SPECIES INFORMATION SHEET *Raja clavata*

English name: **Thornback ray**	Scientific name: ***Raja clavata***	
Taxonomical group: Class: Elasmobranchii Order: Rajiformes Family: Rajidae	Species authority: Linnaeus, 1758	
Subspecies, Variations, Synonyms: –	Generation length: 12.2 years	
Past and current threats (Habitats Directive article 17 codes): Fishing (F02.02.02), By-catch (F02)	Future threats (Habitats Directive article 17 codes): Fishing (F02.02.02), By-catch (F02)	
IUCN Criteria: **A2bd**	**HELCOM Red List Category:**	**VU Vulnerable**
Global / European IUCN Red List Category: NT/(NT)NE	Habitats Directive: –	
Previous HELCOM Red List Category (2007): EN		
Protection and Red List status in HELCOM countries: Denmark –/–, Estonia –/–, Finland –/–, Germany –/– (Baltic Sea), Latvia –/–, Lithuania –/–, Poland –/–, Russia –/–, Sweden *Prohibited to fish for and land this species all year round.* / **EN**		

Distribution and status in the Baltic Sea region

Thornback ray occurs in the north-east Atlantic and its reproduction areas include the Kattegat. It can occasionally be found as far as the Bornholm Basin in the Baltic Sea. It is relatively large and even if not subject of targeted fisheries it is an important species in mixed demersal fisheries in the North Sea. The species has undergone a contraction in range, especially affecting the eastern part of its former range. Population size is estimated to have decreased by 40 (30–50)% during the last three generations (36.6 years). Available census data indicate a more stable situation in the North Sea since the mid-1990s (ICES 2012).

Thorn-back ray. Photo by Timo Moritz Deutches Meeresmuseum.

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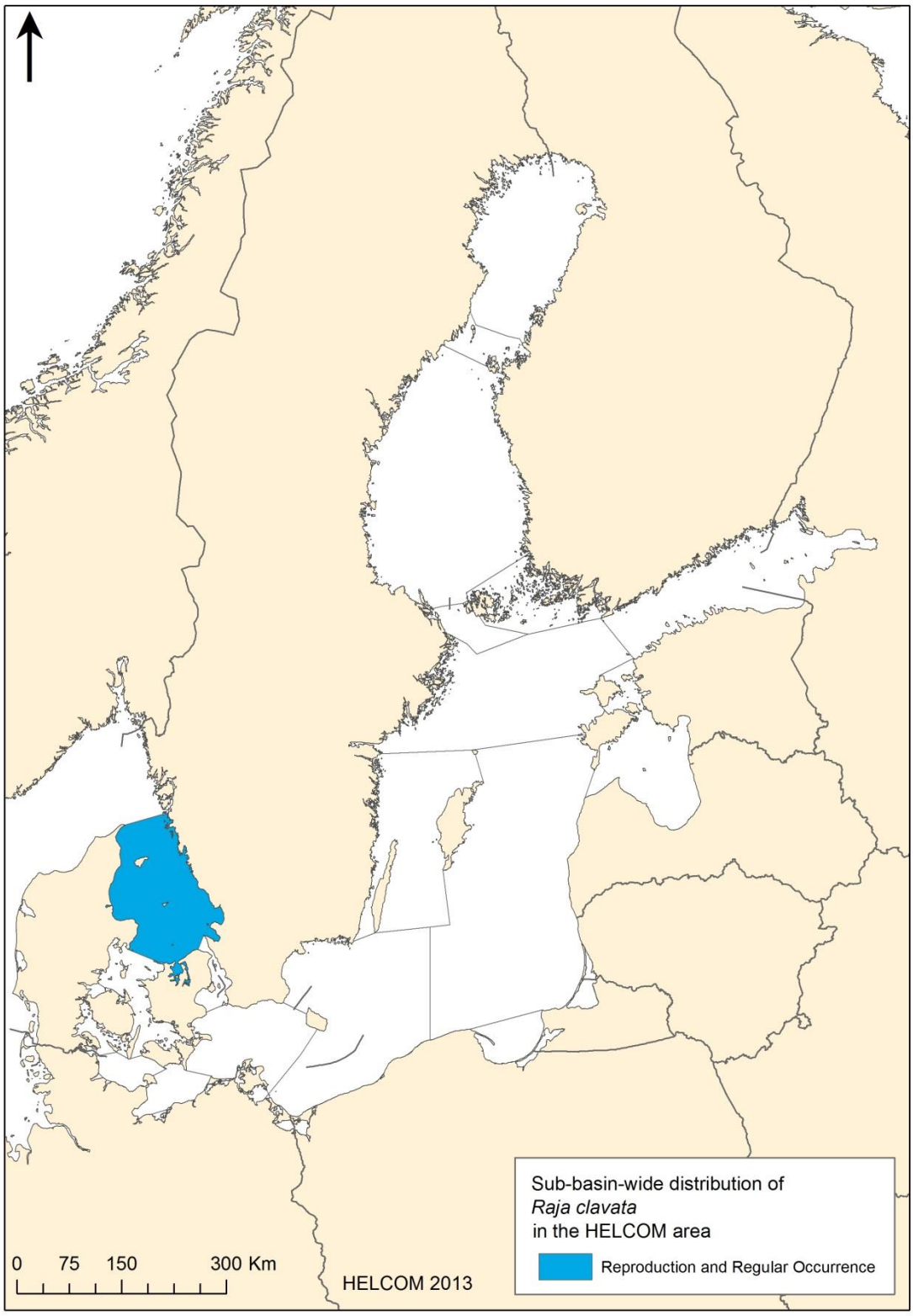
Distribution map

The map shows the sub-basins in the HELCOM area where the species is known to occur regularly and to reproduce (HELCOM 2012).



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Habitat and ecology

The thornback ray is a demersal coastal species which inhabits a variety of substrates, including mud, sand, shingle, gravel and rocky areas down to 300 m depth, although it is most abundant in 10 to 60 m depths in coastal areas (Wheeler 1969). It is a nocturnal species that tolerates low salinities and feeds on all kinds of bottom animals but prefers crustaceans (Stehmann & Bürkel 1984). Thornback ray shows a clear annual migration cycle and moves from deeper offshore waters in autumn and winter to shallower areas (<10 m) in spring (Hunter et al. 1997). Juveniles are non-migratory, inhabiting inshore nursery grounds (Steven 1932). It detects weak electric fields generated by other organisms (prey detection and predator avoidance) but may also generate its own weak electric fields (Fritzsch & Moller 1995).

Description of major threats

The thornback ray is an important component of demersal fisheries in most European waters and is taken by trawl and gillnet, particularly as by-catch. Thornback rays are also regularly caught by recreational anglers, although mortality from this source of fishing pressure is of little impact for the population as a whole, particularly in areas where catch and release is practiced.

Assessment justification

The number of mature individuals is estimated to at least 10 000. Both the extent of occurrence and area of occupancy exceed the limit for red listing. The population is currently declining and the rate of decline has amounted to 30–50% in the last 40 years. Depending on which of the estimated values is used the assessment varies from Vulnerable (VU) to Endangered (EN). However, based on the average value (40%) the rate of decline exceeds the threshold for Vulnerable (VU) in the A criterion (A2abd). This is not downgraded by immigration from adjacent areas since the thornback ray is declining and considered threatened also outside the HELCOM area.

Recommendations for actions to conserve the species

This species needs restrictions of demersal fisheries (trawling etc.), and a restrictive fisheries management. Sand and gravel extraction should be restricted, too. Marine protected areas without fisheries pressure and sand/gravel extraction would serve for the recovery of the populations. As major pressures for the species occur outside the HELCOM area in the neighbouring OSPAR area, OSPAR could be requested to consider providing additional protection for this species. As usually only the wings of rays are landed, it is hard to separate this species from other non-threatened ray species. It is therefore recommended that rays should only be allowed to be landed as uncut.

Common names

D: Nagelrochen; DK: Sømrokke; FI: Okarausku GB: Thornback ray; LI: Dyglioji raja PL: Raja ciernista; LV: Dzelkņraja; RUS: Koljuchij skat; SE: Knaggrocka

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