Spotted ray (*Raja montagui*) in Division 9.a (Atlantic Iberian waters)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, landings should be no more than 108 tonnes in each of the years 2021 and 2022. ICES cannot quantify the corresponding catches.

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

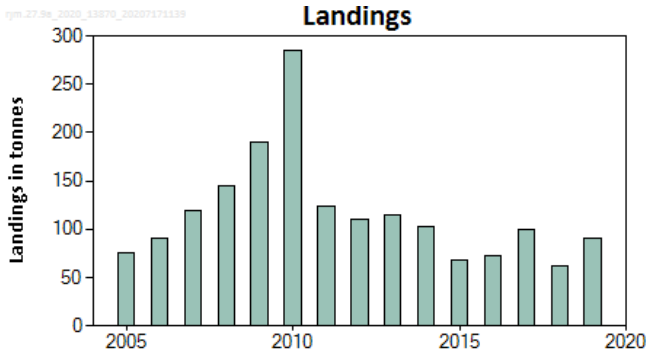

Figure 1 Spotted ray in Division 9.a. ICES landings estimates (in tonnes).

Stock and exploitation status

Table 1 Spotted ray in Division 9.a. 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 $B_{trigger}$	?	?	?	Unknown
Precautionary approach	F_{pa},F_{lim}	?	?	?	Unknown	B_{pa},B_{lim}	?	?	?	Unknown
Management plan	F_{MGT}	–	–	–	Not applicable	B_{MGT}	–	–	–	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-	?	?	?	Unknown

Catch scenarios

The status of the stock size and fishing pressure relative to reference points is unknown. The precautionary buffer was last applied in 2018 and thus not applied in 2020.

Discarding is known to take place; however, ICES cannot quantify the corresponding dead catch.

Table 2 Spotted ray in Division 9.a. The basis for the catch scenarios.

Advised landings for 2019–2020, issued in 2018		108 tonnes
Discard rate		Unknown
Precautionary buffer	Not applied	-
Landings advice *		108 tonnes
% advice change **		0%

* Advised landings for 2019–2020.
** Advice value for 2021 and 2022 relative to the advice value for 2019 and 2020.

Issues relevant for the advice

Previously the advice was based on a stock-size indicator from the Portuguese groundfish survey (PtGFS-WIBTS-Q4). The survey was not conducted in 2012 and 2019, and was incomplete in 2018. Only landings data are available for recent years and the advice is based on a category 5 approach.

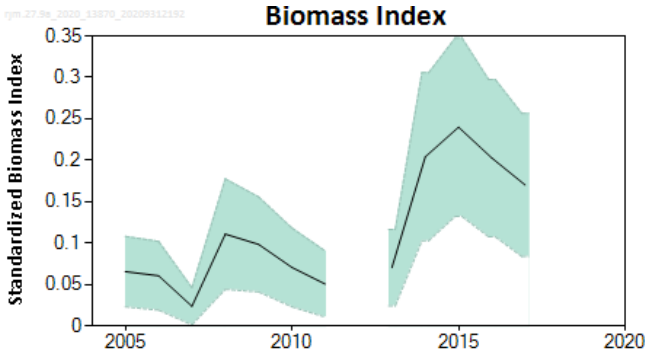

Figure 2 Stock size indicator (solid line) is a standardized biomass survey index from the Portuguese groundfish survey (PtGFS-WIBTS-Q4), with standard error (SE) indicated as the shaded area.

History of the advice, catch, and management

Table 3 Spotted ray in Division 9.a. History of ICES advice and ICES estimates of landings *. Weights are in tonnes.

Year	ICES advice	Landings corresp. to advice	ICES landings **
2011	No specific advice		124
2012	No specific advice		110
2013	No TAC, species-specific measures needed, catch to decrease by at least 20%	-	115
2014	No new advice, same as 2013	-	103
2015	20% decrease from last 3 years' average	106	68
2016	No new advice, same as 2015	106	73
2017	Precautionary approach	≤ 112	99
2018	Precautionary approach (same value as advised catches for 2017)	≤ 112	62
2019	Precautionary approach	≤ 108	90
2020	Precautionary approach	≤ 108	
2021	Precautionary approach	≤ 108	
2022	Precautionary approach	≤ 108	

* There is no specific TAC for this stock. Fishing opportunities are managed through an overall TAC by management unit, which includes all species of skates and rays.
** In 2020, landings data were revised.

Sources and references

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

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Spotted ray (*Raja montagui*) in Division 9.a (Atlantic Iberian waters)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, landings should be no more than 108 tonnes in each of the years 2019 and 2020. ICES cannot quantify the corresponding catches.

Stock development over time

In recent years the stock size indicator shows a higher level than in 2005–2012, but has decreased in the past two years.

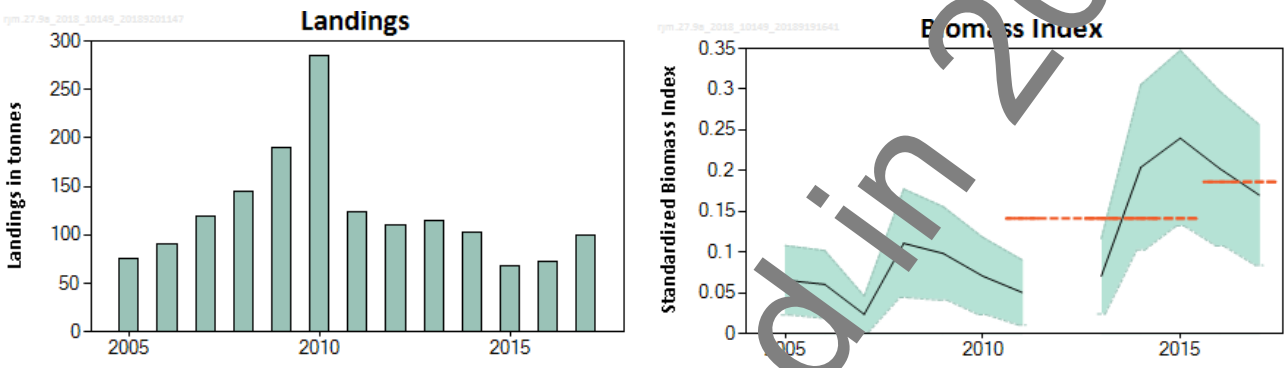

Figure 1 Spotted ray in Division 9.a. Left: ICES landings estimates (all fleets: 2005–2017) (in tonnes). Right: Stock size indicator (solid line) is a standardized biomass survey index from Portuguese groundfish survey (PtGFS-WIBTS-Q4) with standard error (SE) as the shaded area. The dotted horizontal lines show the mean stock indicators for the periods 2011–2015 and 2016–2017. No survey was conducted in 2012.

Stock and exploitation status

ICES cannot assess the stock and exploitation status relative to maximum sustainable yield (MSY) and precautionary approach (PA) reference points because the reference points are undefined.

Table 1 Spotted ray in Division 9.a. State of the stock and fishery relative to reference points.

	Fishing pressure				Stock size			
		2015	2016	2017		2015	2016	2017
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	-	↗	↘	↘ Decreasing

Catch scenarios

The ICES framework for category 3 stocks was applied (ICES, 2012). Data from the Portuguese survey (PtGFS-WIBTS-Q4) were normalized to their long-term mean and used as the index of stock size. The advice is based on a comparison of the two last index values (Index A) with the five preceding values (Index B; note that in 2012 no survey was conducted), multiplied by the recent advised landings.

The index is estimated to have increased by more than 20% and thus the uncertainty cap was applied. The precautionary buffer was last applied in 2014. Because there is no information on stock size or fishing pressure, the precautionary buffer was applied again in 2018.

Some estimates of discards are available but considered to be incomplete and therefore the overall discard rate is unknown. ICES cannot quantify the corresponding dead catch.

Table 2 Spotted ray in Division 9.a. The basis for the catch scenarios*.

Index A (2016–2017)		0.19
Index B (2011–2015)		0.14
Index ratio (A/B)		1.32
Uncertainty cap	Applied	1.2
Advised landings for 2017–2018 issued in 2016		112
Discard rate		Unknown
Precautionary buffer	Applied	0.8
Landings advice**		108
% Advice change***		-4%

* 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 2017–2018] × [uncertainty cap] × [precautionary buffer].
*** Advice value for 2019 and 2020 relative to advice value for 2018.

The advised landings are lower than advised for 2016 and 2017 because the change in the biomass index with the application of the uncertainty cap and the precautionary buffer.

Basis of the advice

Table 3 Spotted ray in Division 9.a. The basis of the advice.

Advice basis	Precautionary approach
Management plan	ICES is not aware of any agreed precautionary management plan for spotted ray in this area.

Quality of the assessment

Improvement of landings data quality was promoted by the Workshop to compile and refine catch and landings of elasmobranchs (WKSHARK2; ICES, 2016a), where ICES revised elasmobranch landings data for the period 2005–2015 (ICES, 2016a, b). In the particular case of Portugal, ICES landings estimates from 2008 onwards follow a statistical procedure developed in the Portuguese Pilot Study on Skates (2010–2013). Despite this, there might be some misidentification errors, mainly with *Raja brachyura,* although these are likely to be marginal.

Estimates of quantities of discards are only available for the Spanish fleet for the period 2015–2017. The number of samples to estimate discards for the Portuguese fleet were insufficient to quantify discards.

The advice is based on a biomass index from the Portuguese survey (PtGFS-WIBTS-Q4), which covers the main part of the stock area. This survey was not conducted in 2012.

Issues relevant for the advice

Survey data from the south of Spain (SpGFS-GC-WIBTS-Q1&Q4) were not used as an indicator of stock size, as catches were low and variable. Nevertheless, this survey also suggested a recent decrease, consistent with the Portuguese survey.

Raja montagui is a coastal and shelf species which is usually caught as bycatch in artisanal fisheries by Portuguese fleets and in trawl fisheries by Spanish fleets.

On 22 August 2014 the Portuguese government adopted national legislation (Portaria no. 170/2014) that established a minimum landing size of 520 mm (total length) for specimens of the genus *Leucoraja* or *Raja*, covering all of the continental Portuguese EEZ.

The national legislation adopted on 29 December 2011 (Portaria no. 315/2011) was updated by the Portuguese government on 21 March 2016 (Portaria no. 47/2016). The new legislation prohibits, throughout the whole of the continental Portuguese EEZ, the catch, retention on board, and landing of any skate species belonging to Rajiformes during

the months of May and June. For each fishing trip during these two months a maximum of 5% bycatch, in weight, of Rajiformes species is allowed to be retained on board and landed.

Reference points

No reference points are defined for this stock

Basis of the assessment

Table 4 Spotted ray in Division 9.a. Basis of assessment and advice.

ICES stock data category	3 (ICES, 2016b)
Assessment type	Survey-based trends, (ICES, 2018)
Input data	PtGFS-WIBTS-Q4 survey
Discards and bycatch	Discards have only been estimated for the Spanish fleet since 2015.
Indicators	None
Other information	SpGFS-GC-WIBTS-Q1&Q4 surveys
Working group	Working Group on Elasmobranch Fishes (WGEF)

Information from stakeholders

No additional information is available.

History of the advice, catch, and management

Table 5 Spotted ray in Division 9.a. History of ICES advice and ICES estimates of landings*. Weights are in tonnes.

Year	ICES advice	Landings corresp. to advice	ICES species-specific landings: minimum estimate based on reported landings**
2011	No specific advice		124
2012	No specific advice		110
2013	No TAC, species-specific measures needed, catch to decrease by at least 20%.	-	115
2014	No new advice, same as 2013	-	103
2015	20% decrease from last 3 years' average.	106	68
2016	No new advice, same as 2015	106	73
2017	Precautionary approach	≤ 112	99
2018	Precautionary approach (same value as advised catches for 2017)	≤ 112	
2019	Precautionary approach	≤ 108	
2020	Precautionary approach	≤ 108	

* There is no specific TAC for this stock. Fishing opportunities are managed through an overall TAC by management unit, which includes all species of skates and rays.
** Data revised in 2018.

History of the catch and landings

The distribution of this stock does not extend into the NEAFC regulatory area.

Table 6 Spotted ray in Division 9.a. Catch distribution by fleet in 2017 as estimated by ICES. Portugal does not have official landings with information by fleet, and all polyvalent landings are classified as "unspecified gears". Discards correspond only for the Spanish fleet (12 tonnes).

Catch (2017)	Landings			Discards
	otter trawl	fixed nets	unspecified gears	
Unknown	31%	5%	64%	Unknown
	99 tonnes			

Table 7 Spotted ray in Division 9.a. ICES estimates of landings by country (in tonnes). Data revised in 2016 (ICES, 2016a) and in 2018 based on updated information. Species-specific landings data between 2003 and 2008 are only presented for Portugal, as Spanish species-specific landings are not available for this period. Discards correspond only for the Spanish fleet from 2015–2017.

Year	Spain	Spanish discards	Portugal	Total
2003			56	56
2004			82	82
2005			76	76
2006			90	90
2007			119	119
2008			144	144
2009	7		184	191
2010	10		274	284
2011	3		121	124
2012	2		108	110
2013	4		111	115
2014	2		101	103
2015	1	0.6	67	69
2016	5	41	68	114
2017	5	12	94	111

Summary of the assessment

Table 8 Spotted ray in Division 9.a. Assessment summary. Stock-size indicator based on the PtGFS-WIBTS-Q4 standardized biomass survey index. No survey was conducted in 2012.

Survey	Stock-size indicator	Upper (SE)	Lower (SE)
2005	0.07	0.108	0.02
2006	0.06	0.102	0.02
2007	0.02	0.05	0.001
2008	0.111	0.18	0.04
2009	0.098	0.16	0.04
2010	0.07	0.12	0.02
2011	0.05	0.09	0.011
2012			
2013	0.07	0.12	0.02
2014	0.[illegible]	0.31	0.103
2015	0.24	0.35	0.13
2016	0.203	0.297	0.108
2017	0.17	0.26	0.08

Sources and references

ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM:68. 42 pp.

ICES. 2016a. Report of the Workshop to compile and refine catch and landings of elasmobranchs (WKSHARK2), 19–22 January 2016, Lisbon, Portugal. ICES CM 2016/ACOM:40. 69 pp.

ICES. 2016b. Advice basis. *In* Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 1, Section 1.2.

ICES. 2018. Report of the Working Group on Elasmobranch Fishes (WGEF), 19–28 June 2018, Lisbon, Portugal. ICES CM 2018/ACOM:16.