

French request for updated advice on undulate ray (*Raja undulata*) in divisions 7.d–e and 8.a–b for 2018

Advice Summary

In response to the request for updated advice for undulate ray (*Raja undulata*), ICES advises that when the precautionary approach is applied, catches in divisions 7.d–e should be no more than 2127 tonnes in 2018 of which no more than 115 tonnes should be landed. For undulate ray in divisions 8.a-b, ICES advises that when the precautionary approach is applied, catches should be no more than 202 tonnes in 2018 of which no more than 13 tonnes should be landed.

ICES advises that the restriction in the amount of landings indicated above is due to the assumed high survival of discards and that landing a higher share of the catches would result in an increase in the fishing mortality for the stock. ICES is not in a position to evaluate if such an increase in fishing mortality is sustainable.

Request

The text of the request received from France was as follows:

Following the advice issued in 2016 by the the International Council for the Exploration of the Sea on undulate ray (Raja undulata) in divisions 7.d and 7.e and Undulate ray (Raja undulata) in divisions 8.a-b, France request ICES to provide an updated advice on these two stocks.

It appears that new elements can be made available to ICES and would be likely to modify the biannual advices made in 2016 in accordance with the principles adopted for category 3 to 6 stocks.

The advice issued in 2016 was based on recent landing figures, which were very strongly constrained by the total allowable catch (TAC), which had itself been arbitrarily set in 2015.

A self-sampling data collection programme set up by France since 2015 shows that the quantities caught (discards and landings) for this species are well above the quantities landed in 2015. The recommendation of ICES should therefore take into account these new catch estimates. An estimate of catches over the period 2016–2017 (estimates of catches and discards for each stock) will therefore be provided by France to ICES by 30 April.

The method for estimating fishing opportunities should also include estimates of the survival rates of discards of skate as mentioned by STECF.

Elaboration on Advice

The updated advice for the two stocks is based on revised estimates of landings and discards for the recent period. Previous advice was based on landings only.

Discards were estimated for all fleets based on data from the observer programme collected under the Data Collection Framework (DCF). Data were available starting in 2009. Combined with the landings, this provided estimates of total catch. Data from the French self-sampling programme could not be incorporated at this time as it requires further validation.

The advice on fishing opportunities is based on considerations of the survival of discards. Survival of discards is considered to be potentially high (50 to 80%; STECF, 2015) for many species of skates and rays but there are no specific survival estimates for undulate ray that would be applicable to the entire fishery for each of these stocks. In addition, survival can be expected to vary depending on the gear, handling and environmental conditions among other factors. Discards have been typically high (about 95%) in these stocks because of the restrictive management measures. The high potential survival of discarded rays implies that the total catches are not indicative of the mortality inflicted on the stock because a portion of the discards actually

survive. At one extreme, 100% survival would imply that all of the discards survive and that the actual mortality inflicted by the fishery on the stock is only caused by the landings. Conversely with zero survival, the mortality inflicted by the fishery on the stock would be equivalent to the total catches (landings and discards). Therefore, in the absence of a reliable estimate of survival but with information suggesting that the survival can be high, landing all the catches (zero discards) would likely pose an unsustainable increase in the mortality of the stock. In this situation of likely high survival, the precautionary approach advice is to assume that the landings represent the bulk of the fishery mortality and to advise for landings of no more than 115 tonnes for divisions 7.d–e and 13 tonnes for divisions 8.a–b. This assumes that all discards survive.

Further details regarding the updated advice can be found in the respective updated advice documents for the two stocks (ICES, 2018a,b).

Basis of the advice

Background

Undulate ray was designated as a prohibited species by the EU at the same time that the obligation to report species-specific landings data was introduced in 2009. This meant that vessels could no longer target, retain, or land undulate rays in northeast Atlantic waters. The listing of undulate ray under the prohibited species list has meant that all the catches should have been discarded over the time period. The extent of the quantities discarded had been largely unknown. Following on the introduction of the prohibition on targeting, there has been a marked increase in the abundance of undulate ray in some areas (e.g. undulate ray in 7.d–e; note that no abundance indicator is available for 8.a–b).

Landing opportunities were re-introduced from 2015 in order to allow for the landing of some bycatches of undulate ray. However, given the low landings resulting from the prohibition on retention and landing of undulate ray, the advised landings issued in 2016 for 2017 and in 2018 and based on the precautionary approach was low. As a result of the availability of new information (landing and discards information for 2016–2017 and updates from previous years based on the observer programme and the industry self-sampling programme), France has requested ICES to provide updated advice for 2018 taking into account the new sources of information as well as survival estimates of discards from STECF.

To address the issue, ICES conducted analyses (ICES, 2018c) to consider the new information from the observer and industry self-sampling programmes and to provide updated advice for 2018 for the two stocks of undulate rays (7.d–e and 8.a–b).

Results and conclusions

ICES considers that self-sampling programmes and on-board observations can inform on the level of total catches and the relative abundance of ray species for the areas considered, and that can be used to complement survey data where available.

However, it was not possible to complete an assessment of the self-sampling program and further analyses will be required to determine the extent to which these data could be used to inform on these fisheries.

The use of the observer programme data to estimate discards resulted in estimates of total catches for the 7.d–e and 8.a–b undulate ray stocks (tables 1 and 2). These are the first estimates of discards for these two stocks. The discards are considered to be adequately estimated although there are some uncertainties due to issues of raising, similar to that for other stocks.

Table 1 Undulate ray in divisions 7.d–e. Catch, landings and discards as estimated by ICES (in tonnes). The fishery is conducted by France, Belgium, and the UK.

Year	Catch	Landings	Discards
2009	62	21	41
2010	166	9	157
2011	1410	20	1390
2012	2105	6	2099
2013	2316	3	2313
2014	901	10	891
2015	1124	54	1070
2016	1979	84	1895
2017	2573	139	2434

Table 2 Undulate ray in divisions 8.a–b. Catch, landings, and discards as estimated by ICES (in tonnes). The fishery is entirely conducted by France.

Year	Catch	Landings	Discards
2009	20	3	17
2010	31	2	29
2011	65	2	63
2012	206	3	203
2013	230	0	230
2014	248	7	241
2015	272	8	264
2016	225	14	211
2017	336	22	314

The estimates of the landings and discards indicate that the total catch has been between about 1000 to 2500 tonnes since 2011 for the 7.d–e stock and 200 to 300 tonnes for the stock in 8.a–b. For a large number of species, discards survival is very low and usually considered to be zero, however discards survival for rays and skates in general can be quite high (50–80%; STECF, 2015) although there is no specific value for undulate ray. Because of the discards practices and the unquantified discards survival, the total catch is not indicative of the amount of fish removed from the population due to fishing; this amount would be potentially considerably lower. This implies that advising on catches without taking into account the survival of discards would result in advised catches to be landed that are likely to be unsustainable in the long term.

Methods

An estimation of the discards was completed for all fleets.

For the French fleet the estimation of discards using the observer programme was derived using a ratio estimator, the auxiliary variable being the catch of all species. This approach was taken instead of the more usual of raising the discards to total landings of the same species, because most vessels discards 100% of their catch of undulate ray. Discard estimates for Belgium and the UK in 7d–e were also based on the national on-board observer programmes.

The estimates of discards combined with the ICES landings (official landings), provided the total catch used in the advice.

Using the updated information, the advisory framework for stocks without analytical assessment and the assumption that 100% discards survive, the advice for 2018 was revised and extended to 2019 and 2020 (details in ICES, 2018a,b).

Sources and references

ICES. 2018a. Undulate ray (*Raja undulata*) in divisions 7.d–e (English Channel). 13 July 2018. *In* Report of the ICES Advisory Committee, 2018. ICES Advice 2018. rju.27.7de.

ICES. 2018b. Undulate ray (*Raja undulata*) in divisions 8.a–b (northern and central Bay of Biscay). 13 July 2018. *In* Report of the ICES Advisory Committee, 2018. ICES Advice 2018. rju.27.8ab.

ICES. 2018c. Report on the French request for updated advice for Undulate ray (*Raja undulata*) in Divisions 7.d-e and 8.a-b. Annex 8 *in* Report of the Working Group on Elasmobranch Fishes, 19-28 June 2018, Lisbon, Portugal. ICES CM 2018/ACOM:16. Available separately in the [ICES library](#).

STECF. 2015. Scientific, Technical and Economic Committee for Fisheries (STECF) 2015. Possible by-catch provisions for undulate ray in ICES areas VIIde, VIIIab and IX (STECF-15-03). Publications Office of the European Union, Luxembourg, EUR 27154 EN, JRC 95199, 17 pp.