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Status Assessment 2021 - Porbeagle

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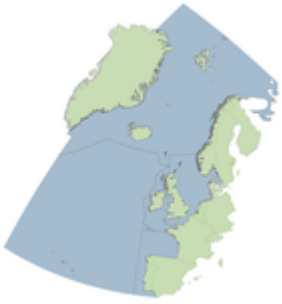

OSPAR QSR2023

(/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	?	?	?	•	?
	II	?	?	?	•	?
	III	?	?	?	•	?
	IV	?	?	?	•	?
	V	?	?	?	•	?

Assessment of key pressures		Target fisheries	Bycatch	Threat or impact
Region	I	↓[1]	←→[1]	?
	II	↓[1]	←→[1]	?
	III	↓[1]	←→[1]	?
	IV	↓[1]	←→[1]	?
	V	↓[1]	←→[1]	?

⊞ Table Legend

⊞ Method of Assessment

Confidence

Medium

Background Information

The porbeagle qualified for the OSPAR List of Threatened and/or Declining Species and Habitats in 2008 according to the sensitivity and decline criteria (OSPAR 2010a). A low intrinsic rate of population increase and slow recovery from depletion qualified the species for the sensitivity criterion. The stock/population decline was estimated as severe, based on a reduction in landings since the 1930s. The greatest threat to porbeagle was considered to be mortality in target fisheries and mortality due to bycatch. The recovery to the biomass at which a maximum sustainable yield would be possible was estimated to require 15-34 years with a complete closure of fisheries from 2010 onwards.

The decline in porbeagle landings from the 1950s to the early 2000s, assumed to relate to population size, qualified this species for OSPAR listing in 2008. However, this interpretation did not fully consider changes in Scandinavian fishing effort over the time-series, especially from 1950 to 1970. Furthermore, recent dedicated surveys (2018–2019) and an exploratory assessment provide converging evidence of an increase in the stock biomass since 2010. Hence, a benchmarked assessment is required to better evaluate the current stock status.

The status of this species is based on ICES advice to fisheries managers for fishing opportunities. This advice has been integrated into an assessment for conservation purposes.

Geographical Range and Distribution

ICES considers that there is a single stock of porbeagle in the Northeast Atlantic (ICES 2019a, Testerman 2014). Its distribution/range spreads over the five OSPAR Regions. Pop-up satellite archival tag deployments in OSPAR Regions III and IV have shown that annual migrations can occur throughout a very large part of the known distribution. These deployments, as well as conventional tagging, have revealed the occurrence of site fidelity by individual porbeagles to spring-summer residential areas across western parts of its range (Biais et al. 2017, Cameron et al. 2019).

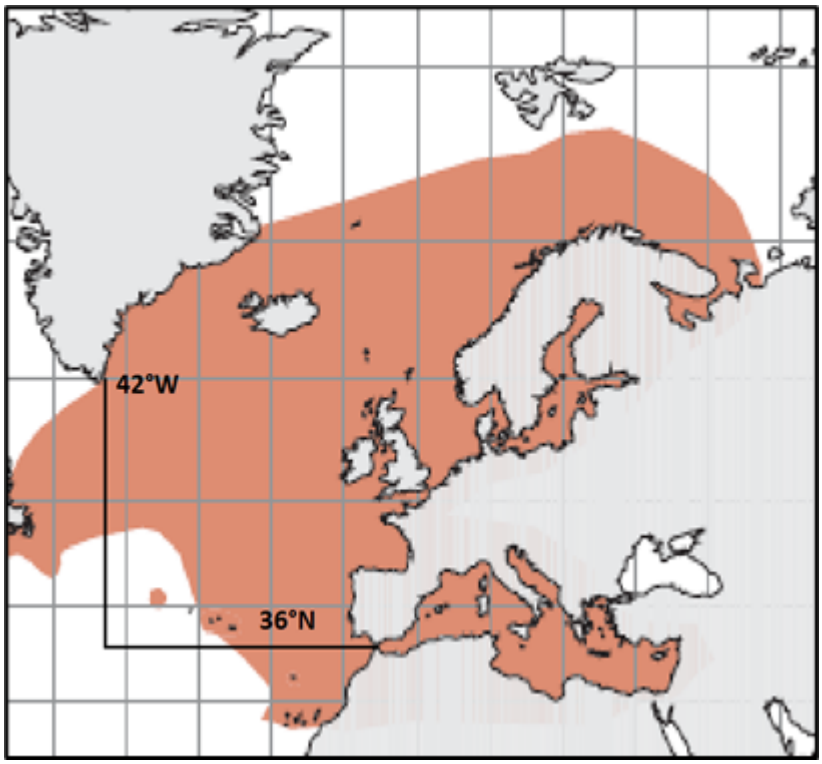

Figure 1: Porbeagle distribution in the North and Northeast Atlantic (Compagno 2001), showing relevant ICES latitudinal and longitudinal stock boundaries.

Population/Abundance

ICES advises that, when the precautionary approach is applied, there should be zero catch of porbeagles in each of the years 2020–2023. Landings have declined since the late 1940s and they were relatively stable from the mid-1960s until 2010. Since 2010, landings by EU vessels have not been permitted (ICES 2019b).

ICES provided advice on this species for the first time in 2005. The advice stated that *"Given the apparent depleted state of this stock, no fishery should be permitted on this stock".* The basis of this advice was that since the directed Norwegian and Faroese fisheries for porbeagle had ceased in the late 1970s due to very low catch rates and, although sporadic small fisheries had occurred since that time, its high market value implied that a directed fishery would have developed again if abundance had increased. This implied that there were no indications of a stock recovery in 2005 (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.

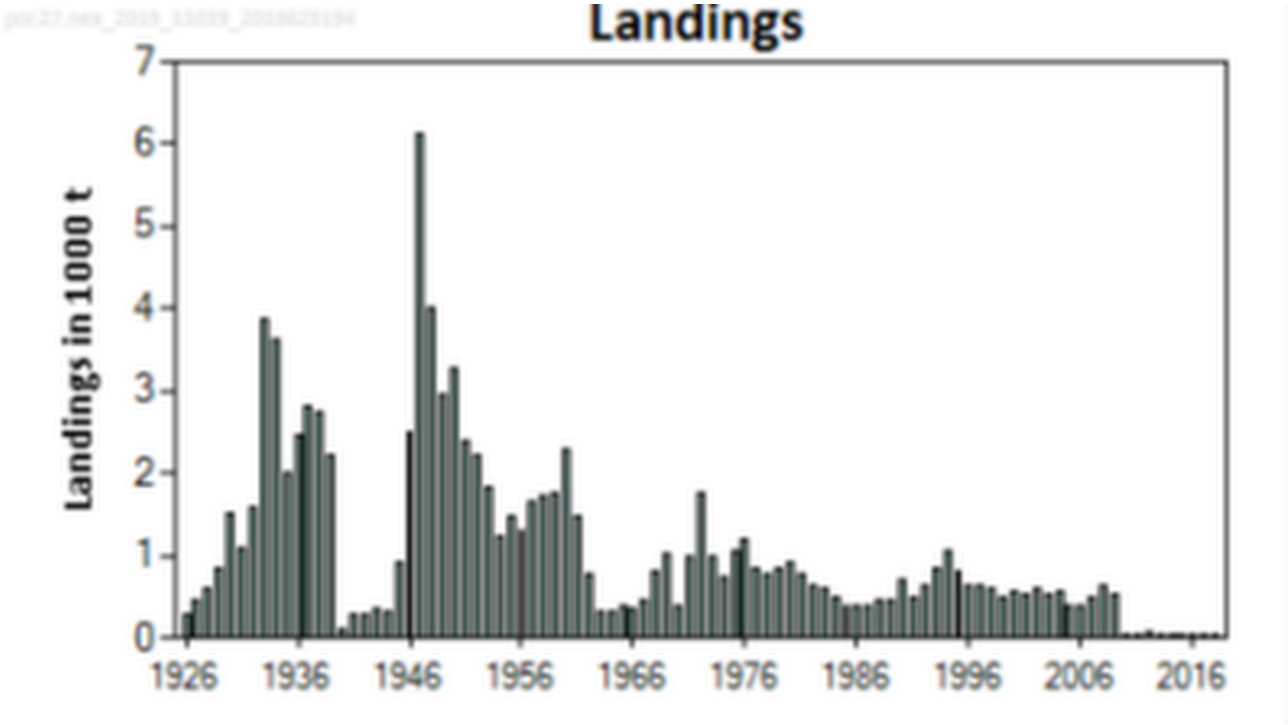

Figure 2: Porbeagle landings in the Northeast Atlantic based on available landings data (tonnes). (Source: ICES 2019b).

Condition

The biology of the porbeagle is well described for the Northwest Atlantic stock (Natanson et al. 2002), where the age-at-maturity is estimated at 8 and 13 years for males and females, respectively. Less information is available for the Northeast Atlantic, with estimated age-at-maturity of 7-8 years for males and approximately 20 years for females, showing them to be slow growing and late maturing (Hennache and Jung, 2010). The porbeagle has a low biological productivity with small litters, late age-at-maturity, and an estimated life span of 26 years in the North Atlantic. Population growth rate is low but it is likely countered by high juvenile survival rates to produce an overall moderate population growth rate in the North Atlantic of 0.052–0.081 (Dulvy et al. 2008).

Threats and Impacts

The measures taken in the past 10 years to address threats to this species (see below) mean that the threat of mortality due to directed fishery activity and to bycatch has been reduced. The species is highly valued by recreational fishers however and, although many practise catch-and-release, post-release mortality is unquantified.

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

In 2010 the Total Allowable Catch (TAC) was reduced to zero and EU vessels were prohibited from landing porbeagle from international waters. Thereafter it has been prohibited for EU vessels to land porbeagle from all waters, and for non-EU vessels to land porbeagle in the EU, since 2015. Since 2007 direct fisheries were banned in Norway but bycatch could be landed up to 2011, and since 2011 live specimens must be released. This species has been listed in Appendix II of CMS since 2008 and in Appendix II of CITES since 2014 (ICES 2019b). The risk of incidental bycatch in commercial fishing still exists however, and the prohibited species listing alone cannot fully mitigate this risk.

OSPAR has identified a number of management measures for the Commission and Contracting parties to be pursued through cooperation with ICES and ICCAT (OSPAR 2010b).

NEAFC has implemented a recommendation for this species: Rec. 7/2020 (2020-2023). This prohibits directed fishing and states that any bycatch must be promptly released alive.

Conclusion (including management considerations)

The porbeagle is a prohibited species under EU fishing regulations. ICES' most recent assessment in 2019 considers that the status of its stocks is unknown. The species' moderate intrinsic population growth rate qualified the porbeagle to be on the OSPAR List in 2008, since this rate allows only a slow recovery from depletion. This sensitivity to exploitation remains unchanged.

The porbeagle appears to be a species that is less threatened in the Northeast Atlantic than when this was first evaluated in 2008. This is because the fishing mortality has been reduced by catch limitations/prohibitions which have been implemented since 2010.

Despite such progress, the lack of a stock size estimate, as well as its moderate intrinsic population growth rate, imply a requirement for further protective actions.

Knowledge Gaps

Research is needed on life-history, population trends and discard survival of porbeagles in the Northeast Atlantic. Research should also be developed to identify important areas for important life-history stages (e.g. mating, pupping and nursery grounds), and the different subpopulations that may together comprise the overall stock. In this regard, a continuation of the spring-summer survey carried out in the Bay of Biscay and the Southern Celtic Sea in 2018 and 2019, in combination with tagging and with an expansion to other areas within the stock distribution, would be both advantageous and informative (ICES 2019b). A new assessment will be attempted by ICES in 2022 and this will use additional information not currently used in the assessment.

Method used

The assessment is based on ICES' qualitative analyses of long-term trends in catch and effort data.

⊞ References

Sheet reference:

BDC2021/Porbeagle