



Is the British closure of Sandeel fishing based on science or feelings?

Background for catch advice

The amount of sandeel that can be fished annually is decided by the EU and the UK jointly and is based on the advice given by the scientific and independent body ICES (International Council for the Exploration of the Sea). It is demonstrated that management and fishery for sandeel is sustainable, within the precautionary principle and at a level that keeps sandeel population at healthy population size that ensures future generations. The sandell fishery is an example of ecosystem-based management where humans only use that part of the resource that is available after predatory fish, birds and mammals have eaten their share (ICES, 2023).

Ecosystem based management

When it comes to ecosystem-based stock assessment and management then shortlived species such as sandell are on the forefront integrating ecosystem trends into the fisheries advice provided by ICES (Trenkel et al., 2023), an advice which is the basis for the quotas. In practice this is done by accounting for the proportion of sandeel that are eaten annually by predatory fish, birds and mammals, correcting the advice according to whether sandeel have grown a lot or a little in recent years and lastly by including changes in maturity within the stock. Apart from the kittiwake, which is the world's most widespread gull species, there is no effect of sandeel fishing or sandell closures on the breeding success of English seabirds (Searle et al., 2023). That sandeel fishing, at its current level, does not have a negative effect on seabirds is a result of a successful ecosystem-based management that researchers at DTU Aqua and ICES have spent decades developing and evaluating.

Although the management will, at least in theory, secure that enough sandeel are left in the ecosystem as food for predators, some studies has been used to argue that birds, like the Kittiwakes, has impaired breeding success because of sandeel fishery. Breeding kittiwakes east of Scotland depend on arrival of recruiting (0-year old) sandeel in their diet, however since, sandeels are not caught in large numbers in the fishery until the subsequent year, at age 1 and



older, any competition between birds and fishery are hard to see. The lack of consistency in relating breeding success with sandeel abundance is also evident when looking at the eastern English kittiwake colonies which does not consistently related to each other, indicating that they are not reacting to a common factor such as sandeel abundance in area 1r. Factors affecting the breeding success of kittiwakes may be related to the emergence behavior of sandeel and/or to other temperature-related processes rather than simply the abundance of sandeel of age 1 and older. While improvement was seen in terms of breeding success of kittiwakes following the closure of an area off east Scotland to large scale fishing, this management measure did not fully restore breeding success of kittiwakes to previous levels, indicating that other factors than food shortage are affecting this species in this area. For a recent and comprehensive review on the relationship between sandeel and seabird breeding success (Searle et al., 2023).

An often-used rule of thumb when finding the proportion of forage fish that should be left for the ecosystem is the “leave one-third for the birds” concept (Cury et al., 2011). The Cury et al. (2011) paper states that as long as the biomass of prey fish exceeds a third of the maximum, no adverse effects are generally seen on seabird recruitment. In case of sandeel in the North sea the management strategy described above is actually leaving around one third of the maximum biomass in the ocean each year indicating that even this alternative reference biomass level is left in the ocean for birds.

As the discussion is not new when it comes to questioning the sustainability of the sandeel fishery several documents have already been produced. Enclosed this mail is selected two such documents, one is summarizing the discussion that took place between the MSC auditing team and NGO's during the 2017 MSC certification of Sandeel (and Norway pout)..

Improvements to the management

That the UK bases its decisions on emotions and ignores the available science is a step in the wrong direction and will only lead to disproportionate management, which will neither ensure a better marine environment nor help the biodiversity crisis we are in. If concern of a negative effect from the fishery on sandeel was scientifically based one would have expected the concerns to be raised at the resent sandeel benchmark. Instead, the DPPO calls on work is



being initiated to assess whether it might make sense to close sandeel fishing locally in specific areas that are of great importance as a foraging area for seabirds during their breeding season. Such an approach will be a natural step in the development of the ecosystem-based scientific advice provided in ICES and will ensure an even better balance between ecosystem needs and the utilization of a sustainable and reproducible resource.

References:

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