

Undulate ray (*Raja undulata*) in divisions 7.d–e (English Channel)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches should be no more than 2552 tonnes in each of the years 2021 and 2022. If discard rates do not change from the average of the last five years (2015–2019), this implies landings of no more than 183 tonnes.

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.

Note: This advice sheet is abbreviated due to the COVID-19 disruption. The previous advice issued for 2019 and 2020 is attached as Annex 1.

Stock development over time

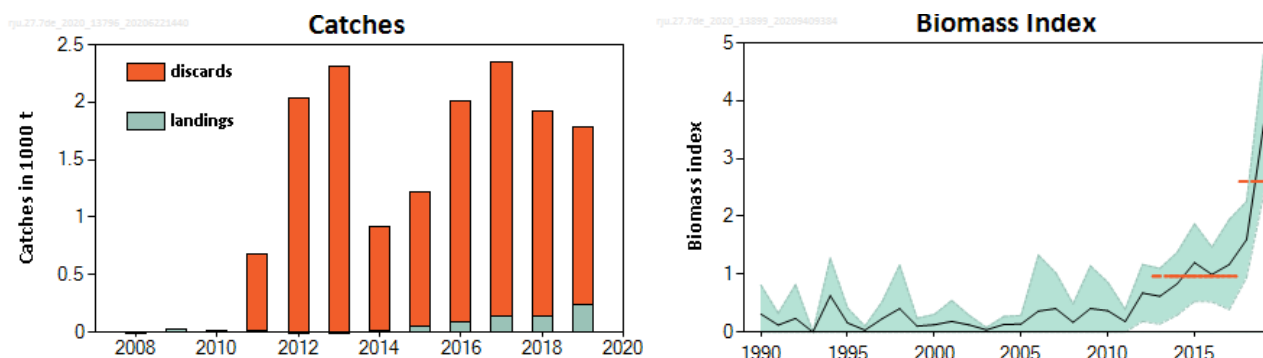


Figure 1 Undulate ray in divisions 7.d–e. Left: ICES estimated landings and discards (in tonnes). Right: Swept-area biomass (thousand tonnes) indicator from the CGFS-Q4 survey with 95% confidence intervals. Horizontal lines show the mean biomass indicators for 2013–2017 and 2018–2019.

Stock and exploitation status

Table 1 Undulate ray in divisions 7.d–e (English Channel). State of the stock and the fishery relative to reference points.

		Fishing pressure			Stock size					
		2017	2018	2019	2017	2018	2019			
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	$MSY B_{trigger}$?	?	?	Undefined
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Unknown	B_{pa}, B_{lim}	?	?	?	Undefined
Management plan	F_{MGT}	—	—	—	Not applicable	B_{MGT}	—	—	—	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-	↗	↗	↗	Increasing

Catch scenarios

The precautionary buffer has never been applied on this stock. The stock size and fishing pressure status relative to reference points is unknown. However, since 2011 there has been a consistent increase in the stock size indicator and a significant decrease in the fishing effort; therefore, the precautionary buffer was not applied.

The discard rate is 93% of the catch; however, discard survival is unquantified for this stock.

Table 2 Undulate ray in divisions 7.d–e (English Channel). Basis for the catch scenarios*.

Index A (2018–2019)		2601
Index B (2013–2017)		964
Index ratio (A/B)		2.70
Uncertainty cap	Applied	1.2
Advised catches for 2019–2020, issued in 2018		2127 tonnes
Discard rate (average for 2015–2019)		0.93
Precautionary buffer	Not applied	-
Catch advice **		2552 tonnes
Landings corresponding to the catch advice ***		183 tonnes
% advice change ^		+20%

* The figures in the table are rounded. Calculations were done with unrounded inputs and computed values may not match exactly when calculated using the rounded figures in the table.

** [Advice for 2019–2020] × [uncertainty cap].

*** [Advice for 2019–2020] × [uncertainty cap] × [1–discard rate].

^ Advice value for 2021–2022 relative to advice value for 2019–2020.

The advised landings have increased by 20% because the biomass index has increased.

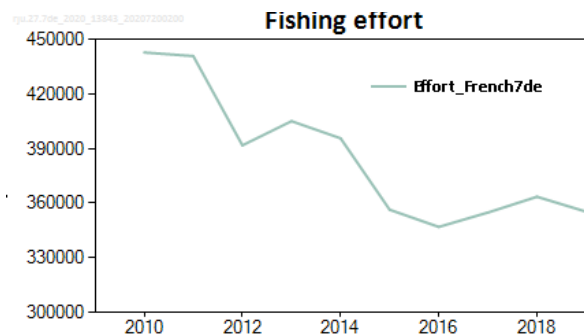


Figure 2 Undulate ray in divisions 7.d–e. Cumulated annual days-at-sea for French trawlers, netters, and longliners operating in ICES divisions 7.d–e.

Issues relevant for the advice

The time-series of the biomass indicator has changed from the previous advice to now include the full area covered by the survey in the period 1990 to present. The first two years of the survey (1988 and 1989) were excluded, as the survey did not cover the western part of the current survey area.

History of the advice, catch, and management

Table 3 Undulate ray in divisions 7.d–e (English Channel). History of ICES advice and ICES estimates of landings and discards. All weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	Predicted landings corresp. to advice	TAC in 7.d†	TAC in 7.e†	ICES discards **	ICES landings *
2009	No targeted fishery		0			41	21
2010	No new advice, same as 2009		0			157	9
2011	No targeted fishery		0			662	20
2012	No new advice, same as 2011		0			2028	6
2013	No targeted fishery, minimize bycatch		0			2304	3
2014	No targeted fishery, minimize bycatch		0			909	10
2015	No targeted fishery, management plan for bycatch		0	11	100	1160	54
2016	No targeted fishery, management plan for bycatch		0	12	100	1927	84
2017	Precautionary approach		≤ 65	19	161	2204	139
2018	Precautionary approach		≤ 115 ^	19	161	1776	143
2019	Precautionary approach	≤ 2127	≤ 115		234 ***	1534	244
2020	Precautionary approach	≤ 2127	≤ 115		234 ***		
2021	Precautionary approach	≤ 2552	≤ 183				
2022	Precautionary approach	≤ 2552	≤ 183				

* Fishing opportunities are managed through a TAC for each part of the stock within the relevant TAC for divisions 7.d–e by management unit, which includes all species of skates and rays. Since 2016, there has been a specified TAC for this species in the management unit.

** Discards for this stock have been estimated for the first time in 2018.

*** From year 2019 on, the previously distinct TAC for divisions 7.d and 7.e have been merged into a unique TAC.

^ This advice value was updated in 2018. The original advice value for 2018 was 65 tonnes (ICES, 2016).

Summary of the assessment

Table 4 Undulate ray in divisions 7.d–e (English Channel). Assessment summary. The stock size indicator is the swept-area biomass index (in tonnes) from the CGFS-Q4 survey. ICES discards and landings are in tonnes.

Year	Biomass index (tonnes)	Low 95% CI	High 95% CI	ICES discards	ICES landings
1990	311	0	813		
1991	122	0	325		
1992	236	0	819		
1993	0	0	0		
1994	629	0	1274		
1995	157	0	415		
1996	34	0	102		
1997	232	0	529		
1998	406	0	1156		
1999	102	0	238		
2000	127	0	305		
2001	184	0	546		
2002	125	0	290		
2003	39	0	80		
2004	130	0	267		
2005	138	0	288		
2006	364	0	1330		
2007	405	0	1024		
2008	168	0	486		2
2009	408	0	1143		21
2010	369	0	861		9
2011	181	0	394	662	20
2012	676	184	1168	2028	6
2013	619	138	1100	2304	3
2014	835	293	1378	909	10
2015	1201	532	1871	1160	55
2016	995	522	1467	1927	84
2017	1167	389	1945	2204	139
2018	1600	940	2259	1776	143
2019	3603	2397	4808	1534	244

Sources and references

ICES. 2016. Undulate ray (*Raja undulata*) in divisions 7.d and 7.e (English Channel). In Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 5, Section 5.3.27. 4 pp.

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

Recommended citation: ICES. 2020. Undulate ray (*Raja undulata*) in divisions 7.d and 7.e (English Channel). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, rju.27.7de. <https://doi.org/10.17895/ices.advice.5799>.