

BIOTOPE INFORMATION SHEET

English name: Baltic aphotic rock and boulders or mixed hard and soft substrates dominated by sea squirts (Asciacea)		Code in HELCOM HUB: AB.A1F1, AB.M1F1	
Characteristic species: <i>Ciona intestinalis</i> , <i>Dendrodoa grossularia</i> , <i>Molgula</i> spp, <i>Corella parallellogramma</i> , <i>Ascidia mentula</i> , <i>Ascidia virginea</i> , <i>Ascidia obliqua</i>			
Past and Current Threats (Habitat directive article 17):		Future Threats (Habitat directive article 17):	
Red List Criteria: A1	Confidence of threat assessment: L	HELCOM Red List Category:	NT Near Threatened
Previous HELCOM Red List threat assessments			
BSEP 75 (1998): "3" Endangered 2.1.2.1 Solid rock bottoms of the aphotic zone 2.2.1 Stony bottoms of the aphotic zone 2.8.1 Mixed sediments of the aphotic zone		BSEP 113 (HELCOM 2007):	
Greater concern stated by:			

Habitat and Ecology

The biotope occurs from a few meters depth and there is no strict maximum depth in the Baltic Sea. The Asciacea are filter feeders and thrive in areas with some current. Most of the species are annual in the Baltic Sea area. The biotope is characterized by at least 10% of the surface being covered by sessile attached chordates which in practice means Asciacea as other attached chordates do not occur in the Baltic Sea.

The biotope occurs most abundantly in deep areas with exposed rocky substrates, but some ascidians such as the *Ascidia mentula* and *Ascidia virginea* can occasionally also be found on gravel or other mixed substrates such as shell gravel if the shells are large enough for the species to attach to and live on. *Ascidia mentula* often lies on its side on the substrate and grows to approximately 20 cm length. *Molgula occulta* prefers muddy gravel and muddy sand substrata. It lives burrowed in the sediment with only the siphons showing (Picton & Morrow 2010). *Corella parallellogramma* is rather common on hard substrates in the Kattegat and can occur in high densities on negative rocky surfaces (Moen & Svenson 2009). It grows to approximately 5 cm height and mostly grows erect. The characteristic gut forms a pattern of white squares inside the see-through organism make it easily identifiable (Moen & Svenson 2009). The species seldom lives past the first spawning which occurs approximately a year after hatching.

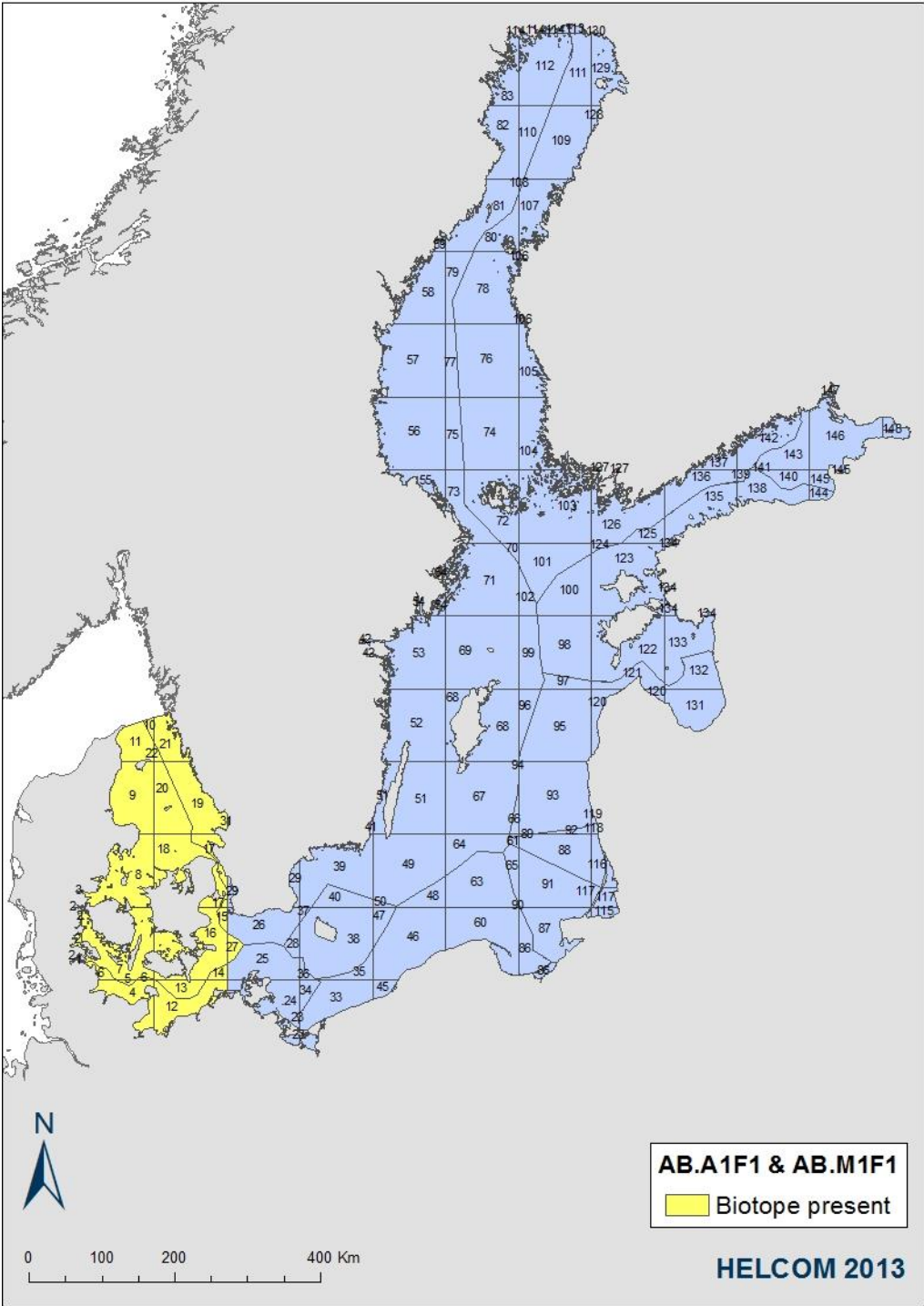
Some snails are known to utilize certain species of tunicates as a food source. *Velutina velutina* is such a snail and both eats and lays its eggs inside the tunicate *Ascidia virginea* (Moen & Svenson 2009). The sea squirt *Ascidia obliqua* only grows to a height of 3-7 cm, but even so other sea squirts, Hydrozoans and Bryozoans attach themselves to the tunic of the sea squirt. Species of the bivalves genus *Musculus* are known to frequently live in side some tunicate species.

Despite the biotope in HUB being defined as aphotic, patchy occurrences of the biotope can be found in the photic zone on the underside of rocks and inside caverns where the light conditions are unfavourable to macroalgae. *Dendrodoa grossularia* lives in a wide range of habitats and often occurs in dense aggregations (Picton & Morrow 2010). In sheltered sites where the rock is not as exposed to currents and *Molgula occulta* can also be found. The biotope is thus rather small and patchily distributed on hard substrates and occurs in abundance in the aphotic zone.

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Distribution and status in the Baltic Sea region

The biotope occurs in the Kattegat and Belt Sea. The distribution map indicates the area in the 100 x 100 km grid where biotope is estimated to occur based on environmental gradients and the availability of the specific substrates.



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Description of Major threats

The sea squirt biotope requires clean rocky surfaces. Increased siltation rates due to eutrophication, fishing activities or marine construction decreases the amount of available substrate for the biotopes characteristic sea squirts to attach to.

Assessment justification

A1

The amount of available aphotic clean rocky substrates have decreased during the last 50 years due to increased siltation.

Recommendations for actions to conserve the biotope

All actions to reduce eutrophication on a Baltic Sea scale will support the biotope.

Common names

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References

- Picton, B.E., Morrow, C.C. (2010). Encyclopedia of Marine Life of Britain and Ireland. Available at:
<http://www.habitas.org.uk/marinelife/index.html> (viewed may 29 2013)
- Moen, E., Svenson, E. (2009) Djurliv i havet: Nordeuropeisk marin fauna. Nordstedts. 768 pp.