

Biodiversity

What is biodiversity?



Biodiversity is the diversity, or variety, of plants, animals and other living things in a particular area or region. It encompasses habitat diversity, species diversity and genetic diversity.

Biodiversity is of value in its own right and has social and economic value for human society.

Why is it important?

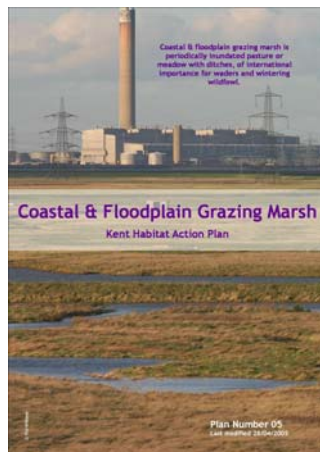
Biodiversity is our natural heritage and should be preserved for the enjoyment of future generations. It not only provides an attractive environment in which we live, work and play but it also regulates our climate and protects our coastlines.

What is being done for coastal and marine biodiversity in Kent?

The 1992 'Earth Summit' in Rio de Janeiro marked the start of the UK Government's commitment to biodiversity and in 1994 'Biodiversity: The UK Action Plan' was published. In response the Kent Biodiversity Partnership produced the Kent Biodiversity Action Plan (BAP) in 1997, which set out the first steps to conserve, enhance and restore Kent's biodiversity and make a contribution to the national targets of the UK BAP.

In 2003 the Kent Habitat survey, an audit of all UK BAP broad and priority habitats in Kent, was published. Presented in the form of a Geographical Information System (GIS), the location and area of all habitats was mapped and classified using aerial photographs and field survey. With this improved data, the 1997 Kent BAP was reviewed and updated in 2005 and can now be viewed on on-line at www.kentbap.org.uk

The Kent BAP seeks to be proactive in setting out what needs to be achieved in order to safeguard a future for biodiversity. It complements the protection of biodiversity from statutory legislation and offered by designations such as Ramsars Sites, Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Much of Kent's coastline is protected by such designations, recognising the importance of the County's natural heritage.



Kent Wildlife Trust are working to improve our knowledge of the marine and coastal species present in Kent through two survey initiatives of the intertidal and marine environments - Shoresearch and Seasearch.

Facts and figures

- There are 12 coastal and marine Habitat Action Plans for Kent.
- Kent has 1,450 hectares of saltmarsh, which represents approximately 3% of the UK resource and 4.5% of the English resource. The majority of this is found in the Medway/Swale estuaries, the South Thames and Sandwich Bay. Saltmarsh is being lost in Kent due to rising seas levels and coastal squeeze.
- There are 233 ha of coastal sand dunes in Kent, two thirds of which occur at Sandwich Bay. 80% (185 ha) of the habitat is notified as SSSI.
- Kent holds 35% (418ha) of the national resource of coastal chalk, a higher proportion than any other county.
- There are currently 242 hectares of saline lagoons in Kent, which represents 16% of the total resource for England. The largest areas are at Cliffe Pools (142ha) and Murston (46ha).
- With 8,408 hectares of intertidal mudflat, Kent holds a high proportion of the region's resource for this habitat. Most of this is contained within the Thames, Medway and Swale estuaries on the North Kent Coast. Mudflats in the past have been lost as a result of land claim.
- Around Kent there are hard (chalk) and soft (mainly London Clay, with some Gault Clay, Thanet Beds and others) maritime cliffs. Kent has 127 ha of maritime cliff and slope and the 8 km stretch of undefended coastline between Dover and Kingsdown represents the best example of vegetated chalk cliff in the country.
- Kent excels in supporting more than 40% of the UK resource of vegetated shingle and 90% of this occurs at Dungeness alone.
- There are around 6900 ha of grazing marsh in Kent. The County holds a small proportion of the total UK grazing marsh but almost 25% of the national total of semi-natural grazing marsh.
- Kent has 19,451ha designated under the Convention on Wetlands (Ramsar sites) and 27,286 ha of European statutory protected areas for nature conservation. In addition it has 38,258 ha of National and Regional statutory protected areas for nature conservation.



Important habitats for coastal and marine biodiversity in Kent



Kent is host to a wide variety of coastal and marine habitats, all of which support many important fauna and flora species. Short summaries of these habitats are given below but more information can be found at www.kentbap.org.uk

Coastal and floodplain grazing marsh are periodically inundated pasture or meadow with ditches, which maintain the water levels, and contain standing brackish or fresh water. The habitat is important for waders and wintering wildfowl and also support a diverse & interesting mixture of plants and invertebrates. The main areas of grazing marsh in Kent are found along the Greater Thames Estuary, the Swale Estuary, Dartford Marshes and Walland and Romney Marshes. Grazing marsh loss results from development, sea level rise and flood defence and its quality is affected by pollution and inappropriate management.

Coastal saltmarsh is a highly productive habitat representing a transition from sand and mudflats on the lower marsh, where vegetation is frequently inundated, through to the upper saltmarsh which is less frequently inundated. The saltmarshes of Kent are an internationally important resource for wintering and passage waders and waterfowl and breeding waders. They also support a wide range of specialist invertebrates, many of which are nationally rare or scarce. The majority of the saltmarsh in Kent is found in the Medway/Swale estuaries, the South Thames and Sandwich Bay. The Medway, Swale and South Thames saltmarshes all suffered significant reduction in the period up until 1961, due to both natural and artificial processes. Despite this Kent has eventually seen a steady recovery of this habitat, with the extent in 2002 exceeding that in 1961. This is with exception the South Thames, where there has been a steady net loss of saltmarsh since 1961.



Coastal Sand dunes form on the coast where there is an adequate supply of sediment and a beach which dries out at low tide, allowing the sand grains to be blown inland. Sand dunes are a diminishing habitat in Europe and are rare in the UK. The dunes are important for the higher plants, invertebrates and wintering passerines which they support. In Kent, the major formations are at Romney Warren and at Sandwich Bay where 90% of the UK population of the nationally rare lizard orchid occurs. Sand dunes are threatened by a variety of factors including coastal squeeze and defence, inappropriate management and erosion from recreation.

Coastal vegetated shingle occurs around 30% of the UK coast, with Kent contributing to more than 40%. The extensive shingle expanse at Dungeness holds 90% of Kent's resource, supporting many species which are rare in Britain, in particular invertebrates and vegetation. Vegetated shingle also occurs at Hythe Ranges, Kingsdown and the Isle of Grain. Vegetated shingle has a very slow recovery rate so one of its largest threats is disturbance by trampling and vehicles which erode and degrade the vegetation, damaging the natural shingle ridge patterns.

Littoral and sub-littoral chalk forms less than 0.6% (113km) of the UK coastline, yet this represents 57% of Europe's coastal chalk. Extensive chalk wave-cut platforms are found at Thanet and between Kingsdown and Dover. Thanet also supports the second most extensive chalk sea cave formations in the UK. The sea caves support rare algae and the reefs at Thanet provide wintering habitat for many birds including turnstones. The cliffs are also internationally important for geological study and fossil interest.



Saline lagoons are essentially bodies, natural or artificial, of saline water partially separated from the adjacent sea. Saline lagoons are an important and relatively scarce habitat due to the special conditions that are required for their formation. They support unique invertebrates and are important for waterfowl, marshland birds and seabirds. The majority of Kent's saline lagoon resource is on the landward side of hard sea defences, such as at Cliffe and Murston. These lagoons depend on continued saline influence through overtopping, leaky sluices and saline intrusion and would be threatened if improvements to sea walls reduced these inputs.

Mudflats are sedimentary intertidal habitats created by deposition in low energy coastal environments, particularly estuaries and other sheltered areas. Their sediment consists mostly of silts and clays with a high organic content and therefore highly productive and support large numbers of predatory birds and fish. They provide feeding and resting areas for internationally important populations of migrant and wintering waterfowl, and are also important nursery areas for flatfish. Most of Kent's mudflats are contained within the Thames, Medway and Swale estuaries on the North Kent Coast but this coverage has been much reduced by land claim and it is threatened further by coastal squeeze.



Maritime cliffs are formed by slippage and/or erosion by the sea and their vegetation is determined by the geology and degree of exposure to wind and salt spray. Maritime chalk cliffs occur along the coast between Kingsdown and Folkestone and around the Isle of Thanet, with softer clay cliffs and slopes occurring on the north side of the Isle of Sheppey, on the Isle of Grain and at Reculver. The cliffs are regionally important for cliff breeding birds (including the largest breeding colony of kittiwakes in the south east) and also support a variety of plants. Marine cliffs are also nationally important sites for studies of geology, geomorphology/coastal processes and fossils. Development and inappropriate management threaten the future of Kent's maritime cliffs.

Sublittoral marine habitat in Kent generally comprises sediment, including areas of gravel, sand, and mud and various mixtures of these which provide important spawning areas for many fish species. Mobile sand habitats support only a few highly robust, fastgrowing species, while more stable sands support many burrowing species of invertebrates and fish. Gravels can be sufficiently stable for attachment of various sessile species such as sponges and anemones. Within Kent's marine environment there are few rocky sublittoral habitats, although there are durable sandstone outcrops and boulder reefs off Folkestone, which support slower growing species, and chalk platforms around Dover, Folkestone and Thanet that are of national and international importance.

Sources of information:

- www.kentbap.org.uk
- www.vliz.be/projects/SAIL/

