

# Chichester Harbour

Chichester Harbour is an example of a dynamic coastline and shows the successful management strategies that have been used in the harbour.

Chichester Harbour is designated an area outstanding natural beauty (AONB) and a site of special scientific interest (SSSI). It consists of 31 km<sup>2</sup> of mudflats and salt marshes, sandbanks, spits and deep water channels.

## **Inputs:**

There are a variety of inputs into this harbour, the energy inputs are the waves, wind and sunlight. The coastline here is protected from the prevailing wind for the south west by the Isle of Wight, however it is exposed to the southerly gales in winter. The environment is generally low energy, with tidal currents being an important input.

Eroded material from the Solent floor is brought into the harbour by the flood tide. 90% of the harbour is protected by structures such as sea walls, rock armour and sand embankments which all help to stop erosion. Longshore drift occurs bringing in sediment from the west. Soft engineering has been used in the form of beach replenishment which has made the harbour deeper, improving navigation.

## **Processes:**

Processes that occur in the harbour include marine and aeolian erosion, transportation and deposition. These all shape the landforms in the harbour.

## **Outputs:**

The ebb tide (tide flowing outwards from the land) removes silt, clay and almost all of the sand that enters the system. About 3-4 km<sup>2</sup> of salt marsh has been reclaimed from agriculture in the last 200 years. Other outputs are as a result of dredging and marina construction.

## **Stores:**

The major stores include material held in:

- mudflats and salt marshes e.g. Nutbourne Marsh
- sea walls which may prevent flooding
- spits of shingle and aeolian sand e.g. East Head, Black Point and Ella Nore.

# Studland Heath

Studland Bay is located in the Isle of Purbeck, Dorset and is popular with tourists. It can be easily accessed by Sandbanks ferry in Poole in summer. The area is close to Swanage and is managed and owned by the National Trust.

## Facts:

- Visitors are in excess of 1 million a year, mostly within July and August with up to 25,000 per day, with 8,000 coming in from the chain ferry from Bournemouth.
- Car parks soon fill up with there being space for 3,500 cars with 1,000 parked on the road
- Rates of erosion have reached 2 meters in 2 years
- In 2008 fire caused havoc, destroying 6 acres of heathland, threatening the rare Dartford Warbler.
- Up to £9 million is generated in tourism with over 130 jobs created

## Issues:

- Most of the area is made up of sand dunes, which are highly vulnerable environments. These are home to rare plant and animal species.
- The beach can get crowded in the summer months and as a result means that the sand dunes encounter some level of degradation.
- Furthermore the amount of tourists means that parking is and an issue, putting pressure on the facilities there. Visitors also pose an increased fire hazard and drop litter in the area, damaging the environment.

## How the area is managed?

- Sand dunes have had Marram Grass planted in order to try and stabilise them. The dunes are also fenced off to allow the development of plant and animal species
- Tourist paths have been built through the dunes to reduce damage as well as designated car parking. Driving on the beach is no longer allowed here
- Information boards educate visitors, instructing them how they can preserve the environment. Fire beaters have been placed within the dune landscape in case of a fire during the summer months.

