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Status Assessment 2021 - Basking shark

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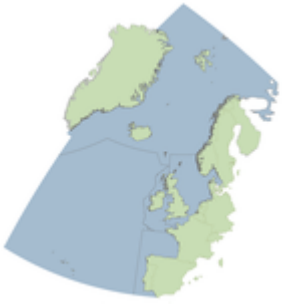

OSPAR QSR2023

(/en/ospar-assessments/quality-status-reports/qsr-2023/)

Assessment of Status		Distribution	Population size	Demographics, e.g. productivity	Previous OSPAR status assessment	Status
Region	I	←→^{2}	?	?	•	Poor
	II	←→^{2}	?	?	•	Poor
	III	←→^{2}	?	?	•	Poor
	IV	←→^{2}	?	?	•	Poor
	V	←→^{2}	?	?	•	Poor

Assessment of key pressures		Incidental catch	Increase in recreational boat traffic and wildlife watching	Habitat degradation and changes in zooplankton composition	Shark fin market	Threat or impact
Region	I	←→[2]	←→[2]	?	?	?
	II	←→[2]	←→[2]	?	?	?
	III	←→[2]	←→[2]	?	?	?
	IV	←→[2]	←→[2]	?	?	?
	V	←→[2]	←→[2]	?	?	?

⊞ Table Legend

⊞ Method of Assessment

Confidence

Medium

Background Information

Basking sharks have been included on the OSPAR List of Threatened and/or Declining Species and Habitats since 2003. Despite targeted fishing of basking sharks having ceased in the OSPAR maritime area the main data sets, which are derived from sighting schemes, indicate large inter-annual variations in occurrence and relative abundance and they do not allow the identification of clear population trends (OSPAR 2009). The pronounced migratory character and vulnerability of this species underlines the need to strengthen knowledge of its current status.

Geographical Range and Distribution

Basking sharks inhabit boreal to warm-temperate waters of the continental and insular shelves circumglobally (Sims 2008). In the Northeast Atlantic, basking sharks are present from Iceland and the southern Barents Sea southwards to the Mediterranean Sea and northwest Africa (ICES 2019a) with aggregation sites around the UK and Ireland. Transatlantic and transequatorial migrations, as well as movements into tropical areas and mesopelagic depths, have been shown (Braun et al. 2018, Dewar et al. 2018, Gore et al. 2008, Skomal et al. 2009).

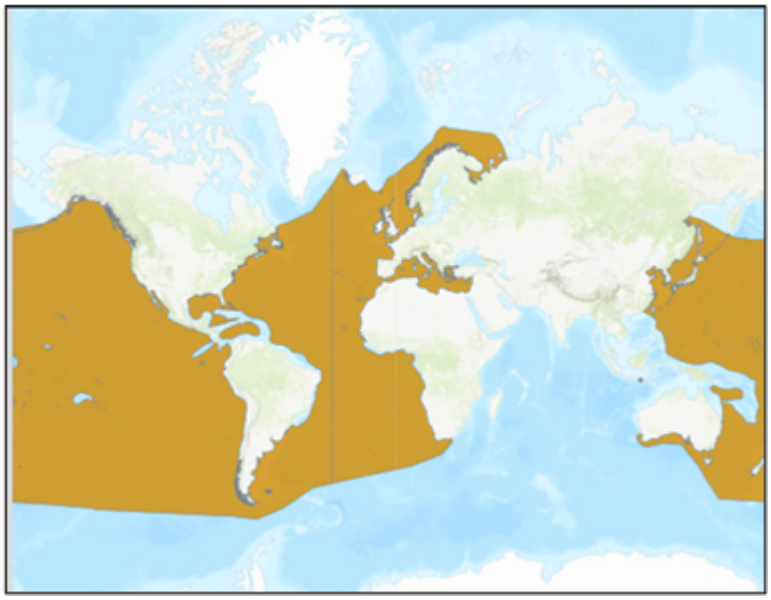

Figure 1: Geographic range of the basking shark. Source: IUCN (https://www.iucnredlist.org/species/4292/166822294)

Population/Abundance

ICES provided advice on this species for the first time in 2005. The advice stated that “Given the perceived depleted stock status, ICES recommends a zero TAC for the whole distribution area”. The basis of this advice was that while there was no information to evaluate the stock status, declining landings (the high price of fins suggest it was not market driven) and anecdotal information suggested that the stock was severely depleted (ICES 2005). No new information has become available to alter the ICES advice first adopted in 2005, that the species is depleted in the Northeast Atlantic.

ICES advises that, when the precautionary approach is applied, there should be zero catches in each of the years 2020–2023. Landings declined from the mid-1970s to the mid-1990s. Various national and EU management measures have restricted landings since 1998 (ICES 2019b).

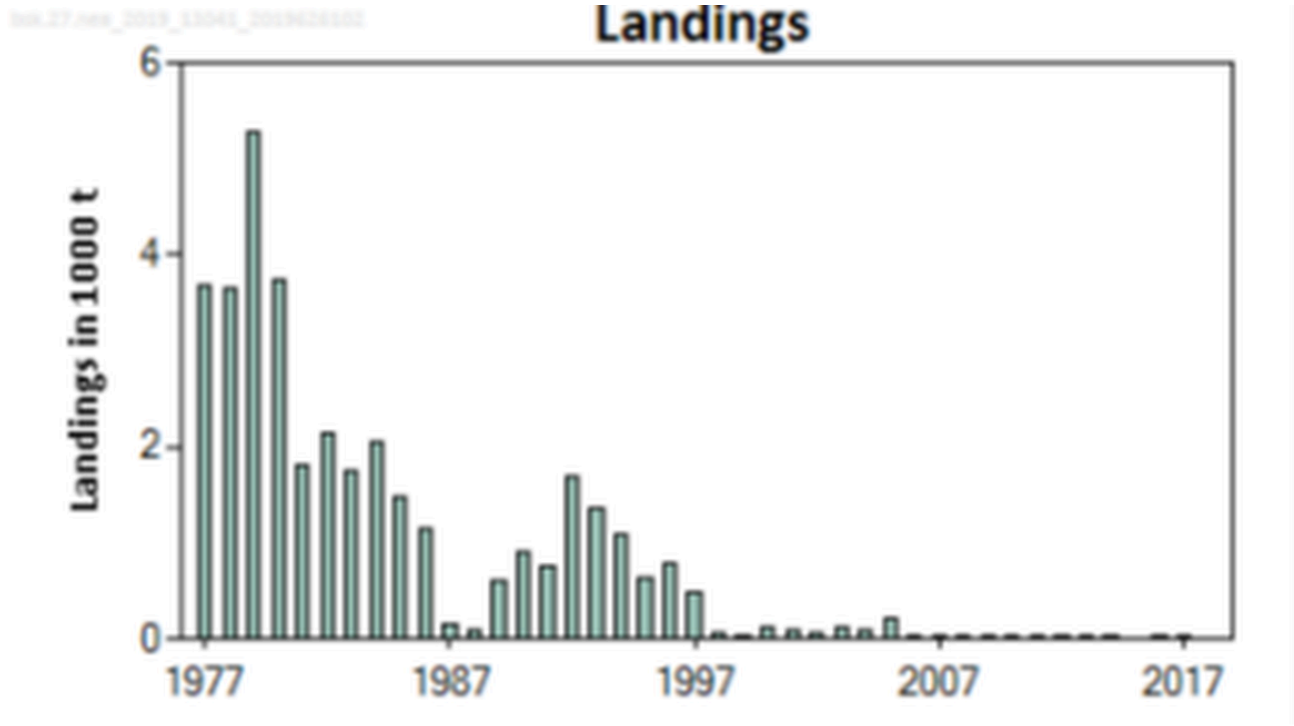

Figure 2: Basking shark landings in the Northeast Atlantic based on ICES landings (tonnes) of basking sharks in subareas 1–14 from 1977 to 2018. (Source: ICES 2019b)

Condition

Little is known about the biology of basking sharks. They are plankton feeders and are often associated with high levels of chlorophyll and surface aggregations of zooplankton, particularly along tidal and shelf-break fronts. They are most often observed when feeding in surface waters by swimming open-mouthed and continuously filtering the water.

The species' reproductive biology is considered to be similar to that of other lamnoid sharks (Kunzlik 1988). Estimates for the gestation period range from 12-36 months (Parker and Stott 1965, Pauly 1978, Pauly 2002, Compagno 1984). The smallest free-swimming individuals recorded are about 1.7-1.8m in length (Parker and Stott, 1965, Sims et al. 1997). However, the young are very rarely encountered until they reach more than 3m in length. Males become sexually mature at a length of 5-7m and females at 8.1-9.8m (Compagno 1984).

Threats and Impacts

Fins and livers of basking sharks were historically in demand and were highly valued on the market (ICES 2019a). The biomass, and revenue, of fins being landed in Norway decreased between 2005 and 2008 (ICES 2019c). There is currently no targeted fishery for basking sharks in the Northeast Atlantic.

The main threat to populations and individuals of this species is accidental bycatch in set nets, trawls, and entanglement in pot lines. Surface feeding activity and vertical movement increase interactions with boat traffic, wildlife tourism and fishing activities, both industrial and recreational

(ICES 2019a). Coastal development, pollution and bottom fishing affect coastal water quality and food sources of this filter-feeding species (e.g. Beaugrand et al. 2002). Research supports the hypothesis that behavioural responses at small scales are linked by broad-scale responses to climate changes (Sims 2008).

Measures that address key pressures from human activities or conserve the species/habitat

There are international measures that address fisheries (EU Prohibited species list), finning (EU Finning Regulation), trade (CITES listing) and conservation (CMS), as well as national measures in Norway, the Isle of Man and the UK (e.g. a designated site for basking sharks has been established in waters off the west coast of Scotland; STECF 2019). Basking shark is listed as a prohibited species for EU vessels in all waters, and it is forbidden for EU vessels to fish for, retain on board, tranship, land, store, sell, display, or offer to sell this species. Further, it is prohibited for non-EU countries to fish for the species in EU waters. NEAFC has implemented a recommendation for this species: Rec. 8/2020 (2020-2023). This prohibits directed fishing and states that any bycatch must be promptly released alive.

Conclusion (including management considerations)

There is no evidence to suggest that the current status of the basking shark has changed as compared to the previous assessment. Although management and conservation measures have been developed, the current population status is still unknown. Moreover, international coordination of measures is still needed.

Landings of basking sharks declined from the mid-1970s to the mid-1990s. Various national and EU management measures have restricted landings since 1998 (ICES 2019b). ICES (2019a, 2019b, 2019c) advises that, when the precautionary approach is applied, there should be zero catches of basking sharks in each of the years 2020–2023. In addition, proper quantification of bycatch and discarding both in weight and numbers of this species in the entire ICES area is required, and where national legislation prohibits landing of bycaught basking sharks, measures should be put in place to ensure that incidental catches are recorded.

Knowledge Gaps

Although the level of knowledge has increased in the past 11 years, there are still significant knowledge gaps related to this species:

i. Quantification of bycatch, fate and discarding, in numbers and estimated weight, is required. Discard survival rates have not been estimated.

ii. Migratory patterns and population structure should be further studied.

iii. Impacts of range shifts in prey species as well as ocean warming and acidification should be investigated. Special attention should be drawn to any coastal development project, and potential habitat and/or hotspots included in national or regional marine spatial planning frameworks.

iv. The importance of individual gatherings of basking sharks in the OSPAR Region is unknown at the global scale, but they might be associated with critical areas linked to foraging or reproduction.

Method used

The assessment is based on ICES examination of catch and effort data, peer reviewed literature, and expert opinion.

⊞ References

Sheet reference:

BDC2021/Basking shark

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