

13.10 SAI-Sailfish (*Istiophorus albicans*)

Introduction

The most recent stock assessments for East and West sailfish were conducted in the Atlantic Sailfish Data Preparatory and Stock Assessment Meeting (Anon., 2023b) held in June 2023 using catch data available to 2021, through a process that included a single meeting for the data preparatory and stock assessment. The previous East and West stock assessments were conducted in the Sailfish Stock Assessment Meeting (Anon., 2017a) held in June 2016.

For the East stock, a single assessment platform was used - Just Another Bayesian Biomass Assessment (JABBA), a Bayesian Surplus Production based model. For the western stock JABBA and Stock Synthesis (SS) models were used to determine stock status and to conduct projections to estimate the Kobe II Strategic Matrix (K2SM). However, post-meeting examination of SS results identified issues with the model solution that could not be addressed in time for the results to be presented here and included in the management advice. Therefore, the state of the stock for West Atlantic sailfish was based on the JABBA model runs. A summary of the stock status is provided below (Table 1a and Table 1b). The estimated catches and discards by gear, for the period 2000-2024 are shown in Table 2.

Table 1a. West Atlantic sailfish summary table.

<i>Indicator</i>		<i>Stock Status</i>
Maximum Sustainable Yield (MSY) ¹	1,612 t (1,357 t - 1,968 t) ³	2021
TAC (2024)		
Current (2024) Yield ²	1,295 t	
Relative Biomass (B ₂₀₂₁ /B _{MSY}) if applicable	0.96 (0.59-1.45)	
Relative Fishing Mortality (F ₂₀₂₁ /F _{MSY}) ¹	0.59 (0.36-0.95)	
Stock Status	Overfished: YES (59% probability of being overfished) ⁴ Overfishing: NO (2% probability of overfishing) ⁴	
Management measures in effect	Rec. 16-11: Limit catches to the level of 67% of MSY (1,030 t)	

Table 1b. East Atlantic sailfish summary table.

<i>Indicator</i>		<i>Stock Status</i>
Maximum Sustainable Yield (MSY) ¹	2,337 t (2,003 t - 2,833 t) ³	2021
TAC (2024)		
Current (2024) Yield ²	1,290 t	
Relative Biomass (B ₂₀₂₁ /B _{MSY}) if applicable	1.83 (1.14-2.88) ³	
Relative Fishing Mortality (F ₂₀₂₁ /F _{MSY})	0.36 (0.21-0.59) ³	
Stock Status	Overfished: NO (<1% probability of being overfished) ⁴ Overfishing: NO (<1% probability of overfishing) ⁴	
Management measure in effect	Rec. 16-11: Limit catches to the level of 67% of MSY (1,271 t)	

¹ Base case/combined model: model results based on catch.

² Provisional and subject to revision as of 23 September 2025.

³ Point estimate, 95% credibility intervals are shown.

⁴ As estimated from the Kobe plot probability in each quadrant.

Table 2. Estimated catches and discards of Atlantic sailfish (*Istiophorus albicans*) by gear, for the period 2000-2024.

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
TOTAL		3990	4603	4412	4141	4365	4110	3855	4143	3969	3767	3096	2947	2919	2528	2429	2580	3160	3618	2898	3894	2609	2667	2278	2351	2381	
ATE		1980	2805	2347	2639	2612	2286	1935	2378	2232	2138	1858	1554	1602	1342	1164	1247	1424	1650	843	2270	1218	1733	1183	1084	1290	
ATW		2009	1798	2065	1502	1723	1844	1859	1916	1735	1630	1238	1393	1317	865	1264	1332	1737	1965	1054	1584	1391	1444	1095	1267	1096	
Landings	ATE	198	568	752	497	335	365	580	590	628	627	517	547	552	458	423	436	340	356	499	965	357	217	371	434	332	
	Other surf	1231	1470	1497	1861	2057	1758	1289	1799	1496	1936	902	871	968	755	730	749	1083	1191	435	1274	792	974	645	478	807	
	Sport (HL+HR)	651	767	98	292	219	143	46	189	108	575	429	136	56	128	10	96	1	60	57	1	60	557	71	144	131	
ATW	Other surf	1724	1651	1641	1163	1271	1706	1738	1300	1407	1154	1137	1240	1119	882	1116	1246	1648	1779	1778	1498	1344	772	983	1144	1173	
	Other surf	183	66	311	334	465	134	194	251	313	461	96	123	156	86	126	75	67	169	163	115	42	122	91	110	110	
	Sport (HL+HR)	78	60	106	0.0	0.2	0.4	2	6	7	4	2	20	22	7	12	2	15	13	6	6	2	38	19	10	10	
Landings(FP)	ATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Other surf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Discards	ATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Other surf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ATW		0	0.1	0.3	0.1	0.1	0.4	0.3	0.0	0.3	1	0.3	0.0	0.4	0	0	0	0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Landings	ATE	CP	Angola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Belize	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Brazil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cabo Verde	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
China PR	4	5	11	4	4	8	16	8	1	4	5	2	4	1	1	2	2	4	2	11	25	1	4	169	26		
Curaçao	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.1	0	0		
Côte d'Ivoire	45	47	65	121	73	93	78	52	448	74	24	108	192	80	99	55	38	405	35	959	404	336	60	85	182		
EU-España	8	196	246	197	169	202	214	238	242	327	208	197	288	231	302	333	226	236	278	325	108	107	286	88	148		
EU-France	0	0	0	0	0	0	0	0	0	0.4	0	0.2	0	0	8	12	8	33	8	2	11	4	9	1	4		
EU-Portugal	13	4	10	13	19	77	137	43	49	132	173	121	81	110	33	41	30	27	123	66	51	13	30	14	16		
El Salvador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gabon	0	0.2	0	4	4	1	0	0	0	0	0.3	0	0	0	4	4	2	1	0.1	1	0.1	1	0	0	0		
Ghana	275	568	592	566	521	542	282	420	342	358	417	299	201	220	191	99	238	267	82	78	68	0	0	0	0		
Great Britain	0	0	0	0	1	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Guatemala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Guinea Ecuatorial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2	3	5	3	28	12		
Japan	26	6	20	22	70	50	62	144	199	94	115	143	157	71	59	36	52	45	47	62	48	30	21	44	80		
Korea Rep	0.0	0	0	0	0	0	0	0	0	0	0.0	10	0	0	0	0	0	0	0	0	0	0	0	0	0		
Liberia	184	56	133	127	106	122	118	115	0	0	0	0	0	0	0	0	0	0	59	11	50	47	3	25	9		
Maroc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Mauritania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0		
Namibia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	22	0	0	47		
Panama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	12	0	0	5		
Russian Federation	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
S Tomé e Príncipe	136	136	136	136	515	345	282	384	113	119	123	127	131	134	312	232	234	23	224	23	223	224	224	225	224		
Senegal	786	953	240	673	567	463	256	737	446	630	484	174	247	165	37	60	586	301	313	397	350	972	417	310	525		
Sierra Leone	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0		
South Africa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
St Vincent and Grenadines	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0		
NCC		Chinese Taipei	45	50	62	49	15	25	38	109	121	80	21	52	54	42	17	21	23	26	21	16	17	6	2	14	
NCO	Benin	5	12	4	3	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mixed flags (FR-ES)	353	400	395	413	338	264	274	205	251	308	265	0	275	275	275	275	275	275	275	275	275	275	275	275	275	
	NEI (BL)	28	269	408	213	55	1	105	43	20	11	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NEI (ETRO)	77	43	3	2	16	7	8	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Seychelles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Togo	23	62	55	85	135	47	31	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	ATW	CP	Barbados	44	42	26	27	26	42	58	42	0	0	18	36	36	39	44	54	56	42	20	15	15	20	18	17
	Belize	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Brazil	604	412	548	586	549	416	139	123	268	433	76	192	145	76	57	72	59	39	43	17	28	24	11	9	8	
	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	0.1	0	0	0	0	0	0	
China PR	4	4	3	0.5	0.3	1	0.0	0.3	0.2	0.5	2	1	2	0.4	1	1	3	2	9	160	8	5	92	32			
Costa Rica	0.1	0.5	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cuba	208	68	32	18	50	72	47	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Curaçao	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Côte d'Ivoire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EU-España	14	309	414	183	160	89	134	214	361	412	275	190	184	203	244	311	207	454	256	228	62	73	314	50	19		
EU-France	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1	1	2	35	15	7		
EU-Netherlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EU-Portugal	4	0	0	12	12	112	18	53	101	20	19	9	4	0.1	0	0	0	0	0	1	37	9	3	0.5	1		
El Salvador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grenada	184	187	151	171	112	147	159	174	216	183																	

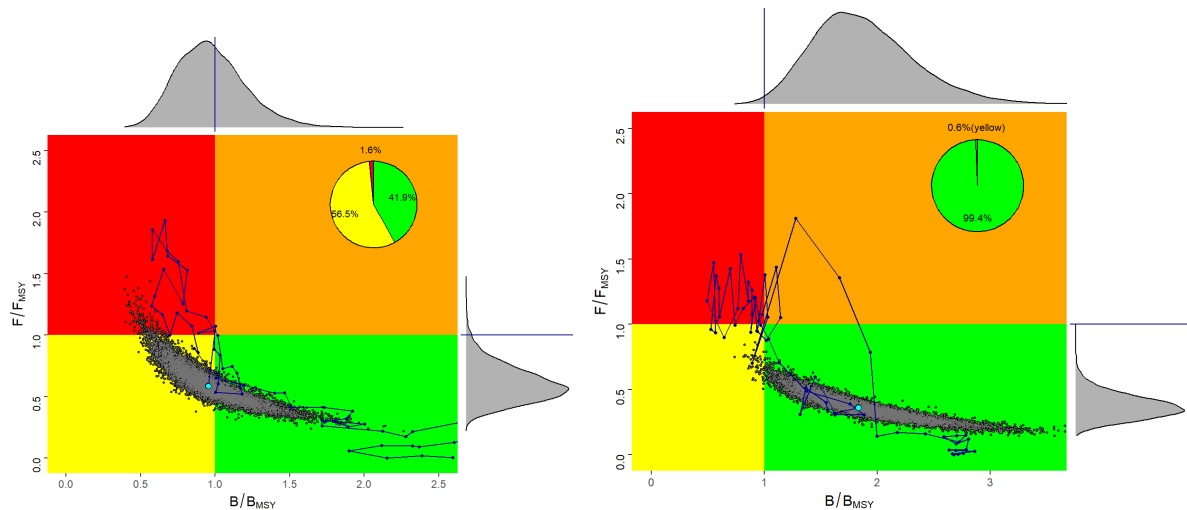


Figure 1. Kobe phase plot for the West (left panel) and East (right panel) Atlantic sailfish stock. Solid black dots and solid lines indicate the stock status trajectory, with the blue dot indicating the terminal year (2021), and grey dots are the interactions for the terminal year with the marginal distributions plotted in the lateral axis.

Outlook

Stochastic stock projections using the JABBA model were conducted for both stocks under various constant catch scenarios. For the East stock, projections included 11 scenarios constant catch scenarios (0; 1,000 t – 3,000 t with 250 t intervals; 2,337 t MSY level). For the West stock, the projections included 10 constant catch scenarios (0; 1,000 t - 2,000 t). The resulting K2SM provide the estimated probabilities of not experiencing overfishing ($F \leq F_{MSY}$), not being overfished ($B \geq B_{MSY}$), and jointly achieving both conditions (green quadrant) (Table 3).

Management recommendation

As in the 2016 stock assessment (Anon., 2017a), important sources of uncertainty still remain in the assessments of both the eastern and western stocks. Available abundance indices demonstrate conflicting trends for both stocks, and the Committee believes that reported catches, including dead discards, are significantly incomplete and unreported. These important sources of uncertainty should be taken into consideration by the Commission when adopting management measures. Nevertheless, it should be noted that there have been some improvements since the last stock assessment.

East Atlantic

The stock status of East sailfish indicates that the stock was not overfished and not experiencing overfishing. However, due to unquantified uncertainties, the Commission should consider managing catch levels that will keep the stock in the green quadrant of the Kobe phase plot with a high probability (Table 3).

Table 3. K2SM for the East Atlantic sailfish stock. Top: the probability that overfishing is not occurring ($F \leq F_{MSY}$); middle: the probability that the stock is not overfished ($B \geq B_{MSY}$); and bottom: the joint probability of being in the green quadrant of the Kobe plot (i.e., $F \leq F_{MSY}$ and $B \geq B_{MSY}$).

a) Probability that $F \leq F_{MSY}$

Catch (t)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1000	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1250	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1500	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1750	100%	100%	100%	99%	99%	99%	99%	99%	99%	99%
2000	99%	99%	98%	98%	97%	97%	96%	95%	94%	94%
2250	98%	97%	95%	94%	92%	90%	88%	86%	84%	83%
2336	98%	96%	94%	91%	89%	87%	84%	82%	79%	77%
2500	97%	94%	90%	86%	83%	79%	75%	71%	68%	65%
2750	94%	88%	82%	75%	69%	64%	58%	52%	48%	44%
3000	90%	81%	72%	62%	54%	46%	40%	35%	30%	27%

b) Probability that $B \geq B_{MSY}$

Catch (t)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
0	98%	99%	100%	100%	100%	100%	100%	100%	100%	100%
1000	98%	99%	99%	99%	99%	99%	99%	99%	100%	100%
1250	98%	99%	99%	99%	99%	99%	99%	99%	99%	99%
1500	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
1750	98%	98%	97%	97%	97%	97%	97%	96%	96%	96%
2000	98%	97%	97%	96%	95%	94%	93%	92%	91%	91%
2250	98%	97%	95%	93%	92%	90%	88%	86%	84%	82%
2336	98%	97%	95%	92%	90%	88%	85%	83%	81%	78%
2500	98%	96%	94%	91%	87%	84%	80%	77%	73%	70%
2750	98%	96%	92%	87%	82%	76%	71%	65%	60%	55%
3000	98%	95%	89%	83%	75%	67%	60%	52%	46%	40%

c) Probability that $F \leq F_{MSY}$ and $B \geq B_{MSY}$

Catch (t)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
0	98%	99%	100%	100%	100%	100%	100%	100%	100%	100%
1000	98%	99%	99%	99%	99%	99%	99%	100%	100%	100%
1250	98%	99%	99%	99%	99%	99%	99%	99%	99%	99%
1500	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
1750	98%	98%	97%	97%	97%	97%	96%	96%	95%	96%
2000	98%	97%	96%	96%	95%	94%	93%	92%	91%	91%
2250	98%	96%	94%	93%	91%	89%	87%	85%	82%	81%
2336	98%	96%	93%	91%	88%	86%	83%	81%	78%	76%
2500	97%	93%	90%	86%	82%	78%	74%	71%	67%	64%
2750	94%	88%	82%	75%	69%	63%	58%	52%	48%	44%
3000	90%	81%	72%	62%	54%	46%	40%	35%	30%	27%

West Atlantic

The Committee believes that the reported catches are significantly underreported. Given the important uncertainties described above, the Committee recommends that the results provided in the K2SM be interpreted with extreme caution. Should the Commission choose to continue setting the catch level at 67% of MSY, using the 2021 estimate of MSY, that value would be 1,030 t (Table 4).

Table 4. K2SM for the West Atlantic sailfish stock. Top: the probability that overfishing is not occurring ($F \leq F_{MSY}$); middle: the probability that the stock is not overfished ($B \geq B_{MSY}$); and bottom: the joint probability of being in the green quadrant of the Kobe plot (i.e., $F \leq F_{MSY}$ and $B \geq B_{MSY}$).

a) Probability that $F \leq F_{MSY}$

Probability $F \leq F_{MSY}$										
Catch (t)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1000	95%	96%	97%	97%	98%	98%	98%	99%	99%	99%
1250	86%	87%	88%	89%	89%	90%	90%	90%	91%	91%
1500	74%	73%	72%	71%	70%	70%	69%	68%	68%	68%
1600	68%	66%	65%	63%	61%	60%	59%	57%	56%	55%
1700	63%	59%	56%	53%	51%	50%	47%	45%	44%	43%
1750	59%	55%	52%	49%	47%	45%	42%	40%	38%	37%
1800	56%	52%	48%	45%	42%	40%	37%	35%	33%	31%
1900	50%	45%	41%	37%	34%	30%	28%	26%	24%	22%
2000	45%	39%	34%	30%	26%	23%	21%	19%	16%	15%

b) Probability that $B \geq B_{MSY}$

Probability $B \geq B_{MSY}$										
Catch (t)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
0	68%	87%	95%	98%	99%	100%	100%	100%	100%	100%
1000	68%	75%	80%	84%	87%	89%	91%	92%	93%	94%
1250	68%	71%	74%	76%	78%	79%	81%	82%	83%	83%
1500	68%	67%	67%	66%	66%	66%	66%	65%	64%	64%
1600	68%	66%	64%	62%	61%	60%	58%	56%	55%	54%
1700	68%	64%	61%	58%	55%	53%	51%	48%	47%	45%
1750	68%	63%	60%	56%	53%	50%	47%	44%	43%	40%
1800	68%	62%	58%	53%	50%	47%	44%	40%	38%	36%
1900	68%	61%	55%	49%	45%	41%	36%	33%	30%	28%
2000	68%	59%	52%	45%	40%	35%	30%	27%	23%	21%

c) Probability that $F \leq F_{MSY}$ and $B \geq B_{MSY}$

Probability $F \leq F_{MSY}$ and $B \geq B_{MSY}$										
Catch (t)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
0	68%	87%	95%	98%	99%	100%	100%	100%	100%	100%
1000	68%	75%	80%	84%	87%	89%	91%	92%	93%	94%
1250	68%	71%	74%	76%	78%	79%	81%	82%	83%	83%
1500	67%	66%	66%	66%	65%	65%	65%	64%	63%	63%
1600	65%	63%	61%	60%	58%	57%	56%	54%	54%	53%
1700	61%	58%	55%	52%	50%	48%	46%	44%	43%	42%
1750	59%	55%	52%	48%	46%	44%	41%	39%	38%	36%
1800	56%	52%	48%	45%	42%	39%	37%	34%	32%	31%
1900	50%	45%	41%	36%	34%	30%	28%	26%	24%	22%
2000	45%	39%	33%	30%	26%	23%	21%	19%	16%	15%