

Blackspot sea bream (*Pagellus bogaraveo*) in Subarea 10 (Azores grounds)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches in 2021 should be no more than 610 tonnes.

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

Stock development over time

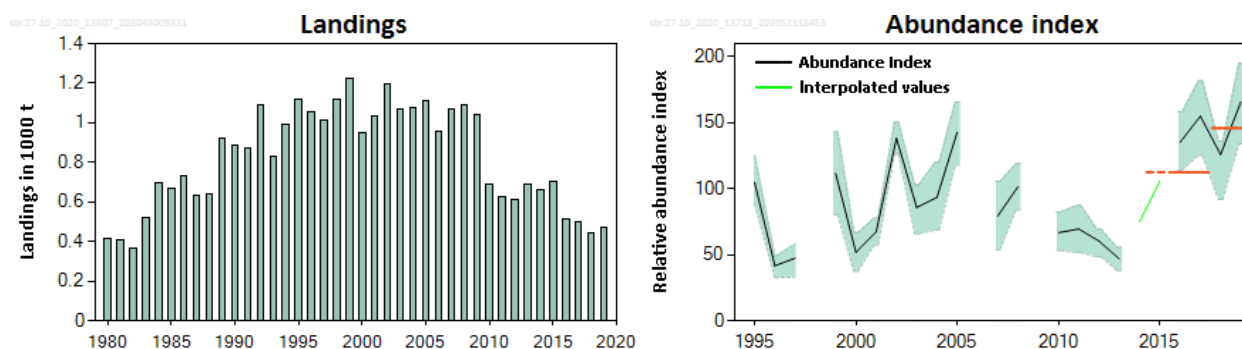


Figure 1 Blackspot seabream in Subarea 10. Left: Landings (in thousand tonnes) from Azores Division 10.a. Right: Relative abundance index from bottom longline survey (ARQDAÇO). The orange horizontal lines indicate the average relative abundance index of the respective year range (last two and preceding three years) used to calculate the advice. Shaded areas indicate 95% confidence intervals.

Stock and exploitation status

Table 1 Blackspot seabream in Subarea 10. 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

Table 2 Blackspot seabream in Subarea 10. The basis for the catch scenarios*.

Index A (2018–2019)		145.71
Index B (2017–2015) (2015 interpolated)		132.07
Index ratio (A/B)		1.10
Uncertainty cap	Not applied	
Advised catches for the year 2020		553 tonnes
Discard rate		Negligible
Precautionary buffer	Not applied	
Catch advice **		610 tonnes
% advice change ***		+10%

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

** [Advised catches for 2020] × [Index ratio].

***Advice value for 2021 relative to the advice value for 2020.

Issues relevant for the advice

Discarding was estimated at 6% in 2018; however, due to the high survivorship (RDFAAR, 2018), the corresponding mortality is likely smaller than 5% and discarding is therefore considered to be negligible.

This stock is classified as Category 4 in the NEAFC categorization of deep-sea species/stocks, which implies that fisheries are primarily restricted to coastal state exclusive economic zones (EEZs). Therefore, management measures are not taken by NEAFC unless complementary to coastal state conservation and management measures (NEAFC, 2016).

History of the advice, catch, and management

Table 3 Blackspot seabream in Subarea 10. ICES advice, the agreed TAC, and landings. Weights are in tonnes.

Year	ICES advice*	Predicted catch corresp. to advice	EU TAC Subarea 10	ICES landings Subarea 10
2003	-	-	1136	1068
2004	-	-	1136	1075
2005	-	-	1136	1113
2006	-	-	1136	958
2007	-	-	1136	1070
2008	-	-	1136	1089
2009	Constrain catches to average catches 2003–2007	1050	1136	1042
2010	Biennial	1050	1136	687
2011	Less than 1050 tonnes and a reduction in catches should be considered	1050	1136	624
2012	No new advice, same as 2011	1050	1136	613
2013	Reduce catches by 40%	≤ 400	1022	692
2014	No new advice, same as 2013	≤ 400	920	663
2015	Same catch advice as 2013	≤ 400	678	701
2016	No new advice, same as 2013	≤ 400	507	515
2017	Precautionary approach (same value as advised catches for 2016)	≤ 480	517	499
2018	Precautionary approach (same value as advised catches for 2016)	≤ 480	517	445
2019	Precautionary approach	≤ 576	576	474
2020	Precautionary approach	≤ 553	576	
2021	Precautionary approach	≤ 610		

* Previous to 2009, the advice was for the entire ICES area.

Table 4 Blackspot seabream in Subarea 10. Catches inside and outside the NEAFC Regulatory Area (RA), as estimated by ICES. Weights are in tonnes.

Year	Inside the NEAFC RA	Outside the NEAFC RA	Total catch	Proportion in NEAFC RA
2014	0	663	663	0
2015	0	701	701	0
2016	0	515	515	0
2017	0	499	499	0
2018	0	445	445	0
2019	0	474	474	0

Summary of the assessment

Table 5 Blackspot seabream in Subarea 10. Assessment summary. Relative abundance index (n hook⁻¹) from the Azorean bottom longline survey (ARQDAÇO) and landings. High and low correspond to 95% confidence intervals.

Year	Relative abundance index	High	Low	Landings (tonnes)
1980				415
1981				407
1982				369
1983				520
1984				700
1985				672
1986				730
1987				631
1988				637
1989				924
1990				889
1991				874
1992				1090
1993				830
1994				989
1995	105	125	88	1115
1996	42	49	33	1052
1997	48	58	33	1012
1998				1119
1999	112	143	80	1222
2000	52	67	38	947
2001	67	78	58	1034
2002	138	150	126	1193
2003	86	103	66	1068
2004	94	120	69	1075
2005	143	166	118	1113
2006				958
2007	79	106	54	1070
2008	102	119	84	1089
2009				1042
2010	67	83	53	687
2011	70	87	52	624
2012	60	69	49	613
2013	47	55	38	692

Year	Relative abundance index	High	Low	Landings (tonnes)
2014	75*			663
2015	106*			701
2016	135	158	114	515
2017	155	182	125	499
2018	126	136	92	445
2019	166	195	134	474

* Numbers in italics are interpolated values.

Sources and references

Azores Autonomous Region (RDFAAR). 2018. Supporting evidence on a high survivability exemption to the landing obligation of blackspot seabream (*Pagellus bogaraveo*) captured by bottom hook and line in Central North Atlantic Waters (ICES sub-area X). Report presented under the Landing Obligation Joint Recommendation of the South Western Waters. 44 pp.

ICES. 2020. Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP), ICES Scientific Reports, 2:38. <http://doi.org/10.17895/ices.pub.6015>.

NEAFC. 2016. The NEAFC approach to conservation and management of deep-sea species and categorization of deep-sea species/stocks. Adopted at the 35th Annual Meeting, November 2016. <https://www.neafc.org/basictexts>.

Recommended citation: ICES. 2020. Blackspot sea bream (*Pagellus bogaraveo*) in Subarea 10 (Azores grounds). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, sbr.27.10. <https://doi.org/10.17895/ices.advice.5845>.

Annex 1

ICES Advice on fishing opportunities, catch, and effort
Azores Ecoregion
Published 11 June 2019
Version 2: 10 October 2019

Blackspot seabream (*Pagellus bogaraveo*) in Subarea 10 (Azores grounds)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches should be no more than 553 tonnes in 2020.

Stock development over time

Catches have been lower since 2010 compared to 1989–2009. Survey data are variable, but the index in the last three years is high.

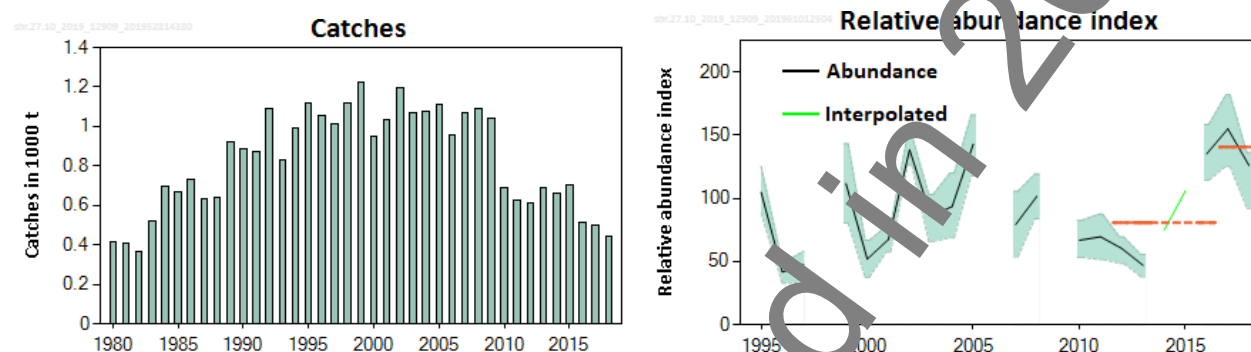


Figure 1 Blackspot seabream in Subarea 10. Left: Catches (in thousand tonnes) from Azores Division 10.a. Right: Relative abundance index from bottom longline survey (ARQD 10). The dashed orange lines indicate the average of the abundance index for 2017 to 2018 and for 2014 to 2015 (2014 and 2015 are interpolated values) used to calculate the advice. The shaded areas on the relative abundance index plot represent 95% confidence intervals.

Stock and exploitation status

ICES cannot assess the stock and exploitation status relative to MSY and PA reference points because the reference points are undefined.

Table 1 Blackspot seabream in Subarea 10. Status of the stock and fishery relative to reference points.

		Fishing pressure				Stock size				
		2016	2017	2018		2016	2017	2018		
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). The Azorean bottom longline survey (ARQDAÇO) was used as the index of stock development. The advice is based on a comparison of the two latest index values (index A) with the three preceding values, including interpolated values (index B), multiplied by the recent advised catches. 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 2012. The index ratio has increased by less than 50%; therefore, the precautionary buffer was applied. Discarding is considered negligible.

Table 2 Blackspot seabream in Subarea 10. The basis for the catch scenarios [^].

Index A (2017–2018)		140
Index B (2014–2016; 2014–2015 interpolated)		106
Index ratio (A/B)		1.32
Uncertainty cap	Applied	1.2
Advised catches for the year 2019		576
Discard rate		Negligible
Precautionary buffer	Applied	0.8
Catch advice *		553
% 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 2019] × [uncertainty cap] × [precautionary buffer].

** Advice value for 2020 relative to advice value for 2019.

The advised catch is lower than that advised for 2019, despite the increase in the index ratio, because both the uncertainty cap and the precautionary buffer were applied.

Basis of the advice

Table 3 Blackspot seabream in Subarea 10. The basis of the advice.

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

Quality of the assessment

The survey covers all island shelves, except the Flores and Corvo islands, and most of the seamounts where blackspot seabream is known to occur in Subdivision 10.a.2. The index values for 2016–2018 are high in all survey strata. Missing survey values increase uncertainty in the assessment of survey trends. The use of interpolated values tends to dampen changes (positive or negative) in the index ratio.

Although the management area considered covers all of Subarea 10, the proportion of the stock abundance occurring outside of Subdivision 10.a.2 is minor or non-existent.

Issues relevant for the advice [†]

This stock is classified as Category 4 in the [NEAFC categorization of deep-sea species/stocks](#) which implies that fisheries are primarily restricted to Coastal State exclusive economic zones (EEZs) and therefore management measures are not taken by NEAFC, unless complementary to coastal state conservation and management measures.

Given the interannual variability of the abundance index for such a long-lived species and the fact that surveys in two of the recent years are missing (2014 and 2015), the current advice is given for one year.

During 2015–2017 technical measures were introduced limiting the fishing areas, updating the minimum conservation reference size to 33 cm, and establishing marine protected areas in coastal and oceanic areas.

[†] Version 2: NEAFC categorisation of deep-sea stocks added to section.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 4 Blackspot seabream in Subarea 10. The basis of the assessment.

ICES stock data category	3 (ICES, 2018).
Assessment type	Survey trends-based assessment (ICES, 2019).
Input data	Survey relative abundance index (longline survey ARQDAÇO).
Discards and bycatch	Discarding is considered negligible.
Indicators	None.
Other information	Last benchmarked in 2010 (WKDEEP; ICES, 2010).
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP).

Information from stakeholders

There is no additional available information.

History of the advice, catch, and management

Table 5 Blackspot seabream in Subarea 10. ICES advice, the agreed TAC, and landings. Weights are in tonnes.

Year	ICES advice *	Catch corresponding to advice	EU TAC Subarea 10	ICES landings
2003	-	-	1136	1068
2004	-	-	1136	1075
2005	-	-	1136	1113
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2016	No new advice, same as 2013	≤ 400	517	515
2017	Precautionary approach (same value as advised catches for 2016)	≤ 480	517	499
2018	Precautionary approach (same value as advised catches for 2016)	≤ 480	517	445
2019	Precautionary approach	≤ 576	576	
2020	Precautionary approach	≤ 553		

* Prior to 2009, the advice was for the entire ICES area.

History of catch and landings

There are no reported catches in the NEAFC regulatory area.

Table 6 Blackspot seabream in Subarea 10. Catch distribution by fleet in 2018 as estimated by ICES.

Total catch (2018)	Landings	Discards
445 tonnes	100% longline and handline	Discards are negligible
	445 tonnes	

Table 7 Blackspot seabream in Subarea 10. History of commercial ICES estimates of catches for Subarea 10 (Azores ground).

Year	ICES catch (tonnes)
1980	415
1981	407
1982	369
1983	520
1984	700
1985	672
1986	730
1987	631
1988	637
1989	924
1990	889
1991	874
1992	1090
1993	830
1994	989
1995	1115
1996	1052
1997	1012
1998	1119
1999	1222
2000	947
2001	1034
2002	1193
2003	1068
2004	1075
2005	1113
2006	958
2007	1063
2008	1089
2009	1042
2010	687
2011	624
2012	613
2013	692
2014	663
2015	701
2016	515
2017	499
2018	445

Summary of the assessment

Table 8 Blackspot seabream in Subarea 10. Assessment summary. Relative abundance index (n hook⁻¹) from the Azorean bottom longline survey (ARQDAÇO). High and low indicate 95% confidence bounds.

Year	Relative abundance index	High	Low	Landing (tonnes)
1995	105	125	88	1115
1996	42	49	33	1052
1997	48	58	33	1012
1998				1119
1999	112	143	80	1222
2000	52	67	38	947
2001	67	78	58	1034
2002	138	150	121	1193
2003	86	103	66	1068
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2011	70	87	52	624
2012	60	69	49	613
2013	47	57	38	692
2014	75 *			663
2015	106 *			701
2016	135	158	114	515
2017	155	182	125	499
2018	126	136	92	445

*Numbers in italics are interpolated values.

Sources and references

- ICES. 2010. Report of the Benchmark Workshop on Deep-water Species (WKDEEP), 17–24 February 2010, Copenhagen, Denmark. ICES CM 2010/ACOM:38. 247 pp.
- ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM:68. 42 pp.
- ICES. 2018. Advice basis. *In* Report of the ICES Advisory Committee, 2018. ICES Advice 2018, Book 1, Section 1.2. <https://doi.org/10.17895/ices.pub.4503>.
- ICES. 2019. Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP). ICES Scientific Reports. 1:21. 988 pp. <http://doi.org/10.17895/ices.pub.5262>

Recommended citation: ICES. 2019. Blackspot seabream (*Pagellus bogaraveo*) in Subarea 10 (Azores grounds). *In* Report of the ICES Advisory Committee, 2019. ICES Advice 2019, sbr.27.10, <https://doi.org/10.17895/ices.advice.4820>