

BIOTOPE INFORMATION SHEET

English name: Sandbanks which are slightly covered by sea water all the time		Code in HELCOM HUB: 1110	
Characteristic species:			
Past and Current Threats (Habitat directive article 17): Fishing (Fishing and harvesting aquatic resources F02, bottom trawling F02.02.01), Eutrophication (H01.05), Mining and quarrying (sand and gravel extraction C01.01), Construction (marine constructions D03.03, dredging J02.02.02, dumping J02.11), Contaminant pollution (H03)		Future Threats (Habitat directive article 17): Fishing (Fishing and harvesting aquatic resources F02, bottom trawling F02.02.01), Eutrophication (H01.05), Mining and quarrying (sand and gravel extraction C01.01), Construction (marine constructions D03.03, windenergy production C03.03, dredging J02.02.02, dumping J02.11), Contaminant pollution (H03)	
Red List Criteria: C1	Confidence of threat assessment: L	HELCOM Red List Category:	VU Vulnerable
Previous HELCOM Red List threat assessments			
BSEP 75 (1998): "3" (Endangered) 2.5 Sandy bottoms 2.5.2 Sublittoral photic zone 2.5.2.1 Sublittoral level sandy bottoms with little or no macrophyte vegetation of the photic zone 2.5.2.4 Sand banks of the sublittoral photic zone with or without macrophyte vegetation		BSEP 113 (2007): Sandbanks which are slightly covered by sea water all the time are under threat and/or in decline in: The Southern Baltic Proper, The Gulf of Gdansk, Bay of Mecklenburg, Kiel Bay.	
Higher concern stated by:			

Habitat and Ecology

Sandbanks consist of sand and gravel. The bank is elevated from the surrounding seafloor and is characterized by an organism community that is distinctly different both in structure and function compared to the surrounding. Several macrofauna species live on the sandbanks, whereas macrophytes are often completely absent or grow very sparsely due to the abrasive effect of waves and the instable substratum. The macrofauna communities can vary significantly within a short distance if the grain size of the sand/gravel in the bank varies. Several demersal species of fish and fish feeding on macrozoobenthos are associated with the deeper underwater sandbanks.

Submerged sandbanks are of special relevance as feeding and wintering grounds for birds, (etc. *Melanitta nigra*, *Gavia stellata* and *Gavia arctica*) and are therefore considered to be of Baltic-wide importance. The sandbanks are also important foraging grounds for several fish species and resting places for seals.

Definition of the habitat according to the 'Interpretation manual of European Union Habitats' EUR27:

Sandbanks are elevated, elongated, rounded or irregular topographic features, permanently submerged and predominantly surrounded by deeper water. They consist mainly of sandy sediments, but larger grain sizes, including boulders and cobbles, or smaller grain sizes including mud may also be present on a sandbank. Banks where sandy sediments occur in a layer over hard substrata are classed as sandbanks if the associated biota are dependent on the sand rather than on the underlying hard substrata.

"Slightly covered by sea water all the time" means that above a sandbank the water depth is seldom more than 20 m below chart datum. Sandbanks can, however, extend

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beneath 20 m below chart datum. It can, therefore, be appropriate to include in designations such areas where they are part of the feature and host its biological assemblages.

Plants: *Zostera* spp., *Potamogeton* spp., *Ruppia* spp., *Tolypella nidifica*, *Zannichellia* spp., charophytes. On many sandbanks macrophytes do not occur. Animals: Invertebrate and demersal fish communities of sandy sublittoral (fine and medium grained sands, coarse sands, gravely sands), e.g. polychaetes: *Scoloplos armiger*, *Pygospio elegans*, *Nereis diversicolor*, *Travisia* spp., e.g. bivalves: *Macoma balthica*, *Mya arenaria*, *Cerastoderma* spp., e.g. crustaceans: *Crangon crangon*, *Saduria entomon*, e.g. fish species: *Platichthys flesus*, *Nerophis ophidion*, *Pomatoschistus* spp., *Ammodytes tobianus*.

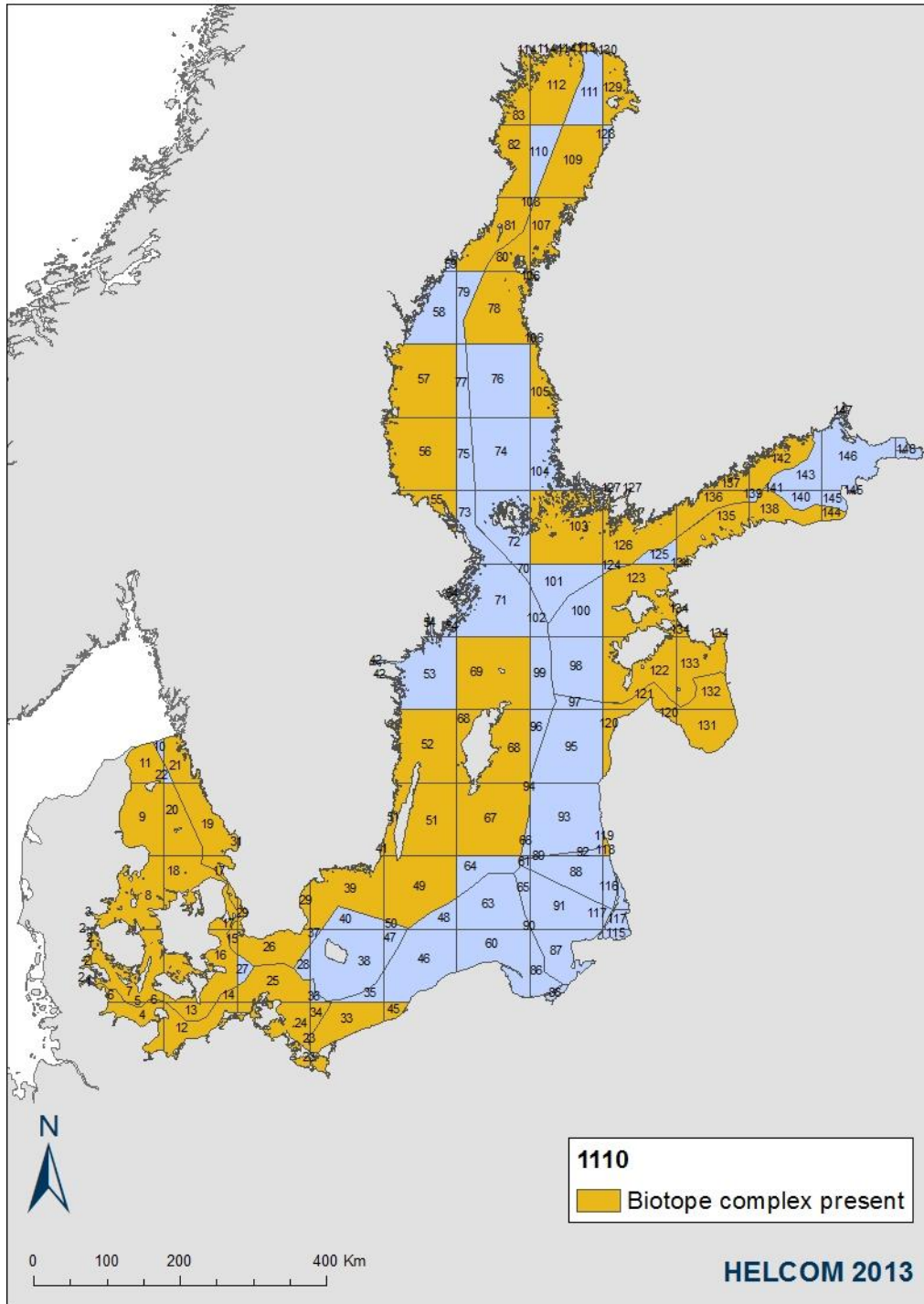


Sandbank in the Fehmarn Belt (photo BfN Krause & Hübner)

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Distribution and status in the Baltic Sea region

Sandbanks are widely spread throughout the whole Baltic Sea area, and occur in all HELCOM sub-regions. The Distribution map indicates the area in the 100 x 100 km grid where biotope is known to occur (Naturvårdverket 2011, EUNIS Database)



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Description of Major threats

Sand and gravel extraction from the sandbank areas represent an increasing anthropogenic pressure on the biotope complex. The well-sorted sandy substrate is well suited for mining and use in various construction activities. Offshore constructions in the vicinity of the sandbanks may also pose a threat to the complex, as the constructions may potentially alter the hydrodynamic conditions that constantly reshapes the sandbanks. Off-shore windfarm construction in areas where the sandbanks occur is a major future threat. Dredging and dumping of dredged materials can have a negative effect on the sandbank communities. Fishery activities such as bottom trawling may also have an adverse effect on the complex. Eutrophication and pollution have adverse effects on the specialised macrofauna community that live on the sandbanks.

Assessment justification

C1

The biotope complex is assumed to have experienced very severe quality decline in over 30 % of the original distribution during the past 50 years.

The functional group made up by the bottom feeding fish has experienced very severe quality decline in especially the southern and western regions of the Baltic Sea. Fish communities that perform key roles in the biotope complex have been greatly reduced and several species have been red-listed, such as eel (*Anguilla anguilla*, CR; A3bd+4abde), cod (*Gadus morhua*, VU; A2bc) and whiting (*Merlangius merlangus*, VU; A2bd).

Eutrophication has affected the biotope especially in more sheltered locations where organic matter can build up and cover the sand. Nutrient run-off from agriculture, forestry, waste water treatment plants and locally from fish farming is seen to have affected the biotope complex quality.

To some extent the biotope complex quality has been degraded by direct mechanical damage from marine sand extraction as well as from anchoring and dredging. These human activities are assumed to affect the biotope complex increasingly in the future.

Recommendations for actions to conserve the biotope

Eutrophication must be reduced significantly. This would probably result in a more favourable development of sandbanks. In some countries sandbanks are protected by law. Additional protective measures could be: introduction of ecologically sound fishing methods, restrictions for mineral extractions and dumping of dredged material.

Common names

Denmark: Sandbanker med lavvandet vedvarende dække af havvand, Estonia: -, Finland: Vedenalaiset hiekkasärkät, Germany: Sandbänke mit nur schwacher ständiger Überspülung durch Meerwasser, Latvia: -, Lithuania: -, Poland: -, Russia: -, Sweden: Sublittorala sandbankar

References

European Commission. (2007a). Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives. Appendix 1: Marine Habitat types definitions.

http://ec.europa.eu/environment/nature/natura2000/marine/docs/appendix_1_habitat.pdf

European Commission (2007b). Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives. (EU interpretation manual) Available at:

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http://ec.europa.eu/environment/nature/natura2000/marine/docs/marine_guidelines.pdf (viewed 4 June 2013)

Naturvårdsverket (2011) Vägledning för svenska naturtyper i habitatdirektivets bilaga 1, Blottade sand- och lerbottnar. Available at: http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/kust-och-hav/vl_1110_Sandbankar.pdf (Viewed July 19 2013)

EUNIS Database. <http://eunis.eea.europa.eu/habitats.jsp> (Viewed July 19 2013)