

EU request for a Technical Service to provide catch statistics for skates and rays caught in ICES areas 3, 4, 5, 6, 7, 8 and 9 included in the SRX TAC group

Service summary

ICES provides, as a technical service, landings statistics for skates and rays caught in ICES areas 3, 4, 5, 6, 7, 8 and 9 for the years 2017–2020. Discards data are restricted to a few stocks for which reliable estimates are available.

This technical service is based on landings data for all species of skates and rays reported to ICES by national data providers and consolidated by the ICES Working Group on Elasmobranch Fishes (WGEF) for the years 2017–2020.

Data for 2021 are not yet available to ICES. National data will be delivered as part of the ICES data call in support of the ICES fisheries advice in 2022 later in the year and will be analysed by WGEF in June 2022.

Discards data are highly uncertain for elasmobranchs. However, discard data is provided for stocks currently involved in a benchmarking process (WKELASMO; ICES, 2022) or when discards are used in the advice for a given stock (rjc.27.8, rjn.27.678abd, rjn.27.8c, rjn.27.9a, rju.27.7de, and rju.27.8ab).

The electronic data outputs of this technical service can be accessed at <https://doi.org/10.17895/ices.data.19619754>

Request

ICES is requested to:

1. To provide catch statistics for all species of skates and rays caught in ICES areas 3, 4, 5, 6, 7, 8 and 9 SRX group TACs
2. The catch statistics should be provided by ICES rectangle, fishing gear, and country, for the years during 2017–2021.

Elaboration on the Technical Service

Further information on how the official landings data reported to ICES is quality checked and consolidated by WGEF is available in ICES (2016, 2020).

Basis of the technical service

Methods

The requested landings data were compiled and retrieved from the “Landings table” – an Excel file developed and maintained by WGEF in the working group SharePoint. This file contains the consolidated landings data of all elasmobranch species included in ICES catch statistics. The ICES estimates provided by WGEF are considered to be more reliable than the official national data being reported to ICES, because a number of quality checks and error corrections are done yearly by WGEF. A summary of this process is described below:

InterCatch is used as the database for all official national elasmobranch landings. The ICES landings are estimated through an automated R-coding procedure available in the Transparent Assessment Framework (TAF); data is extracted from InterCatch. The R-coding procedure consists of amending and updating the InterCatch output in a two-step process.

- First, data are corrected based on an issues list compiled by WGEF experts. The issues list contains all errors in species coding and is described in Table 4 of the WKSHARK2 report (ICES, 2016). Three main causes for corrections are reported: 1) species being outside their natural spatial distribution, 2) misidentification of the species and 3) corrections by fleet information (i.e. knowing a certain gear does not catch a particular species). The issues list is revisited annually by WGEF.
- The second step is to allocate the ICES stock names to the landings data. All reported landings are allocated to an ICES stock.

Only data for 2017–2020 is presented. 2021 data to be used by WGEF is currently being requested through the current ICES Fisheries Data call¹.

Additional information

The elasmobranch landings data provided by national data providers is reported by species rather than stock, with the responsibility for aggregating the data at stock level resting with the expert group (WGEF).

The quality of elasmobranch landings data was historically poor for several reasons, including taxonomical confusion and because landings were not legally required to be reported on a species specific level. Since the EU obliged Member States to provide species-specific landings data in 2009, the quality of landings data reported to ICES have improved a lot. Estimated discards, however, continue to be uncertain because elasmobranchs are mostly caught as bycatch (often in small amounts) in all types of fisheries, because of the low discard sampling effort in many of these fisheries, and due to species identification issues. Furthermore, survival of discarded elasmobranchs is thought to be high but quantitative estimates are scarce and the relationship between discards and dead catches remains unknown in many cases.

WGEF evaluates the submitted national data annually, decides on and documents changes to these datasets in the relevant working group report and agrees on the set of data for each stock to be used for the assessment and advice. Data provided may also be imprecise as a result of revisions by reporting parties.

Caveats for Landings

Although strongly improving over time, for all years, WGEF's best estimates are still considered inaccurate for a number of reasons:

- i. Quota species may be reported as elasmobranchs to avoid exceeding quota, which would lead to over-reporting;
- ii. Fishers may not take care when completing landings data records, for a variety of reasons;
- iii. Administrations may not consider that it is important to collect accurate data for these species;
- iv. Some species could be underreported to avoid highlighting that bycatch is a significant problem in some fisheries;
- v. Some small inshore vessels may target (or have a bycatch of) certain species and the landings of such inshore vessels may not always be included in official statistics. This issue is probably minor for the last 10 years but was significant in earlier years.
- vi. Illegal landings of species locally abundant but subject to prohibition or restrictive quotas are likely to occur, although the magnitude and impact of this issue is unknown.

Caveats for Discards

The main issues concerning the estimation of elasmobranch total discards are:

- i. **Data quality:** Errors in species identification is an issue and such errors are suspected in various national datasets.
- ii. **Insufficient sampling effort:** Uncertainties around the mean discard rate are high and can only be improved by a significant increase in the coverage of on-board observations. Because of variable retention patterns (see below) and low abundance, reliable estimates would probably only be obtained with a significantly larger sampling effort for most stocks
- iii. **Raising factor:** Discard estimators used varies between countries (ICES, 2017). Discard estimators adopted by each country depends upon the sampling plan and characteristics of that particular country, fleet, or métier. It is thus extremely unlikely that a one-for-all estimator can be adopted.
- iv. **Discard retention patterns:** Discard-retention patterns change over years, seasons and between fleets and countries. Not all métiers/fleets will have observer coverage at a level that will be able to detect changes in discard retention patterns. Furthermore, market demand and management measures are important drivers for elasmobranch discards.
- v. **Discard survival:** With a high survival of discards, catch (landings and estimated discards) do not equate to removals in terms of population dynamics. Some high survival rates of elasmobranchs after catch and release

¹ Joint ICES Fisheries Data call for landings, discards, biological and effort data and other supporting information in support of the ICES fisheries advice in 2022. <https://doi.org/10.17895/ices.pub.10038>

have been estimated. To date, such estimates are only available for a limited number of European fisheries and stocks. Being impacted by, amongst other factors, the catch of other species and the temperature at catch time, survival is species- and fishery- specific. Data to estimate dead removals are currently insufficient for most stocks.

- vi. **Use of discards in assessment and advice:** Removals consist of the combination of two types of data: landings and dead discards. Estimated discards have been included in advice on undulate ray in the English Channel and the Bay of Biscay since 2018. For these stocks, discards can represent a large part of the catch (the main part since 2009). However, these discards do not represent dead catch since the survival of this species was estimated to be particularly high. WKELASMO converted discards to dead discards using survival rates by gear for undulate or thornback ray found in the literature (Baulier, 2022). Depending on the stock, discards may not be problematic for the assessment. In case of cuckoo ray in the Celtic Seas and Bay of Biscay, the assessment prepared for the WKELASMO benchmark uses landings-only data because the modelling approach relies on the exploitable biomass. For thornback ray in the Bay of Biscay, the combination of a (highly uncertain) discard rate of 10–20% with a 75% survival resulted in a less than 5% dead discards rate, a level usually considered negligible in ICES assessments.

Sources and references

Baulier, L. 2022. Working Document to the ICES Benchmark Workshop for selected Elasmobranch stocks (WKELASMO), 2022: Stock assessment of undulate ray (*Raja undulata*) in the English Channel using a surplus production model.

ICES. 2016. Report of the Workshop to compile and refine catch and landings of elasmobranchs (WKSHARK2), ICES Expert Group reports. <https://doi.org/10.17895/ices.pub.5590>

ICES. 2017. Report of the Workshop to compile and refine catch and landings of elasmobranchs (WKSHARK3), 20-24 February 2017, Nantes, France. ICES CM 2017/ ACOM:38. 119 pp. <https://doi.org/10.17895/ices.pub.19290452>

ICES. 2020. Working Group on Elasmobranch Fishes (WGEF). ICES Scientific Reports. 2:77. 789 pp. <http://doi.org/10.17895/ices.pub.7470>

ICES. 2021. Working Group on Elasmobranch Fishes (WGEF). ICES Scientific Reports. 3:59. 822 pp. <https://doi.org/10.17895/ices.pub.8199>

ICES. 2022. Benchmark Workshop for selected elasmobranch stocks (WKELASMO). ICES Scientific Reports. *In prep.*

Recommended citation: ICES. 2022. EU request for a Technical Service to provide catch statistics for skates and rays caught in ICES areas 3, 4, 5, 6, 7, 8 and 9 included in the SRX TAC group. *In* Report of the ICES Advisory Committee, 2022. ICES Advice 2022. sr.2022.05. <https://doi.org/10.17895/ices.advice.1961441>. The electronic data outputs can be accessed at <https://doi.org/10.17895/ices.data.19619754>.