

## SPECIES INFORMATION SHEET

## *Squalus acanthias*

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|---|---|
| English name:<br><b>Spurdog / Spiny dogfish</b>   | Scientific name:<br><b><i>Squalus acanthias</i></b>   |
| Taxonomical group:<br>Class: Elasmobranchii<br>Order: Squaliformes<br>Family: Squalidae   | Species authority:<br>Linnaeus, 1758  |
| Subspecies, Variations, Synonyms: –   | Generation length:  |
| Past and current threats (Habitats Directive article 17 codes):<br>Fishing (F02), Other threats (J03)   | Future threats (Habitats Directive article 17 codes):<br>Fishing (F02), Other threats (J03) |
| IUCN Criteria:<br><b>A2bd</b>   | <b>HELCOM Red List Category:</b> <b>CR</b><br><b>Critically Endangered</b>                  |
| Global / European IUCN Red List Category:<br>VU/NE  | Habitats Directive:<br>–  |
| Previous HELCOM Red List Category (2007): CR  |   |
| Protection and Red List status in HELCOM countries:<br>Denmark <i>Zero-TAC in Skagerrak/Kattegat and the North Sea from 2010 (EU-areas IIIa, IIa &amp; IV) / –</i> ,<br>Estonia <i>–/–</i> , Finland <i>–/–</i> , Germany <i>–/–</i> (Baltic Sea), Latvia <i>–/–</i> , Lithuania <i>–/–</i> , Poland <i>–/–</i> , Russia <i>–/–</i> ,<br>Sweden <i>Prohibited to fish for and land this species all year round / CR</i> . |   |

### Distribution and status in the Baltic Sea region

The spurdog or spiny dogfish is the most abundant shark species in the Northeast Atlantic as well as within the HELCOM area. All Northeast Atlantic spiny dogfish are considered to belong to a single population. The species occurs regularly in Kattegat, the Sound and the Danish Belts, but only sporadically in the Baltic proper. The species forms large aggregations, and especially large females have been subjected to a targeted fishery. According to available data (ICES 2011) the Northeast Atlantic population may have decreased by as much as 98% compared to original biomass, and the decrease is well over 90% over the last three generations (79 years). ICES (2011) advises on the basis of the precautionary approach that there should be no targeted fishery and that catches in mixed fisheries should be reduced to the lowest possible level. EU has a zero-TAC since 2010.



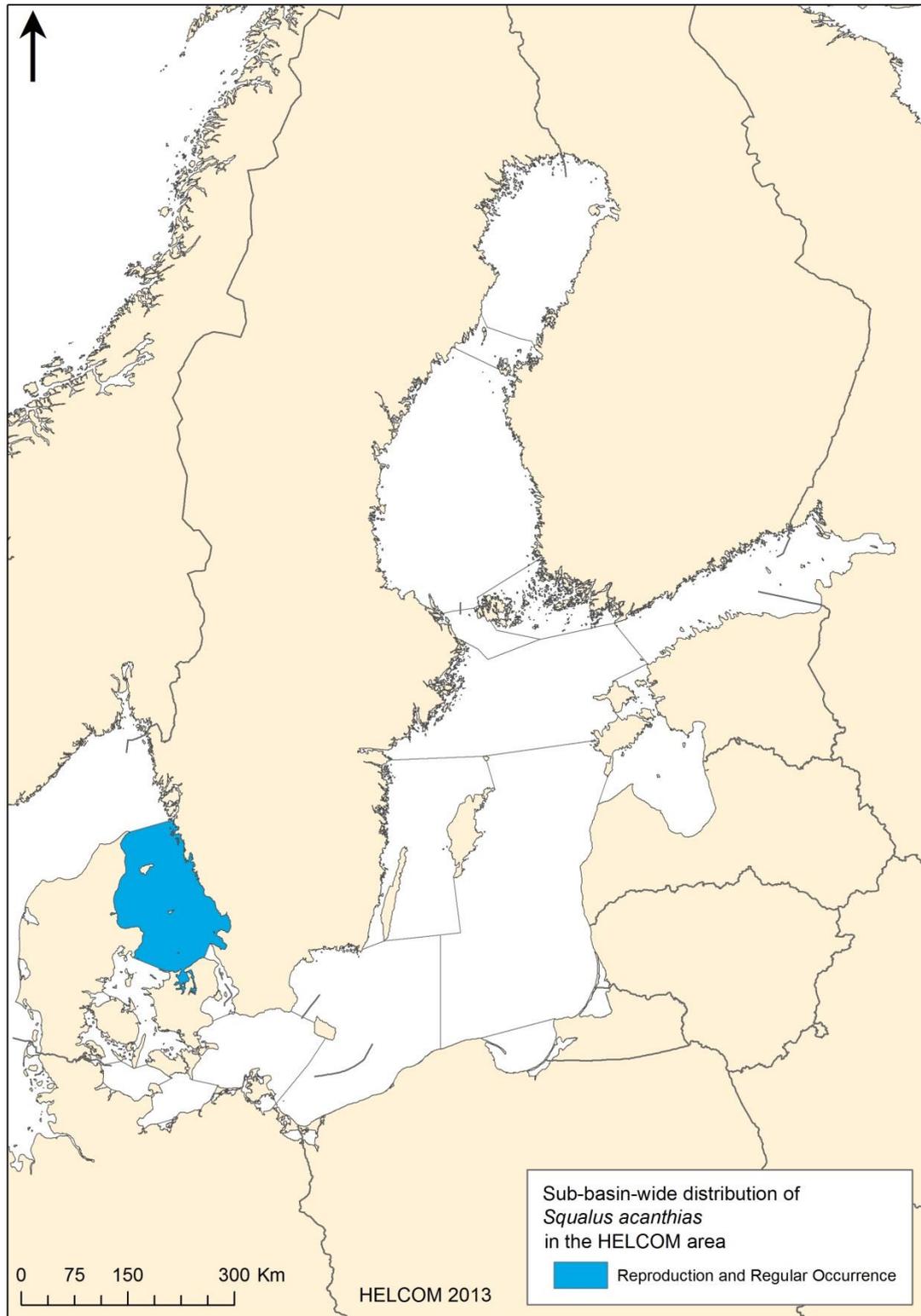
Spurdog. Photo by Björn Fagerholm, Swedish University of Agricultural Sciences

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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

Spurdogs are ovoviparous, reach maturity late and are very long-lived. Females are pregnant for 18–22 months and the very low annual recruitment makes the species extraordinarily sensitive to fishing. The species is highly migratory, travelling in large, dense "packs", segregated by size and sex. Spurdogs prey opportunistically on a variety of small fish and invertebrates (Fordham *et al.* 2006). Aside from humans, adult dogfish have few enemies. Although dogfish are regularly blamed for preying heavily on economically valuable groundfish, stomach content analyses reveal that most groundfish are uncommon in dogfish diets and the amount of groundfish removed by dogfish is a small fraction of fishery removal and stock sizes (Link *et al.* 2002).

### Description of major threats

The principal threat to this species worldwide is over-exploitation, by target and bycatch fisheries. This is a valuable commercial species in many parts of the world, caught in bottom trawls, gillnets, line gear, and by rod and reel. Locally high biomass initially supports large catches, but most large-scale spurdog fisheries have depleted populations and collapsed. An aggregating habit makes it possible for fishers to continue to target highest value mature females even after stocks have been depleted to a few percent of baseline. The species is also taken as bycatch in mixed species fisheries, meaning that fishing pressure can continue even after stocks have been so seriously depleted that they can no longer support viable fisheries.

The spiny dogfish is potentially impacted also by habitat loss and degradation which relate to coastal development, pollution, dredging and bottom trawling that affect the coastal or benthic habitats on which spiny dogfish or their prey rely (ASMFC 2002).

### Assessment justification

Both the extent of occurrence and area of occupancy exceed the limit for red listing, as does the number of mature individuals. The population is, however, currently declining and the rate of decline is estimated to more than 90% over the past 80 years (ICES 2011). The rate of decline exceeds the threshold for Critically Endangered (CR) in the A criterion (A2bd). The threat category is not downgraded by immigration from adjacent areas since the spurdog is declining and considered threatened also outside the HELCOM area.

### Recommendations for actions to conserve the species

The spurdog populations would benefit from a restrictive fisheries management, ICES recommends 0-catch, and from a network of marine protected areas where fisheries is completely banned; such areas would serve for recovery of the populations. As a main threat for the species occurs outside HELCOM area in the neighbouring OSPAR area, and some populations in western HELCOM area depend on North Sea stocks, similar measures are recommended for the European Atlantic to restore population.

### Common names

D - Dornhai; DK - Pighaj; GB – Spurdog/Spiny dogfish ; ES -; FI – Piikkihai; LV - zekņhaizivs, katrāns; LT - Paprastasis dygiaryklis; PL - Koleń; RUS - Kolyuchaya akula, Katran; S – Pigghaj

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### References

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- Fordham, S., Fowler, S.L., Coelho, R., Goldman, K.J., Francis, M. (2006). *Squalus acanthias*. In: IUCN 2012. IUCN Red List of Threatened Species. Available at: [www.iucnredlist.org](http://www.iucnredlist.org)
- HELCOM (2012). Checklist of Baltic Sea Macro-species. Baltic Sea Environment Proceedings No. 130. Helsinki Commission, Helsinki. 203 pp.
- ICES (2011). Report of the ICES Advisory Committee. 2011. ICES Advice. Book 9, 148 pp.
- Link, J.S., Garrison, L.P., Almeida, F.P. (2002). Ecological Interactions between Elasmobranchs and Groundfish Species on the Northeastern U.S. Continental Shelf. I. Evaluating Predation. North American Journal of Fisheries Management, American Fisheries Society 22: 550–562.
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