UK Biodiversity Action Plan
Priority Habitat Descriptions

Seagrass Beds

From:
UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG (ed. Ant Maddock) 2008.

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Seagrass Beds

This habitat description has been adapted from the 1994 UK BAP Action Plan for Seagrass beds reefs and therefore would benefit from an update: https://webarchive.nationalarchives.gov.uk/20110303150058/http://www.ukbap.org.uk/UKPlans.aspx?ID=35.
This habitat includes both intertidal and subtidal seagrass beds.

Correspondence with existing habitats

Intertidal seagrass beds:
OSPAR habitat: Zostera beds
Habitats Directive Annex I: Mudflats and sandflats covered by water at low tide

Subtidal seagrass beds:
Habitats Directive Annex I: Lagoons

Description

Seagrass beds develop in intertidal and shallow subtidal areas on sands and muds. They may be found in marine inlets and bays but also in other areas, such as lagoons and channels, which are sheltered from significant wave action.

Three species of *Zostera* occur in the UK, and all are considered to be scarce (present in 16–100 ten km squares). Dwarf eelgrass *Zostera noltii* is found highest on the shore, often adjacent to lower saltmarsh communities, narrow-leaved eelgrass *Zostera angustifolia* on the mid to lower shore, and eelgrass *Zostera marina* predominantly in the sublittoral. The plants stabilise the substratum, are an important source of organic matter, and provide shelter and a surface for attachment by other species. Eelgrass is an important source of food for wildfowl, particularly brent goose and widgeon which feed on intertidal beds. Where this habitat is well developed the leaves of eelgrass plants may be colonised by diatoms and algae such as *Enteromorpha* spp, *Cladophora rectangularis*, *Rhodophysema georgii*, *Ceramium rubrum*, stalked jellyfish and anemones. The soft sediment infauna may include amphipods, polychaete worms, bivalves and echinoderms. The shelter provided by seagrass beds makes them important nursery areas for flatfish and, in some areas, for cephalopods. Adult fish frequently seen in *Zostera* beds include pollack, two-spotted goby and various wrasse. Two species of pipefish, *Entelurus aequoraeus* and *Syngnathus typhie* are almost totally restricted to seagrass beds while the red algae *Polysiphonia harveyi* which has only recently been recorded from the British Isles is often associated with eelgrass beds.

Five different community types have been identified for seagrass beds from the southern North Sea and the Channel and 16 microhabitats including the seagrass itself, sessile epifauna, infauna and free swimming animals not confined to a special part of the community. The diversity of species will depend on environmental factors such as salinity and tidal exposure and the density of microhabitats, but it is potentially highest in the perennial fully marine subtidal communities and may be lowest in intertidal, estuarine, annual beds.

The Cromarty Firth supports what is most probably the largest total area of dwarf eelgrass and narrow leaved eelgrass in Britain (approximately 1,200ha), while the Maplin Sands is estimated to be the largest surviving continuous population of dwarf eelgrass in Europe (covering around 325ha). The Fleet has the most extensive population of all three *Zostera* species in Britain. Other important sites are the Exe Estuary, Maplin Sands, the Solents marshes and the Isles of Scilly, Morfa Nefyn, Milford Haven, the Moray Firth, Carlingford Lough, Dundrum Bay, Strangford Lough and Lough Foyle.

Relevant biotopes

Intertidal Seagrass beds
LS.LMp.LSgr – Seagrass beds on littoral sediments
LS.LMp.LSgr.Znol – *Zostera noltii* beds in littoral muddy sand

Subtidal Seagrass beds
SS.SMp.SSgr – Sublittoral seagrass beds
SS.SMp.SSgr.Rup – *Ruppia maritima* in reduced salinity infralittoral muddy sand

Current and potential threats

- *Disease*: A wasting disease was responsible for die-back of large areas of seagrass in the UK in the 1930s. The fungus and slime mould which colonised the weakened seagrass have recently reappeared in seagrass beds around the Isles of Scilly.
- *Natural cycles*: The extent of seagrass beds may change as a result of natural factors such as severe storms, exposure to air, and freshwater pulses. Grazing by wildfowl can have a dramatic seasonal effect with more than 60% reduction in leaf cover reported from some sites. Warm sea temperatures coupled with low level of sunlight may cause significant stress and die back of seagrass.
- *Physical disturbance*, for example by trampling, dredging, and use of mobile bottom fishing gear, land claim and adjacent coastal development through the construction of sea defences and potential for changes in the hydrological regime.
- *Introduction of, and competition from*, alien species such as *Spartina anglica* and *Sargassum muticum*.
- *Increased turbidity reducing photosynthesis*.
- *Nutrient enrichment*, at low levels, may increase production in *Zostera* while high nitrate concentrations have been implicated in the decline of mature *Z*. *marina* Phytoplankton blooms, resulting from nutrient enrichment, have been shown to reduce biomass and depth penetration of eelgrass. Eutrophication can also result in a shift to phytoplankton epiphyte or macroalgal dominance.
- *Marine pollution*. Eelgrass is known to accumulate Tributyl, tin and possibly other metals and organic pollutants. Several heavy metals and organic substances have been shown to reduce nitrogen fixation which may affect the viability of the plant, particularly in nutrient poor conditions. Accumulated pollutants may become concentrated through food chains.

References

https://webarchive.nationalarchives.gov.uk/20110303145223/http://www.ukbap.org.uk/Habitats.aspx

Edited by Nikki Chapman