

SPECIES INFORMATION SHEET

Solaster endeca

English name: Purple sun star	Scientific name: <i>Solaster endeca</i>	
Taxonomical group: Class: Asteroidea Order: Velatida Family: Solasteridae	Species authority: Linnaeus, 1771	
Subspecies, Variations, Synonyms: <i>Asterias endeca</i> Linnaeus, 1771	Generation length: –	
Past and current threats (Habitats Directive article 17 codes): Sedimentation caused by eutrophication (H01.05) and bottom trawling (F02.02.01)	Future threats (Habitats Directive article 17 codes): Sedimentation caused by eutrophication (H01.05) and bottom trawling (F02.02.01), Climate change (M)	
IUCN Criteria: B1ab(iii)	HELCOM Red List Category:	VU Vulnerable
Global / European IUCN Red List Category NE/NE	Habitats Directive: –	
Protection and Red List status in HELCOM countries: Denmark –/–, Estonia –/–, Finland –/–, Germany –/–, Latvia –/–, Lithuania –/–, Poland –/–, Russia –/–, Sweden –/– VU		

Distribution and status in the Baltic Sea region

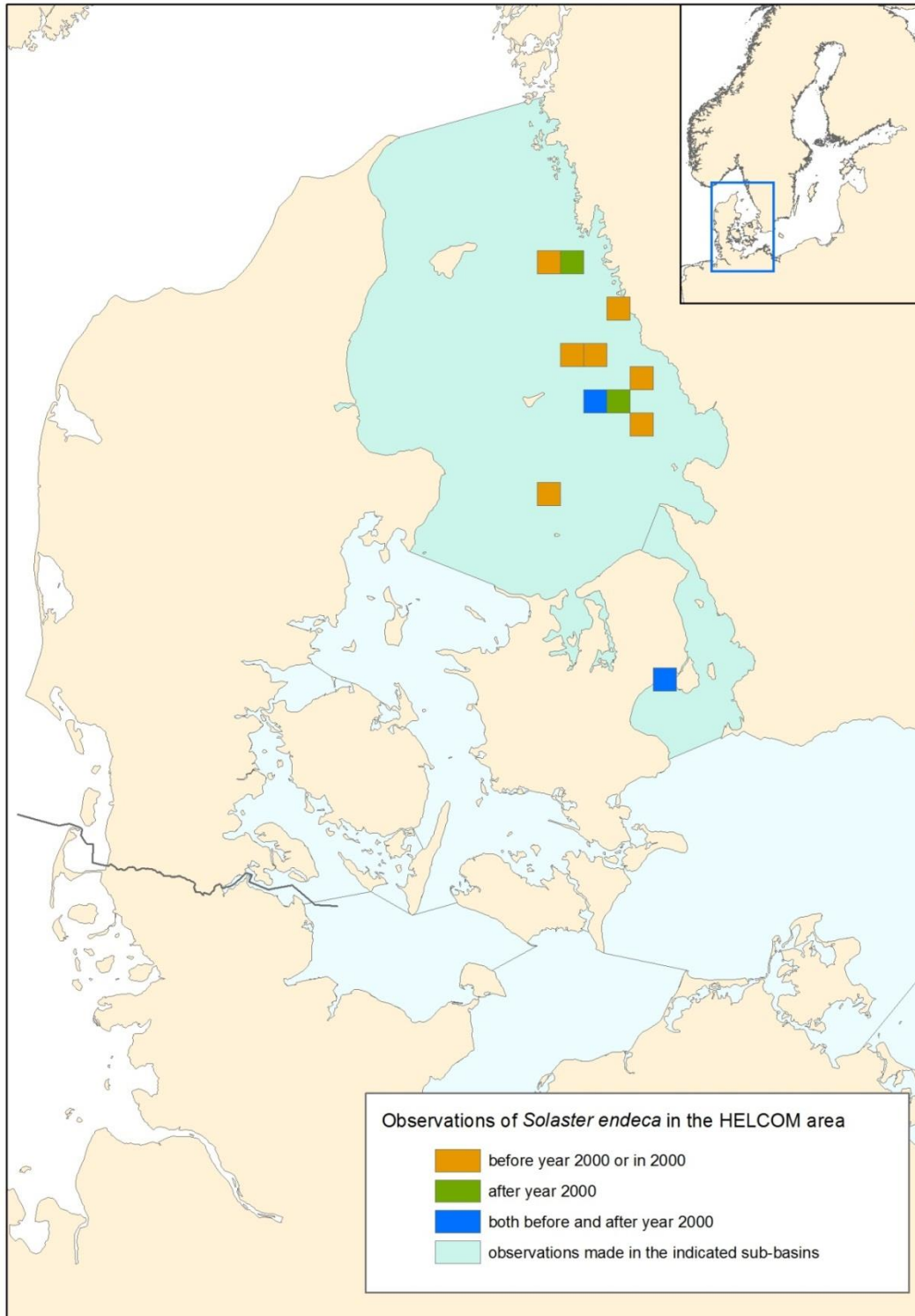
The main distribution of *S. endeca* within the HELCOM area is in the Kattegat but it has also been found in the Sound. Outside the HELCOM area the species is reported from the Skagerrak and the North Sea. In Norway, the species primarily occurs from Trondheim and northwards. As the species requires cold water it is more common in the Kattegat than in Skagerrak, and it is likely that the distribution within the HELCOM area represents its border of southern occurrence. The climate change with future higher water temperature thus poses a plausible threat to the species.

SPECIES INFORMATION SHEET

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Distribution map

The records of species obtained from the databases of the Swedish Species Information Centre (Artportalen) and Swedish Meteorological and Hydrological Institute.



SPECIES INFORMATION SHEET

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Habitat and ecology

Solaster endeca is a multi-armed starfish with a characteristic appearance. It may reach up to 400 mm in diameter. It is normally found on muddy gravel with boulders, or on silty rock surfaces in sheltered or semi-exposed conditions. Depth range approximately 20–90 meters, but outside the HELCOM area it has been found on depths below 500 meters. The species seems to require a salinity of 30 ‰ minimum, and avoids areas where the mean temperature exceeds 14 °C. *Solaster endeca* breeds during March–April with direct development and, therefore, has no pelagic stage. It is a voracious predator on other echinoderm species, often eating animals nearly as large as itself.

Description of major threats

As the species requires cold water with high salinity, climate change is likely to affect it negatively within the HELCOM area. Furthermore, the species prime locations in the Kattegat (i.e. offshore banks) are sensitive to sedimentation caused by eutrophication and trawling.

Assessment justification

The data on the species is limited. These indicate a decrease in distribution. The estimated extent of occurrence (EOO) is 6000 (3000–7000) km². Habitat quality is expected to continue to decline. The estimated values are below the threshold for Vulnerable (VU). In combination with few localities and continuing decline the B-criterion is thus fulfilled (B1ab(iii)).

Recommendations for actions to conserve the species

It is difficult to suggest specific measures for *Solaster endeca* but its population in the HELCOM area would benefit from any actions that could slow down global warming. Since the species depend on cold water with high salinity the population in the Kattegat, may go extinct when water temperature increases.

Common names

Denmark: –, Estonia: –, Finland: –, Germany: gelber Sonnenstern, Latvia: –, Lithuania: –, Poland: –, Russia: –, Sweden: gul solsjöstjärna

References

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SPECIES INFORMATION SHEET

Solaster endeca

Swedish Species Gateway. Swedish Species Information Centre and Swedish Environmental Protection Agency. Available at www.artportalen.se.

World Register of Marine Species WoRMS. Available at <http://www.marinespecies.org/aphia.php?p=taxdetails&id=124160>.