

## 24 Sea-grass beds

Sea-grass *Zostera* beds develop in intertidal and shallow subtidal areas on sands and muds. They are generally found in marine inlets, estuaries and bays but may also occur in lagoons and channels and other areas sheltered from strong wave action. Three species are found in the UK, *Zostera angustifolia*, *Z. marina* and *Z. noltii*. All three species are nationally scarce. Sea-grasses stabilise the substratum and are an important source of organic matter. They provide shelter and surface attachment for a large number of other organisms and act as nurseries for flatfish. Sea-grass beds are an important food source for wildfowl. The relevant NVC community is SM1 *Zostera* communities.

### Status

Sea-grass beds are found all around the UK coastline, but with a localised distribution. The exposed coast of this region does not provide the required shelter except at the mouth of the Humber. At present there are no known sites in this region though all three species have been recorded from Spurn and *Z. noltii* is known from the Grimsby area<sup>1,2</sup>. There are post-1970 records for *Z. angustifolia* and *Z. noltii* at Spurn<sup>1</sup>. The last record of *Zostera* species was at Spurn Bight in 1996, when it grew in profusion on a recently deposited bank of silt, but was washed away later in the year (Spence, *pers. comm.*). Under favourable conditions sea-grasses may recolonise. Sea-grass beds are included within the estuaries listing in Annex 1 of the EC Habitats and Species Directive.

### Threats

A wasting disease was responsible for the loss of eelgrass *Zostera marina* beds in the 1930s and this has recently reappeared around the Isles of Scilly. The extent of sea-grass beds may also change as a result of natural physical phenomena such as cycles of deposition and erosion of sediments, severe storms and exposure to air. Grazing by wildfowl can produce dramatic seasonal effects and can result in 60% defoliation. Warm sea temperatures coupled with low light levels may also cause die back. Dredging may alter the rate of deposition of sediments on sea-grass beds, a factor which may be critical to their survival, whilst increased turbidity can reduce photosynthesis and boat moorings and anchorages can damage beds. Colonisation of sediments by cord-grass *Spartina anglica* may affect the distribution of sea-grass. Marine pollution also affects sea-grasses; high nitrate levels can result in declines as phytoplankton blooms block out the light, though small amounts may increase growth; sea-grasses accumulate tributyl tin and some heavy metals and organic substances may reduce nitrogen fixation, likely to cause the loss of plants in nutrient-poor situations.