.
- Seeking opportunities to fund initiatives that promote sustainable environmental tourism, which enables understanding and enjoyment of the islands' natural habitats and cultural landscapes.
- Educating and inspiring people about the principles of sustainability and demonstrating to them the effect that these principles have within an island context.
- Seeking opportunities to fund initiatives that promote the messages of more sustainable island life through working with all partnerships on the islands, for example the Tourism and Business Partnership, the AONB, and the Farmers' and Growers' Initiative, through campaigns such as Keep Scilly Special.
- Allowing natural vegetation to stabilise the soil and filter water to improve the islands' water quality.
- Replacing lost hedgerows or re-positioning gateways where they can impede water flow, to reduce soil erosion and agricultural run-off.

Additional opportunities

1: Conserve and, where necessary, restore the diverse marine environment around the islands.	2: Increase access to information relating to the islands to allow decisions to be made on best available evidence.
For example, by: ■ Carrying out further research to map the distribution of locally important and protected marine features, and to monitor invasive species such as wireweed. ■ Protecting and promoting the ongoing sustainable management of fisheries associated with the islands. ■ Encouraging sustainable recreational access to the marine environment around the Scillies, without damage or disturbance to marine wildlife. ■ Ensuring that marine developments, for example future renewable energy devices, are placed sensitively and with regard to the need to protect sensitive marine biotopes around the islands. ■ Seeking opportunities to improve water quality in coastal waters around the archipelago, in particular by improvements in the treatment and discharge of sewage.	**For example by:** ■ Promoting opportunities to tell the stories of the islands, their development and their current use, highlighting future threats. ■ Supporting the need for continued appropriate access to the islands to ensure that business investment can be realised to benefit the environment. ■ Seeking opportunities to improve access to information about the natural environment through development of both traditional and web-based interpretation.

Supporting document 1: Key facts and data

Total area: 1,638 ha

1. Landscape and nature conservation designations

The Isles of Scilly form an archipelago of more than 200 low-lying islands and rocks. All the islands and outcrops are both an Area of Outstanding Natural Beauty (AONB) and a Heritage Coast with both designations covering an area of 1,638 ha.

Management Plans for the protected landscape can be found at:

- www.ios-aonb.info/

Source: Natural England (2011)

1.1 Designated nature conservation sites

The NCA includes the following statutory nature conservation de1signations:

Tier	Designation	Name	Area (ha)	Percentage of NCA
International	Ramsar	Isles of Scilly	373	23
European	Special Protection Area (SPA)	Isles of Scilly SPA	373	23
	Special Area of Conservation (SAC)	Isles of Scilly Complex (terrestrial part) SAC	142	9
National	National Nature Reserve (NNR)	n/a	0	0
National	Site of Special Scientific Interest (SSSI)	A total of 26 sites wholly or partly within the NCA	493	31

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.

Parts of the SPA and SAC overlap and the whole of the SPA and the terrestrial part of the SAC are also designated as SSSI.

There are no local sites in the Isles of Scilly NCA.

Source: Natural England (2011)

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

1.2 Condition of designated sites

SSSI condition category	Area (ha)	Percentage of SSSI land in category condition
Unfavourable declining	0	0
Favourable	249	49
Unfavourable no change	0	0
Unfavourable recovering	243	51

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 NCA is on average 17 m above sea level with a maximum elevation of 51 m and a minimum of -0.2 m below sea level.

Source: Natural England (2010)

2.2 Landform and process

There are more than 200 low-lying granite islands and rocks scattered across 200 sq km, set out in the Atlantic 40 km south-west of Land's End. The granite has weathered to form coastal tors and other landforms.

Source:Isles of Scilly Natural Area Profile, Isles of Scilly Countryside Character Area description

2.3 Bedrock geology

The islands are formed of fine- to coarse-grained granite and are part of the Cornubian Batholith, a large body of igneous rock which was intruded during the Carboniferous-Permian at the end of the Variscan Orogeny (mountain-building episode). There is a small area of Tertiary gravels on St Martin's.

Source: Isles of Scilly Natural Area Profile, Isles of Scilly Countryside Character Area description, British Geological Survey maps

2.4 Superficial deposits

During the Quaternary, deposits (alluvium), head (periglacial soil and scree deposits) and blown sand were laid down. Glacial till from the Irish Sea ice sheet is found on St Martin's and Tresco. There are also raised beach deposits which illustrate previous sea level changes. Peninnis Head SSSI forms a prominent cliff headland on the south side of St Mary's and is significant for Quaternary geomorphology including granite tors and other weathering features.

Source: Isles of Scilly Natural Area Profile, Isles of Scilly Countryside Character Area description, British Geological Survey maps

2.5 Designated geological sites

Tier	Designation	Number
National	Geological Site of Special Scientific Interest (SSSI)	4
National	Mixed interest SSSI	7
Local	Local Geological Sites	0

Source: Natural England (2011)

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

2.6 Soils and Agricultural Land Classification

The soils of the Isles of Scilly are poorly formed and acidic; the arable/bulb fields are situated on sandy soils.

Source: Isles of Scilly Natural Area Profile

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	n/a	n/a
Grade 2	n/a	n/a
Grade 3	n/a	n/a
Grade 4	n/a	n/a
Grade 5	n/a	n/a
Non-agricultural	n/a	n/a
Urban	n/a	n/a

Source: Natural England (2010)

Maps showing locations of sites can be found at: http://magic.defra.gov.uk – select 'Landscape' (shows ALC classification 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)
n/a	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.

3.2 Water quality

The islands have not been identified as a Nitrate Vulnerable Zone.

Source: Natural England (2010)

3.3 Water Framework Directive

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

4. Trees and woodlands

4.1 Total woodland cover

The NCA contains 54 ha of woodland (3 per cent of the total area), of which none is ancient woodland.

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

4.2 Distribution and size of woodland and trees in the landscape

The Isles of Scilly are largely treeless and windswept. There are conifer belts on Tresco around the Garrison and on St Mary's on the hillsides below Maypole. Remnant elm woods occur in the sheltered valleys on St Mary's.

Source: Isles of Scilly Countryside Character Area Description

4.3 Woodland types

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

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

Woodland type	Area (ha)	Percentage of NCA
Broadleaved	18	1
Coniferous	10	1
Mixed	24	1
Other	2	<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	n/a	n/a
Ancient re-planted woodland (PAWS)	n/a	n/a

Source: Natural England (2004)

5. Boundary features and patterns

5.1 Boundary features

Boundary features in the Isles of Scilly NCA are typically evergreen hedges (locally referred to as fences) and stone walls.

Source: Isles of Scilly Countryside Character Area description; Countryside Quality Counts (2003)

5.2 Field patterns

Fields form a unique pattern of small bulb fields enclosed by evergreen hedges (Escallonia, Euonymus, Pittosporum and Hebe) intermixed with areas of pasture enclosed by stone walls. These areas are complemented by a fringe of unenclosed heathland.

Source: Isles of Scilly Countryside Character Area description; Countryside Quality Counts (2003)

6. Agriculture

Due to the small size of this NCA and the small number of holdings the agriculture census data is not judged to be reliable. Therefore the following sections only indicate the trends in data and not the actual figures.

6.1 Farm type

Holdings are predominantly based on horticulture with a few holdings starting to diversify into livestock management.

6.2 Farm size

Farm size on the Isles of Scilly is very small specialising in intensive horticulture.

6.3 Farm ownership

The majority of farms on the islands are owned by the Duchy of Cornwall and run by tenants on varying length tenancies.

6.4 Land use

The land is predominantly used as grass and uncropped land (which includes grassland, sole-rights rough grazing and uncropped arable land and set-aside land).

6.5 Livestock numbers

Livestock numbers on the islands are starting to increase with the support of the Duchy of Cornwall and Natural England to support conservation grazing schemes.

6.6 Farm labour

Due to the small size of this NCA extrapolated Agricultural Census figures are not judged to be reliable.

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

A valuable facet of the Isles of Scilly's vegetation is that, in many places, there is a complete natural succession from the foreshore up to the tops of the hills. In low lying areas, one can move from sand dunes through species-rich maritime grassland and beyond to higher ground covered with waved heathland. On many of the islands the transition is from rocky shores and boulder beaches to steep sea cliffs topped by maritime heath and grassland. In some locations the coastal habitats are backed by predominantly freshwater systems, supporting wet grassland, pools, marshland and swamp vegetation. Elm hedgebanks and copses represent a significant habitat for birds and epiphytic lichens and are also of interest since the mainland has lost a great

deal of its elms due to Dutch elm disease. The many shelter belts also provide cover for the many migrant bird that use the islands as a landfall, especially in the autumn. The Isles of Scilly contains many excellent examples of important habitats such as lowland heathland and maritime cliff and slope. The islands exhibit a diversity of marine, shallow water and intertidal habitats with an associated richness of algal and invertebrate communities and species. The sediment shores and eel grass beds are particularly rich, including many animal species usually having a more southern distribution.

Source: Isle of Scilly 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
Maritime cliff and slope	418	26
Coastal vegetated shingle	54	3

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

Only the islands of St Mary's, St Agnes, St Martin's, Tresco and Bryher, covering 14 km2, are inhabited.

Source: Source: Isles of Scilly Countryside Character Area description; Countryside Quality Counts (2003)

8.2 Main settlements

Hughtown on St. Mary's forms the principal settlement with small hamlets and solitary farmhouses. There are tiny settlements on St Agnes (Middle Town), Higher Town on St Martin's island. New Grimsby harbour has granite cottages which link the main settlements on Tresco.

Source: Isles of Scilly Countryside Character Area description; Countryside Quality Counts (2003)

8.3 Local vernacular and building materials

Small hamlets of austere older granite buildings and rendered colour-washed modern ones are characteristic of the five populated islands.

Source: Isles of Scilly Countryside Character Area description; Countryside Quality Counts (2003)

9. Key historic sites and features

9.1 Origin of historic features

There are distinctive Tudor and Napoleonic war fortifications on prominent sites, chambered barrows and standing stones of the late Neolithic/early Bronze Age period. The islands were fortified in the 16th century and Star Castle is the most

obvious surviving feature of that period. Monastic holdings were acquired by lay lords during the same time. A ship building industry was developed in the early 19th century. The islands were fortified during the world wars. Tourism has also developed especially after the Duchy of Cornwall sold the freeholds of Hugh Town in 1949.

Source: Draft Historic Profile, Countryside Quality Counts, Isles of Scilly Countryside Character Area description

9.2 Designated historic assets

This NCA has the following historic designations:

- 1 Registered Parks and Garden covering 38 ha
- No Registered Battlefields
- 240 Scheduled Monuments
- 128 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

- None of the NCA is classified as being publically accessible.
- There are no public rights of way.
- There are no National Trails within the Isles of Scilly NCA.
- Rights of way legislation does not apply to the Isles of Scilly

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)	n/a	n/a
Common Land	n/a	n/a
Country Parks	n/a	n/a
CROW Access Land (Section 4 and 16)	n/a	n/a
CROW Section 15	n/a	n/a
Village Greens	n/a	n/a
Doorstep Greens	n/a	n/a
Forestry Commission Walkers Welcome Grants	n/a	n/a
Local Nature Reserves (LNR)	n/a	n/a
Millennium Greens	n/a	n/a
Accessible National Nature Reserves (NNR)	n/a	n/a
Agri-environment Scheme Access	n/a	n/a
Woods for People	n/a	n/a

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) the islands are of medium to high tranquillity, with St Martin's and Tresco being the most tranquil.

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

Tranquillity	Score
Highest value within NCA	37
Lowest value within NCA	-21
Mean value within NCA	4

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 that the southern parts of Tresco and St Mary's are intruded by visual and auditory intrusion but that the rest of the islands are not intruded upon. A breakdown of intrusion values for this NCA is detailed in the table below.

Intrusion category	1960s (%)	1990s (%)	2007 (%)	Percentage change (1960s-2007)
Disturbed	n/a	n/a	31	n/a
Undisturbed	n/a	n/a	69	n/a
Urban	n/a	n/a	n/a	n/a

Sources: CPRE (2007)

Notable trends from the 1960s to 2007 are not applicable to this NCA (due to the lack of baseline data).

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

12 Data sources

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

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

Supporting document 2: Landscape change

Recent changes and trends

Trees and woodlands

- Trees are not common on the Isles of Scilly due to shallow soils, salt and water-laden winds. However, Monterey pine and cypress act as shelterbelts for the gardens on Tresco and for some agricultural land on St Mary's. These are replaced with young specimens as the older trees die or become unstable due to wind blow. This changes the landscape significantly, opening up different views.

- Unlike much of the mainland, English elms continue to thrive on the islands with magnificent examples and elm copses present on St Mary's. Dutch elm disease has never been recorded on the islands. Some of these areas of woodland have been brought into management over the last 10 years to enhance their biodiversity and structure.

- Woodland cover currently accounts for 3 per cent of the NCA. No new planting schemes are proposed which is in keeping with landscape character.

Boundary features

- Tall green *Hottentot fig* boundaries (locally known as fences) are a significant landscape feature sheltering the small fields of bulbs and vegetables. Replanting of these has occurred because of loss due to frost and inclement weather. New fences are planted to sub-divide and create new flower fields. Higher Level Stewardship has enabled management of boundary features, in particular hedges and walls allowing their repair, replacement and maintenance.

Elm hedges line many of the roads on St Mary's.

- The Pushing the Boundaries Project, commissioned by the Isles of Scilly Area of Outstanding Natural Beauty (AONB) Partnership, included an assessment of the historic significance of traditional stone field boundaries in Scilly. This historic environment survey recorded the current condition of the walls and prioritised those for future repair or restoration work.

Agriculture

- Agriculture on the islands has traditionally been a mix of bulbs/flowers, animals (beef and pigs) and vegetables. However, over the last 20 years flower breed development, mechanisation and growing techniques have led to the need for growers to specialise. This change has resulted in some land falling out of agricultural use and has led to a more intensive use on other sections.

- Horticulture (flowers, vegetables) is still an important land use. Over the last five years cattle, hardy breeds such as Red Devons have been re-introduced to restore important conservation habitats and to help manage the necessary fallow period in the bulb rotation. This reduces reliance on chemicals. The introduction of grazing animals also provides a source of locally produced meat.

Settlement and development

- Recent development on the islands has focused on the improvement of island infrastructure such as the Porth Cressa regeneration project in Hugh Town, the New 5 Islands School the mixed-use development of Abbey Farm Tresco, and the proposed enlargement of the Quay in St Mary's.

- There is no open market housing development on the islands and occupancy restrictions apply to any new dwellings. These focus on key workers that provide vital services to the islands. There is acute pressure to provide housing for local key workers and suitable areas are identified in the Local Plan.

Semi-natural habitat

- The islands' seabirds and their terrestrial habitats are designated as a Ramsar site making them of international importance. This is supported by the designation in 1996 of Isles of Scilly Special Protection Area (SPA). Since the designation of these sites for seabirds, the populations have declined by 24 per cent. This is due, in part, to decline in food availability and predation at nest sites by rats. The seas around Scilly are designated as a Marine Special Area of Conservation (SAC) and a Marine Conservation Zone (MCZ).

- Forty-nine per cent of the SSSI are in a favourable condition with the remaining 51 per cent described as unfavourable recovering. This will mean that many of the sites are improving in condition some through the re-introduction of appropriate management including the re-introduction of cutting and grazing regimes.

Historic features

- The Island of Samson is a scheduled landscape to protect and conserve its complex historic environment. This brings greater protection to the landscapes of this important uninhabited island.

- Some of Scillies' Historic Monuments appear on the Historic Monuments 'at risk register' citing a variety of reasons for inclusion including erosion invasive vegetation, dumping and neglect.

- Historic features are considered for protection, consolidation and repair through Higher Level Stewardship and the historic use and importance is reflected in planning decisions through the materials to be used or the size of an addition to a building.

Coast and rivers

- Evolution of the shoreline is usually gradual but occasionally rapid and dramatic. This dynamic change often represents the greatest threat to coastal communities. St Mary's, particularly Hugh Town, is extremely vulnerable to waves overtopping existing defences and quaysides. There is a particularly high likelihood of inundation during storm surges due to its Atlantic facing location and its construction on a low-lying area. This is becoming a more regular occurrence over the last 20 years. Increased storminess also affects vegetation by providing salt burn on a wide number of salt intolerant species.

- Rising sea levels are increasingly threatening the fresh water supply through saline creep and direct contamination on St Mary's and on the off islands through saline creep. A continuous 'hold the line policy' is in place around Hugh Town harbour, however the overall intent of the Shoreline Management Plan is a significant adaptation of the entire Hugh Town settlement in the longer term due to sea level rise and climate change impacts.

Drivers of change

Climate change

- Potential sea level rise would impact the islands infrastructure by affecting the road network and in particular, the main link between the airport and the Quayside in St Mary's. Sea level rise will also impact on the coastal habitats including the sand dune systems.

- A temperature increase may change the diversity of the islands' ecosystems through the increase in some species more tolerant of a warmer climate and the loss of those that are unable to adapt. This is also likely within the marine environment with increases in Mediterranean species. These changes may also provide increased localised food sources for the islands' nesting sea birds.

- Increased storm intensity will erode coastal habitats, archaeological features and island infrastructure. Increased wave energy will speed the erosion of landscape features, such as the granite outcrops (which will still remain slow in general terms) and impact on the vegetated fences and small woodlands of the islands.

North-west storms.

- Potential changes in rainfall intensity and pattern will affect the type of crops grown, for example drought-tolerant varieties. This combined with reductions in chemical use, due to the increase cost associated with importing it, may lead to landscape change.

- Increased drought conditions will put further pressure on the islands' water supply and the need to increase the reliance on desalinised seawater.

Other key drivers

- Pressure to develop the islands is low; however, attention needs to be applied to ensure that any enhancements consider the overall sensitivity of the landscape and the natural environment.

- There is a need to ensure agriculture retains an important role in the islands' economy while continuing to include the management of unimproved and semi-improved habitats as part of the islands' agricultural system.

- The natural environment has an important role to play in the continued economic prosperity of the islands, as it is the main reason that people visit them.

- Manage appropriately that land on the off islands that provides the important nesting sites for sea bird populations.

Porthcressa beach in a winter storm.

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.

Cattle being moved between fields on St Martins.

Statement of Environmental Opportunity	Ecosystem service: Food provision	Timber provision	Water availability	Genetic diversity	Biomass provision	Climate regulation	Regulating water quality	Regulating water flow	Regulating soil quality	Regulating soil erosion	Pollination	Pest regulation	Regulating coastal erosion	Sense of place / Inspiration	Sense of history	Tranquillity	Recreation	Biodiversity	Geodiversity
SEO 1: Protect and manage the rich cultural and natural heritage of the Isles of Scilly. Increase enjoyment and understanding of the biological, geological and cultural heritage, including the islands' strong sense of place, tranquillity and remoteness.	↗ *	↑ **	↔ **	↔ **	○ **	○ **	↔ **	↔ **	↔ **	↔ **	↔ **	↔ **	↗ **	↗ **	↗ **	↔ **	↔ **	↗ **	↗ **
SEO 2: Understand, plan for and manage the impact of climate change on the Isles of Scilly, especially securing sustainable management of biodiversity and the historical, marine and coastal environments. In particular, consider the implications on the islands' water and use.	↔ **	↔ **	↗ **	↔ **	↔ **	↗ **	↗ **	↗ **	↗ **	↗ **	↔ **	↔ **	↗ **	↗ **	↔ **	↔ **	↔ **	↗ **	↔ **
SEO 3: Protect, manage and enhance the distinctive farmed landscape, retaining the balance of productive mixed farmed landscape and diversity of habitats and associated species. Retain the intimate mosaic of productive fields, unimproved heathland and grassland.	↗ **	↔ **	↘ **	↗ **	↗ **	↔ **	↗ **	↗ **	↗ **	↗ **	↗ **	↔ **	↔ **	↔ **	↔ **	↔ **	↔ **	↗ **	↔ **
SEO 4: Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; promoting water conservation initiatives to visitors and communities; and managing land to reduce soil erosion and water pollution.	↗ **	↗ **	↔ **	↔ **	↔ **	↔ **	↗ **	↗ **	↗ **	↗ **	↗ **	↔ **	↔ **	↗ **	↗ **	↗ **	↗ **	↗ **	↗ **

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

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

Landscape attributes

Landscape attribute	Justification for selection
A hard geology that leads to a dramatic rugged coastline of headlands, low cliffs, boulder-strewn sandy beaches, bays, reefs and shallow warm seas.	■ The openness and low-lying nature of the area enables long views across land and sea that creates a sense of remoteness and freedom. ■ The presence of the marine environment influences all aspects of the island. ■ The islands are visually outstanding with the entire area designated as AONB and recognised as Heritage Coast. ■ Granite carved by wind, rain and tide forms striking outcrops that dominate the natural landscape. ■ Many of the SSSI include a geological or geomorphological feature.
A largely treeless and wind-swept landscape.	■ Small clusters of pine, providing shelter, as on Tresco and elm in the sheltered valleys on St Mary's. The rest of the islands have few trees and shrubs that retain long open wind-swept views. ■ Tall hedges of evergreen shrubs surround the small bulb fields adding to the intimate feel of the agricultural areas.
An open coastal fringe of heathland and maritime grassland gives way to small enclosed fields with tall hedges and stone walls.	■ The coastal fringe has unfortunately been suffering from neglect that has led to bracken encroachment over much of the area. ■ Cattle are increasingly becoming a feature of the management of the coastal grassland and heathland with hardy breeds being favoured due to their ability to survive this harsh environment. ■ Much of this natural coastal fringe is designated as SSSI.
A long history of human occupation is evident in the numerous heritage assets found across the islands.	■ One of the greatest concentrations of archaeological sites in western Europe. ■ The story of human occupation is told by the many and often protected assets (Star Castle and Garrison) and landscapes such as Samson. ■ The megalithic barrows, excellent examples of chambered barrows and standing stones. ■ The development of small hamlets/farmsteads on the sheltered eastern facing slopes on the off islands shows the way that habitation has developed to cope with the maritime conditions. ■ The pattern of small fields surrounded by high hedges associated with the flower industry has developed since the mid-19th century.

Landscape attribute	Justification for selection
A landscape of great tranquillity and calm with dark skies.	■ The Isles of Scilly location 45 km from the mainland provides a sense of remoteness used by many for inspiration and as a means of escape. Currently St Martin's is the most tranquil section of the NCA. ■ The islands are classified by CPRE as suffering from medium intrusion. ■ The islands benefit from excellent dark skies due to minimal light pollution.
A network of footpaths and extensive opportunities for open access.	■ The network of about 200 km of private paths criss-crossing all the islands provide access to many of the bays and beaches which are so typical of Scilly. ■ The calm waters around the islands provide an excellent opportunity for diving, canoeing and sailing.
The close relationship with the marine environment and the challenges that islanders face.	■ The regular passage of small boats supplying the islands and the inhabitants. ■ A small number of inshore fishing boats that supply local restaurants. ■ The marine environment often dictates and affects the daily lives of the islanders especially in the winter during storm events.
Small farms at the centre of clusters of small fields used for growing flowers and vegetables.	■ The small fields provide an intimate pattern to the landscape. ■ Small hamlets have been established in sheltered areas that provide access to the farms and the marine environment.

Landscape opportunities

- Maintain the important links between food, farming, tourism and the islands' unique environment.
- Actively engage with local business and communities to develop the area's tourist industry to maintain the existing high-quality landscape and wildlife assets. Consider opportunities for developing techniques to enhance the understanding of the area through provision of both physical and virtual information.
- Appropriately manage the area's rich cultural heritage, most notably remains of settlements, field systems, ritual monuments, enclosures and earthworks.
- Seek opportunities to enhance access to and increase awareness of visitors and local people to the links between the historic environment, geodiversity and biodiversity.
- Conserve the islands' local distinctiveness – with exposed open heathland and a spectacular, coastline, mixed agriculture and horticulture and associated small fields and products (flowers and vegetables) and historic settlements.
- Work with those managing the agriculture and horticulture on the islands to reduce reliance on chemical fertilisers to maintain the high-quality flower industry including considering ways of integrating modern and traditional farming practices.
- Consider ways in which the island vegetation can improve both water quality and decrease flow rates making greater quantities available to use on the islands. This may include creating/re-establishing dewponds.

Sunset over Tresco.

- The views and environment of the islands are a main draw supporting the tourist industry across the islands and this should be maintained.

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	High-quality meat products Variety of vegetable crops Fish and shellfish from shallow seas	The climate on the islands and the small fields lend themselves to the production of high value vegetable crops in small quantities produced earlier than on the mainland. While farm size is reasonably stable on the islands due to life and hereditary tenancy agreements offered by Duchy of Cornwall. Specialisation of crops is occurring which is diluting the mosaic of crop types. There is a local fishing industry based around lobsters and other shellfish for use in local restaurants with small amounts exported to the mainland at Newlyn. Currently the majority of foodstuffs for the population are imported.	Regional	Farming and horticulture is difficult on the islands because of location and limited freight links to the mainland. Limited agricultural land due to salt-laden winds, sandy soils and small fields all of which restricts the types of crops that are grown. Many Scilly farmers produce a wide range of horticultural crops (such as lettuce, asparagus, strawberries, potatoes) from the rich soils. Much of this is sold either at the roadside or to local businesses. The warm frost-free climate also means that early crops are readily achievable and much early produce (potatoes, and small amount of salad vegetables) exported to the mainland. Water use for agriculture is a main issue on the islands due to the small amount of water available and the water-hungry crops produced. Historic over-use of chemicals associated with the production of bulbs has led to impact on the islands' water quality. **Continued over...**	Continue to support a diverse and sustainable agricultural base for the islands that focuses on providing high-quality products into the island supply chain. Scilly has a great opportunity to promote a wide variety of quality products to the many visitors to the island. This can be further developed into a brand 'taste of Scilly' and promoted to the retail and hotel trade on the mainland which emphasises the links to the environment of the islands. Seek opportunities to develop an abattoir on the islands to support the growing livestock sector. Ensure that when meat is produced from conservation grazing schemes, the messages about the enhancement of the islands' environment that the animals have contributed to is clear. **Continued over...**	**Food provision** **Sense of history** **Biodiversity** **Regulating water 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.** Cattle grazing is becoming an important tool for the management of the nature conservation sites on the islands (St Mary's, Tresco, Bryher, Samson, St Martin's) Hardy stock (Ruby Reds) are being used to manage semi-natural habitats and bulb fields and these are very suited to the islands climate. Development of local supply and processing focused on sustainable management.	**...continued from previous.** Ensure that the fishing industry is included in any sustainable food initiatives and consider developing local handling facilities to ensure more of the catch stays on the islands. Increase the water storage and decrease water use within the farming system by ensuring continuous vegetation cover and minimal cultivation.	
Timber provision	Small areas of woodland and patches of stunted wind-pruned scrub	There are small copses, within the sheltered areas. Existing woodland cover is made up of shrubs planted for shelterbelts for the small flower fields. Many of the mature trees are elms which provide added interest and diversity and potentially small amounts of timber.	Local	The small copses in the sheltered areas should be managed to maturity to maximise the biodiversity and landscape benefit that these can provide. Timber is only available from occasional felling of elm trees and pines, through hedge management and scrub clearance of Hottentot fig that has taken over in abandoned fields. Hottentot fig is slowly escaping from the farmed environment, decreasing the area of semi-natural grasslands. Due to the tree-less wind-swept nature of the islands, there are no opportunities to plant new areas, as this would change the landscape character dramatically. There is an opportunity to ensure the existing areas of woodland remain through consideration of succession planting.	Small-scale opportunities exist to supply the artisan craft industry and as a possible wood fuel resource if sustainably managed. Opportunities exist to remove Hottentot fig and return the area to agricultural production – including grazing or restoration as semi-natural grasslands and heathland.	**Timber provision** **Biodiversity** **Sense of history**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Water availability	Streams, small ponds and marsh habitats Boreholes on off islands Seawater desalination on St Mary's	The islands are self-sufficient for water. Off islands are supplied from private boreholes with St Mary's being supplied through a combination of boreholes and from desalination. The significant increase in tourists during the summer months places a burden on the water supply and water infrastructure with predictions likely to place even more pressure on this resource. Recent changes in the weather are now influencing the quantity of water available. Changes in agriculture and the increase in stock on the islands will increase the pressure on water supply.	Local	Water availability is one of the most significant factors for the islands. There are minimal opportunities to increase the quantity of water from the islands' boreholes. Water conservation is therefore vitally important for the islands to be able to cope with increased visitors and potentially changes in agriculture such as more grazing animals. Increased development to accommodate more visitors puts greater pressure on the water supply and requirement.	Opportunities should be developed that can actively educate residents and visitors in the importance of water conservation. Consider ways that the semi-natural habitats are managed to increase their ability to store and release water. Always consider ways in which land use change will impact on the water availability of the island and ensure that the impacts are minimised. Development should actively consider ways of reducing water use through the installation of grey water systems and waste water recovery as well as water storage. These should also be considered for all agricultural developments such as barns. The impact of agricultural change needs to be considered on the water supply to ensure that nutrients are not released through changes in cultivation techniques or increases in type or quantity of chemical fertilisers. Considerations should be given to using drought-tolerant crops to reduce water use.	**Water availability** **Water quality** **Food provision** **Regulating water flow** **Biodiversity** **Sense of place / inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biomass provision	Grassland and woodland	Biomass will only be produced as a by-product of the restoration and management of heathland. There is little standing, accessible biomass in the area with no under-managed woodland. Material for use as biomass may be available through hedge and fence management and potentially from bracken clearance on the coastal fringes.	Local	There is no opportunity for the growing of miscanthus and short rotation coppice due to lack of appropriate sites and water availability for crops. Few opportunities exist for the current biomass technology. However, any future biomass production should ensure that any opportunities that are pursued enhance the biodiversity of the area and do not influence the wide range of archaeology and biodiversity on the islands.	Explore options through conservation management schemes for the use of heathland, grassland and woodland arising for small-scale biomass schemes.	**Biomass provision** **Food provision** **Biodiversity** **Sense of place / inspiration** **Sense of history**
Climate regulation	Peat soils Small areas of woodland and shelterbelts Permanent grassland and heathland	Small areas of carbon-rich peat soils exist in the marshy valleys on St Mary's, St Martin's, Tresco and Bryher. These are often associated with small pockets of woodland. Permanent grassland and heathland forms a significant belt around the edges of the islands.	Local	The small areas of peat soil and small areas of woodland provide minimal contribution to climate regulation. The intensive bulb and early vegetable production has rapidly reduced the carbon storage capacity of the soil as well as having a detrimental effect on soil structure and water retention. The use of nitrogen fertilisers on degraded soil structure increases the likely release of the greenhouse gas, nitrous oxide. Increased acidity of seawater through absorption of CO_2 and the warming of sea temperatures will affect the diversity of species surrounding the islands.	Ensure no disturbance or agricultural improvement to the small area of peaty soils and ensure that they continue to be managed to maximise their ability to store carbon. Implement ways of increasing soil organic content through mixing of manures, reducing cropping and the number of tillage operations. Consider changes to agricultural techniques to reduce use of fertilisers through more targeted application, which should provide both economic benefits and reduce net nitrous oxide emissions. Be aware of changes that are occurring to the marine environment through the warming of sea temperatures.	**Climate regulation** **Regulating water quality** **Regulating water flow** **Regulating soil quality** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water quality	Boreholes, streams and ponds Desalinated sea water Average rainfall of 850 mm	Water quality on the islands is a very important issue with water coming from boreholes and desalination. Areas of valley mire, wet heath and pools, help regulate water quality holding and cleaning water before it drains into the NCA's streams. The groundwater quality is poor throughout the area, high in nitrogen, generally reflecting the acidic nature of the bedrock and the historical widespread use of chemicals associated with the flower industry.	Local	Water quality is an ongoing issue on the islands especially St Mary's due to the need to mix desalinated salt water with groundwater to produce a potable supply. The desalination plant however is running at near maximum capacity and is very energy intensive way of producing potable water. The groundwater on the islands is high in nitrogen due to historic use of fertilisers, which seeps into the supplies. Off islands' water supplies are generally unregulated from private boreholes which although tested receive little attention. This extraction will be having a detrimental effect on the island vegetation.	Work with all farmers and land managers to deploy water protection measures from Soils for Profit and Catchment Sensitive Farming. Develop ways to ensure water use is reduced and that natural groundwater supplies are able to recharge effectively to secure a longer-term supply. Consider ways of intercepting rainwater to use for agriculture and non-domestic use. Work with farmers and growers to consider the impact of cropping practices on the water quality in particular in relation to chemical use. Consider ways in which the use of water can be restricted by the development of grey water supplies for use in for example flushing toilets.	**Regulating water quality** **Regulating soil erosion** **Regulating soil quality** **Biodiversity** **Food provision**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water flow	Small streams flowing directly to the sea Small areas of wetland habitat	Due to the small size of the islands, the fluvial pathway is very short and reactive to rainfall events. Water flows through short streams and ditches or across roads and paths straight to the sea. The small areas of wetland do retain and slow small amounts of water.	Local	Changes in precipitation cycles linked to climate change, such as increased autumn and winter precipitation and decreased summer precipitation, will potentially alter the flow regimes of the streams. Climate change could also lead to an increased risk of flooding from fields and streams. Water capture is an important part of the Scilly water cycle with much water being lost straight to the sea. This is a problem due to the water shortages that the islands face.	Opportunities should be developed for water conservation within developments and farming to ensure maximum use of grey water. Follow the principles described in the catchment flood management plans for the area. This includes enhancing and expanding areas of wetland habitats and changing land management practices to reduce soil compaction to reduce flood risk. Increase the area and water-holding capacity of wetland habitats through the introduction of active management.	**Regulating water flow** **Biodiversity** **Water availability** **Food provision** **Geodiversity**
Regulating soil erosion	Thin sandy soils	The islands contain very thin and light sandy soils, which have been heavily worked historically leading to poor nutrient retention. Their friable nature means that they are susceptible to wind and water erosion.	Local	Soil erosion from intensive cultivation as part of the flower and vegetable growing can result in high rates of sedimentation and nutrient loss which impacts on adjacent watercourses and the overall reduction in soil quality. The selection of less well suited crop types, cropping patterns, and direction of cultivation can markedly increase the risk of soil erosion. An increase in stock numbers on the islands may increase erosion around gateways and troughs, which will increase the areas that are more susceptible to erosion. Wind erosion of soils affects some areas of the islands due to the location of gaps in walls and gateways. Improving soil quality through increasing organic matter will have potential benefits in regulating soil erosion.	Investigate ways to improve crop yields through reduced soil intervention. Manage grazing regimes to reduce or minimise soil compaction and poaching. Retaining and enhancing the network of hedges and the careful consideration and relocation of gateways to ensure soil is not lost from fields into watercourses. Promote good management of top soil and employ minimum tillage techniques in locations where it may help to maintain good soil structure.	**Regulating soil erosion** **Regulating soil quality** **Food provision** **Regulating water quality** **Regulating water flow** **Sense of place / inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pollination	Horticultural crops and flowers Heathland and coastal grassland Isles of Scilly bee	The combination of agricultural/horticulture and the close proximity of semi-natural species-rich habitats and the shelter and protection afforded by the tall hedges mean that the island has a wide variety of pollinating insects providing economic and aesthetic benefit. The islands support an endemic bee – Isles of Scilly bee.	National	Pollination is vital for much of the land-based industry on the islands to provide crops and flowers for export to the mainland. The semi-natural habitats on the island provide a diversity of species, which are available throughout the year for the wide variety of pollinating insects. The islands have an endemic bee – Scilly Bee and efforts should be made to secure and expand the population.	Seek to promote the benefits provided by pollinators to both community and visitors. Continue to promote the importance of the Scilly Bee. This will include encouraging the provision of training and advice on apiary for local residents. Ensure that no bees are imported to the island and that it maintains its varroa-free status. Ensure that the endemic Scilly Bee remains an indicator of island health.	**Pollination** **Food provision** **Biodiversity**
Regulating coastal erosion and flooding	Hard granite geology Beaches and other coastal geomorphologi-cal features	The coastline comprises rugged, hard rock leading to lengths of narrow shingle beach and pocket beaches. The west-facing coast is exposed to the open Atlantic Ocean and extremely energetic waves. While erosion is slow at times, rapid change can occur when waves and high winds combine. The large number of small islands is notable for the way that they have become disconnected from the main islands due to cliff erosion and rising sea levels.	Local	Coastal erosion and increased flood risk from sea inundation is a threat to many areas of Scilly. Coastal erosion of hard granite features and west-facing beaches is placing some buildings and agricultural land at risk. At particular risk are the low-lying areas of Hugh Town and Old Town on St Mary's The shoreline management plan suggest a 'hold the line' policy is adopted for these vulnerable areas. It is important that the impact of coastal erosion and seawater inundation is understood and that a sustainable approach to management is considered with the minimal use of hard engineering to protect vulnerable services and infrastructure fundamental to the islands' links with the mainland.	Investigate and understand the impact of coastal erosion on the islands and particularly in places like Hugh Town. Seek to implement the findings of the Environment Agency's Shoreline Management Plan. Seek opportunities for low impact engineering solutions to coastal erosion.	**Regulating coastal erosion and flooding** **Sense of place/ inspiration** **Biodiversity** **Geodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of place/ inspiration	200 islands and small rock clusters Wild seas with Atlantic influence providing wide views A community adapted to living in extreme conditions	All of the Isles of Scilly is designated as both an AONB and recognised Heritage Coast. The clustering of small granite islands surrounded by internationally important marine environment provides a strong sense of place. Islands fringed by wind-swept heathland and a dramatic coastline exposed to the full force of the Atlantic. The remote and isolated character and Atlantic influence makes this area highly distinctive. A wealth of heritage assets scatters the islands. The islands' long association with maritime industry through shipbuilding, smuggling and piracy adds to the mystique of the area. The area also has strong associations with the writings of Michael Morpurgo who has written many children books based on and around the islands, which evoke many aspects of island life and links to the natural environment.	International	The sense of place and inspiration that flows from it are the main reasons people visit Scilly and with tourism providing such a large part of the economy, this is the main asset for the island. There is a strong community on the Islands both as a group and as individual islands. This sense of community reflects the need to be reactive to the harsh conditions and issues from weather and climate to transport issues. Recent initiatives from the AONB on dark skies and cultural aspects of the island have led to an increased awareness of the impact of lighting and noise on people's enjoyment of the islands.	Ensure that the important aspects and features that make up the unique character of the Scillies are conserved and enhanced, while maintaining a vibrant, viable future use and occupation of the landscape. Seek to explore appropriate opportunities to promote the sense of place associated with Scilly and ensure that any developments on the island do not detract from this sense of place. Work with the AONB and local partners to deliver the aims and objectives of the Isles of Scilly AONB Management Plan.	**Sense of place / inspiration** **Biodiversity** **Sense of history** **Tranquillity** **Recreation** **Food provision**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of history	Outstanding historic settlements such as hut circles and including megalithic barrows, chambered tombs Field systems including submerged field patterns Shift from subsistence based on the marine and terrestrial environment to specialisation	Across the islands' landscape there are numerous archaeological sites and remains, such as bronze-age barrows, chambered tombs, sub tidal track ways linking settlements, standing stones and Roman farmsteads. Other important historical features within the landscape include the small-scale fields associated originally with subsistence farming. Some field patterns that are now underwater demonstrate the rise in sea level already experienced on the islands. Tall hedges provide protection from wind and salt have enclosed these fields. There are also more substantial field boundaries constructed from granite boulders. Settlement patterns are small linear settlements hunkered in sheltered valleys across the islands and constructed from local materials.	International	The remote nature of the area has contributed to the preservation of a rich cultural heritage stretching back over 4,000 years. Some 240 Scheduled Ancient Monuments and many other non-designated sites represent one of the greatest concentrations of archaeological sites in western Europe. The heritage assets within the area contribute significantly to the visitor and tourism-based business within the area. Continued protection and enhanced interpretation of the wealth of heritage present is essential. Ancient field boundaries visible at low tide especially off Bryher, show the result of post-glacial sea level rise and the effects of climate change on these low-lying islands.	Continue to conserve and enhance both the physical remains and access and interpretation of the internationally important historic environment. This will further complement and contribute to the diversification of business opportunities across the area, and help preserve this rich heritage. Provide opportunities for increased access and recreation, learning and research and appropriately managed enhanced biodiversity interest.	**Sense of history** **Sense of place / inspiration** **Recreation** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Tranquillity	Remote and isolated archipelago Lack of major development and infrastructure Dark skies and uninterrupted views	The Isles of Scilly lack major modern infrastructure and development, preserving a tranquil and undisturbed character. However, it also contains many services in a small area including air and sea ports. The majority of the area retains a deeply tranquil character, complemented by a wealth of historic and natural assets.	National	The remoteness of the NCA ensures a high level of tranquillity enhanced by the rugged coastline and dominant sea views. Well known, as a visitor destination for its tranquillity and scenic beauty numbers of visitors can be high. At times, this can negatively affect the tranquillity of some parts of the islands with increases in boat and aeroplane traffic. Increasing tourism and changes in transport to the islands and recreational pursuits including fixed wing aircraft and jet boats/skis are affecting the peace and tranquillity of the area. The dark skies and resulting amazing views of the universe are often a major pleasant surprise to visitors, which ignites an interest.	Ensure that all opportunities relating to the enhancement of the islands do not detract or impact significantly on the tranquilly of the space, such as increased numbers of flights and changes in boat type. Maintain the low levels of light pollution by encouraging the use of street lighting only when necessary, discouraging the exterior illumination of buildings such as churches.	**Sense of tranquillity** **Sense of place / inspiration** **Sense of history**
Recreation	Beaches, coves on off islands Water-based activities 200 km of permissive footpaths Most areas accessible on foot	Tourism is an important factor on the islands providing the main economic income. The rate of increase in number of visitors has declined in recent years but tourism still places an increased burden on accommodation and infrastructure. Water-based opportunities such as sailing, windsurfing, canoeing, diving and swimming are becoming more popular. The path network is kept accessible through a labour-intensive annual programme of clearance.	National	The area is a popular visitor and tourist destination with the environment as the core component of the recreational opportunities provided. More dynamic and active recreation includes, diving, snorkelling, sea kayaking and surfing. Local food, produce, culture and tradition add to the overall experience of the area. The Isles of Scilly Wildlife Trust manages the permissive footpath network. This work is labour intensive while providing a significant benefit to visitors and the local community.	Seek all opportunities to promote the value and importance of the environment as the draw for many tourists visiting the area. Maintain the high quality of recreation access around the islands for the wide variety of passive and active recreation types.	**Recreation** **Sense of place / inspiration** **Tranquillity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity	A mosaic of priority habitats including: Lowland heathland Coastal sand dunes, coastal vegetated shingle Maritime cliffs and slopes Unimproved and semi-improved grassland Woodland Streams Ramsar/SPA, SAC, MCZ, and SSSI	373 ha (23 per cent) of the area is within the Isles of Scilly Ramsar/SPA with a further 142 ha (9 per cent) within Isles of Scilly Complex SAC designated for its habitats and grey seal population. There are 26 SSSI wholly within the NCA, covering 493 ha (31 per cent) of the area. The condition of 49 per cent of the SSSI described as being in a favourable condition with the remaining 51 per cent described as unfavourable recovering. A significant amount of habitat connectivity through the network of lanes, and scrub valleys across the islands. These provide corridors to shelter for many species. The marine environment is also very rich and is currently under consideration as a Marine Conservation Zone. Of particular note is the islands' importance for 13 species of seabirds (SPA) – since the designation of sites for seabirds populations have declined by 24 per cent. In particular, burrow nesting seabirds (storm petrel and Manx shearwater) have declined due to predation by rats, which is restricting productivity.	National	Many SSSI are in favourable biological condition; however, areas of priority habitat without designation are often degraded due to past attempts to improve the area for agricultural production. The rich marine environment on Scilly is well studied by academics and many declining trends in species abundance and diversity have been noted. Invasive and alien species are a constant threat to Isles of Scilly with many garden and agricultural escapees appearing in the wider environment including Hottentot Fig. Rats have had a significant impact on the productivity of the islands' seabirds with a decline of 24 per cent in 20 years.	Continued action should be taken to improve the condition of all important sites and habitats. Further action should be taken to increase the area of important habitats where possible, increase the connectivity of sites and habitats, and create more habitats where appropriate and possible. Opportunities should be taken to work with landowners in order to encourage the preservation and creation of good semi-natural habitats. Ensure that there is ongoing work to identify current and new alien or invasive species and where appropriate take action to prevent their spread in both the terrestrial and marine environment. Deliver a project to eradicate rats from all islands where it is feasible, to ensure that the seabird numbers increase. Continue to work with the local fishing industry to promote sustainable potting around the islands that can be used as an exemplar of resource protection.	**Biodiversity** **Sense of place / inspiration** **Climate regulation** **Pollination**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity	Low cliffs, boulder-strewn beaches and geological exposures Coastal geomorphology One active quarry on St Mary's	The predominantly granite geology of the islands underpins all aspects of the landscape. It contributes significantly to the sense of place, history, biodiversity and recreation making it a major attraction for visitors. The geology is clearly exposed and obvious on all the islands and is reflected in much of the built environment. There are 11 SSSI with geological interest.	National	The islands provide many opportunities for studying geomorphological process in action and present an excellent example of peri-glacial periods that included varying sea levels to the level we see today. This and other studies provide excellent real scenarios to allow people to understand the impacts of sea level rise. The local geology continues to be reflected in the many small hamlets and in the main settlements on the islands.	Explore opportunities to interpret the important geomorphological processes that are visible on the islands and ensure that they are not impacted on by development or change.	**Geodiversity** **Regulating coastal erosion and flooding** **Biodiversity** **Regulating soil quality** **Sense of place / inspiration** **Sense of history**

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