



UK Biodiversity Action Plan Priority Habitat Descriptions

Intertidal Chalk

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Intertidal Chalk

This habitat description has been adapted from the OSPAR habitat descriptions (2005) (<http://www.ospar.org/work-areas/bdc/species-habitats>: Definition available through the linked text; 'case reports').

Correspondence with existing habitats

- Part of 1994 UK BAP habitat: [Littoral and sublittoral chalk](#)
- OSPAR Habitat: Littoral Chalk Communities
- Habitats Directive Annex I: Submerged or partially submerged caves & Reefs

Description

The erosion of chalk exposures on the coast has resulted in the formation of vertical cliffs and gently-sloping intertidal platforms with a range of micro-habitats of biological importance. Supralittoral and littoral fringe chalk cliffs and sea caves support various algal communities unique to this soft rock type. Orange, brownish or blackish gelatinous bands of algae, composed of an assemblage of Haptophyceae species such as *Apistonema* spp., *Pleurochrysis carterae* and the orange *Chrysothila lamellosa*, but other genera and species of Chrysophyceae, Haptophyceae and Prasinophyceae are likely to be present as well. The lower littoral fringe may be characterised by a dense mat of green algae *Enteromorpha* spp. and *Ulva lactuca*. Lower down the shore in the eulittoral the generally soft nature of the chalk results in the presence of a characteristic flora and fauna, notably 'rock-boring' invertebrates such as piddocks, overlain by mostly algal-dominated communities (fucoids and red algal turfs) (Gubbay, 2002). Such coastal exposures of chalk are rare in Europe, with those occurring on the southern and eastern coasts of England accounting for the greatest proportion (57%) (ICES, 2003).

A recent survey of chalk cliffs throughout England revealed that 56% of coastal chalk in Kent, and 33% in Sussex has been modified by coastal defence and other works. On the Isle of Thanet (Kent) this increases to 74%. There has been less alteration of chalk at lower shore levels except at some large port and harbour developments (e.g. Dover & Folkestone) (Doody *et al.* 1991; Fowler & Tittley, 1993). Elsewhere in England, coastal chalk remains in a largely natural state.

Relevant biotopes – marine habitat classification scheme v4.05

LR.HLR.FR.Osm – *Osmundea pinnatifida* on moderately exposed mid eulittoral rock

LR.MLR.BF.Fser.Pid – *Fucus serratus* and piddocks on lower eulittoral soft rock

LR.FLR.CvOv.ChrHap – Chrysophyceae and Haptophyceae on vertical upper littoral fringe soft rock

IR.MIR.KR.Ldig.Pid – *Laminaria digitata* and piddocks on sublittoral fringe soft rock

LR.FLR.Lic.Bli – *Blidingia* spp. on vertical littoral fringe soft rock

LR.FLR.Lic.UloUro – *Ulothrix flacca* and *Urospora* spp. on freshwater-influenced vertical littoral fringe soft rock

Current and potential threats

- *Coastal protection works*: Is the main threat to littoral chalk communities. Coast protection work has led to the loss of micro-habitats on the upper shore and the removal of splash-zone communities, including the unique algal communities (Anon, 2000; Fletcher, 1974; Fowler & Tittley, 1993; Wood & Wood, 1986).
- *Toxic contaminants*: The deterioration of waters quality by pollutants and nutrients has caused respectively the replacement of fucoid dominated biotopes by mussel-dominated biotopes, and the occurrence of nuisance *Enteromorpha* spp. blooms (Anon, 2000; Fletcher, 1974; Fowler & Tittley, 1993; Wood & Wood, 1986).

- *Physical loss*: The human disturbance especially be trampling, stone-turning, small-scale fishery and damage to rocks though removal of piddocks blooms (Anon, 2000; Fletcher, 1974; Fowler & Tittley, 1993; Wood & Wood, 1986).
- *Oil spills*: Chalk exposures are vulnerable to oil spills due to the proximity of major shipping lands (e.g. Straits of Dover).
- *Non-natives*: Native species such as *Sargassum muticum* and *Undaria pinnatifida* have been displaced by non natives along the English Channel. These threats are significant primarily mainly because of the relatively restricted distribution and small total area of this habitat type.

References

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