

## SPECIES INFORMATION SHEET

*Macoma calcarea*

English name: <b>Chalky macoma</b>	Scientific name: <b><i>Macoma calcarea</i></b>	
Taxonomical group: Class: Bivalvia Order: Veneroida Family: Tellinidae	Species authority: Gmelin, 1791	
Subspecies, Variations, Synonyms: <i>Tellina calcarea</i> Gmelin, 1791 <i>Macoma tenera</i> Leach, 1819	Generation length: >10 years	
Past and current threats (Habitats Directive article 17 codes): Eutrophication (anoxia; H01.05), Reduced water mass exchange (-)	Future threats (Habitats Directive article 17 codes): Eutrophication (anoxia; H01.05), Reduced water mass exchange (-)	
IUCN Criteria: <b>A2c</b>	<b>HELCOM Red List Category:</b>	<b>VU Vulnerable</b>
Global / European IUCN Red List Category NE/NE	Habitats Directive: -	
Protection and Red List status in HELCOM countries: Denmark -/-, Estonia -/-, Finland -/-, Germany -/1 (Critically endangered), Latvia -/-, Lithuania -/-, Poland -/VU, Russia -/-, Sweden -/DD		

**Distribution and status in the Baltic Sea region**

*Macoma calcarea* is currently restricted to the western parts of the HELCOM area. The species has occurred also in the Bornholm Basin and the Eastern Gotland Basin but due to oxygen depletion it has disappeared or severely declined in the eastern part of its former range. More generally, this is a northern Atlantic arctic species. In Europe there are records from Iceland and Norway and in the western Atlantic south to New York.



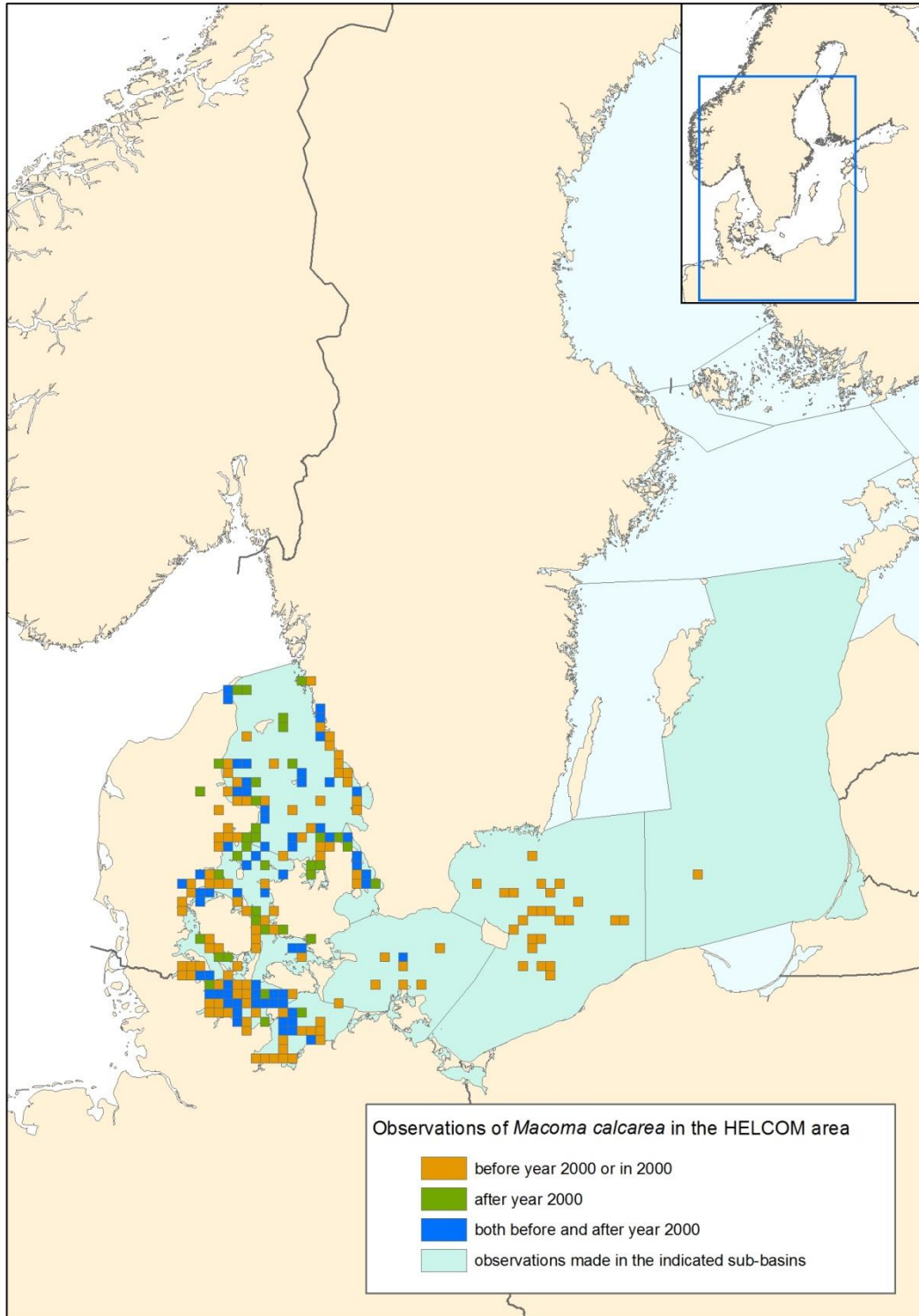
*Macoma calcarea*. Photo by Michael Zettler. Leibniz Institute for Baltic Sea Research Warnemünde (IOW).

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### Distribution map

The georeferenced records of species compiled from the Danish national database for marine data (MADS) and from the databases of the Swedish Species Information Centre (Artportalen), Swedish Meteorological and Hydrological Institute, International Council for the Exploration of the Sea (ICES), Finnish Environment Institute, and the Leibniz Institute for Baltic Sea Research (IOW).



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### Habitat and ecology

*Macoma calcaria* is an infaunal bivalve that lives on fine sand and mud bottoms, often with some gravel and stones. It is a deposit and filter feeder. In contrast to many other bivalves, *M. calcaria* has separate sexes. The larvae are pelagic. The typical depth range of recent records is between 15 and 30 m.

### Description of major threats

Oxygen depletion related to eutrophication and on the other hand to reduced water mass exchange from the North Sea.

### Assessment justification

*M. calcaria* has disappeared from many of its former locations during the last decades. This concerns especially the eastern locations and most probably relates to long lasting oxygen depletion in those areas. Recent locations exist only in the western Baltic Sea. The generation time of the species is assumed to be c. 15–20 years. Within three generations both the reduction in the extent of occurrences (EOO) as well as in the area of occupancy (AOO) is estimated to ca. 45 %. The species is categorized as Vulnerable (VU) applying criteria A2c.

### Recommendations for actions to conserve the species

*M. calcaria* would probably benefit from any actions that could reduce eutrophication.

### Common names

Denmark: stor østersømusling, Estonia: –, Finland: –, Germany: Kalk-Plattmuschel, Latvia: –, Lithuania: –, Poland: –, Russia: –, Sweden: stor östersjömussla

### References

- Arctic Ocean diversity. *Macoma calcaria* (Gmelin, 1791). Available at [http://www.arcodiv.org/seabottom/bivalves/Macoma\\_calcaria.html](http://www.arcodiv.org/seabottom/bivalves/Macoma_calcaria.html).
- Bjelke, U., Gärdenfors, U., Karlsson, A., Agrenius, S., Berggren, M., Cedhagen, T., Hansson, H. G., Kautsky, H., Lundberg, S., Lundin, K., Lundälv, T., von Proschwitz, T., Schander, C. & Smith, S. 2010. Blötdjur – Molluscs. Mollusca. In Gärdenfors, U. (ed.) Rödlistade arter i Sverige 2010 – The 2010 Red List of Swedish Species. ArtDatabanken, SLU, Uppsala. P. 495–505. Red List categories available also at <http://www.artfakta.se/GetSpecies.aspx?SearchType=Advanced>
- Database of the Marine Research Centre, Finnish Environment Institute, all observations 1964–2007. Received in March 2011.
- Hansson, H. G. 2004. *Macoma calcaria* stor östersjömussla. Artfaktablad. Artdatabanken, SLU. Available at [http://www.artfakta.se/Artfaktablad/Macoma\\_Calcaria\\_102741.pdf](http://www.artfakta.se/Artfaktablad/Macoma_Calcaria_102741.pdf).
- International Council for the Exploration of the Sea ICES data portal. Available at <http://ecosystemdata.ices.dk/inventory/index.aspx>.
- IOW database. Observational data from the database of the Leibniz Institute for Baltic Sea Research.
- MADS, The Danish national database for marine data. NERI: University of Aarhus; National Environmental Research Institute. Downloaded in June 2011.
- Marine Species Identification Portal. Available at [http://species-identification.org/species.php?species\\_group=mollusca&id=787](http://species-identification.org/species.php?species_group=mollusca&id=787)
- Rachor, E., Bönsch, R., Boos, K., Gosselck, F., Grotjahn, M., Günther, C.-P., Gusky, M., Gutow, L., Heiber, W., Jantschik, P., Krieg, H.-J., Krone, R., Nehmer, P., Reichert, K., Reiss, H., Schröder, A., Witt, J. & Zettler, M. L. 2012. Rote Liste und Artenliste der bodenlebenden wirbellosen Meerestiere. Vierte Fassung, Stand Dezember 2007, einzelne Aktualisierungen bis 2012. Naturschutz und Biologische Vielfalt 70(2). Bundesamt für Naturschutz.
- SMHI database. Observational data for zoobenthos from the database of the Swedish Meteorological and Hydrological Institute, all observations 1971–2010. Downloaded in 9 April 2011.

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Swedish Species Gateway. Swedish Species Information Centre and Swedish Environmental Protection Agency. Available at [www.artportalen.se](http://www.artportalen.se).

World Register of Marine Species WoRMS. Available at <http://www.marinespecies.org/aphia.php?p=taxdetails&id=141580>.