



Echebatar Sustainability Working Group

Echebatar Statistics

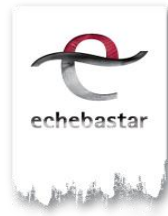
Catch Composition (2006 – 2020)

&

Fishing Effort, Bycatch and ETP species (2014 – 2020)

(FAD and FSC Sets)

May 2021



Contents

1	ECHEBASTAR: ACTIVE VESSELS & NUMBER OF TUNA SETS PER VESSEL 2014 - 2020.....	1
2	ECHEBASTAR: FISHING EFFORT - TOTAL AND OBSERVED TUNA SETS 2017 – 2020	1
3	ECHEBASTAR: ANNUAL TUNA CATCH COMPOSITION 2006-2020	2
4	ECHEBASTAR: FISHERY INTERACTIONS WITH OTHER SPECIES	5
	TABLE 1: ECHEBASTAR: NUMBER OF SETS BY VESSEL 2014 – 2020.	1
	TABLE 2: ECHEBASTAR: FISHING EFFORT 2014 – 2020 (NUMBER OF VESSELS, NUMBER OF SETS, TYPE OF SET (%) AND OBSERVED SETS (%)).....	1
	TABLE 3: ECHEBASTAR: CATCHES OF MAIN TUNA SPECIES 2006 – 2020.	3
	TABLE 4: ECHEBASTAR: ANNUAL TUNA CATCH BY VESSEL AND SET (2014 – 2020)	4
	TABLE 5: ECHEBASTAR FAD SETS: NUMBER, OBSERVED, LIVE RELEASE.....	5
	TABLE 6: ECHEBASTAR: FAD SETS - ESTIMATED TOTAL CATCHES (N) OF OTHER SPECIES (2016 – 2020).....	6
	TABLE 7: ECHEBASTAR – FAD SETS: AVERAGE NUMBER OF INDIVIDUAL SPECIES CAUGHT PER SET.....	7
	TABLE 8: ECHEBASTAR FSC SETS: NUMBER, OBSERVED, LIVE RELEASE	7
	TABLE 9: ECHEBASTAR: FSC SETS - ESTIMATED TOTAL INDIVIDUALS CATCHES IN NUMBER OF OTHER SPECIES (2016 – 2020).....	8
	FIGURE 1: ECHEBASTAR: TOTAL NUMBER OF SETS BY TYPE (FAD / FSC) (2014 – 2020).....	2
	FIGURE 2: ECHEBASTAR: TRENDS IN PROPORTION OF OBSERVED SETS (2014 – 2020).	2
	FIGURE 3: ECHEBASTAR: CATCHES OF MAIN TUNA SPECIES 2006 - 2020.....	3
	FIGURE 4: ECHEBASTAR: CATCHES OF MAIN TUNA SPECIES RELATIVE TO TOTAL CATCH 2006 – 2020.	3
	FIGURE 5: ECHEBASTAR – FAD SETS: TREND IN CATCHES OF SHARKS, TURTLES, RAYS & WHALE SHARKS	6



1 Echebatar: Active vessels & number of tuna sets per vessel 2014 - 2020

The number of active vessels varied between 4 in 2014 to 6 from 2019 onwards (Table 1).

The average number of FAD sets in the recent years (2018 – 2020) is around 257, in addition to 12 FSC sets. This is a notable reduction in the number of the latter, mainly due to the reduction in yellowfin fishing opportunities.

Table 1: Echebatar: Number of sets by vessel 2014 – 2020.

Year	Alakrana		CampoL Alai		Elai Alai		Euskadi Alai		Izaro		Jai Alai		Aterpe Alai		Set /vessel	
	FAD	FSC	FAD	FSC	FAD	FSC	FAD	FSC	FAD	FSC	FAD	FSC	FAD	FSC	FAD	FSC
2014	255	65	236	63	185	19			155	80					208	57
2015	290	60	156	25	173	24	111	11	247	29	184	43			194	32
2016	279	25			334	23	363	38	251	24	285	50			302	32
2017	306	54			178	38	287	26	223	30	256	65			250	43
2018	333	4			291	9	247	9	237	1	261	6			274	6
2019	321	28			241	11	288	27	178	47	224	33	132	1	231	25
2020	334	15			216	7	290	3	247	5	284	4	237	9	268	7

2 Echebatar: Fishing effort - total and observed tuna sets 2017 – 2020

Over the three years 2017 –2019, fishing effort based on the annual number of FAD and FSC sets shows a slight increase in the number of the former and a decrease in the number of the latter (Table 2, Figures 1 & 2).

The proportion of FAD sets for which observed data are available averaged 84% and the proportion of observed FSC sets averaged 77 %. This is a significant increase compared to 2016 for both types of sets. This proportion reduced in 2020 due to the restrictions on observers boarding vessels resulting from the COVID-19 pandemic regulations applied in the Seychelles.

Table 2: Echebatar: Fishing effort 2014 – 2020 (number of vessels, number of sets, type of set (%) and observed sets (%))

Year	Total number of sets		Number of vessels	Total observed sets		% by type of set		% observed sets	
	FAD	FSC		FAD	FSC	FAD	FSC	FAD	FSC
2014	831	227	4	221	126	64%	36%	27%	55%
2015	1.161	192	6	672	159	81%	19%	58%	83%
2016	1.512	160	5	613	71	90%	10%	41%	44%
2017	1.250	213	5	1.074	133	89%	11%	86%	62%
2018	1.369	29	5	1.197	26	98%	2%	87%	90%
2019	1.384	147	6	1.098	115	91%	9%	79%	78%
2020	1.608	43	6	838	15	98%	2%	52%	35%

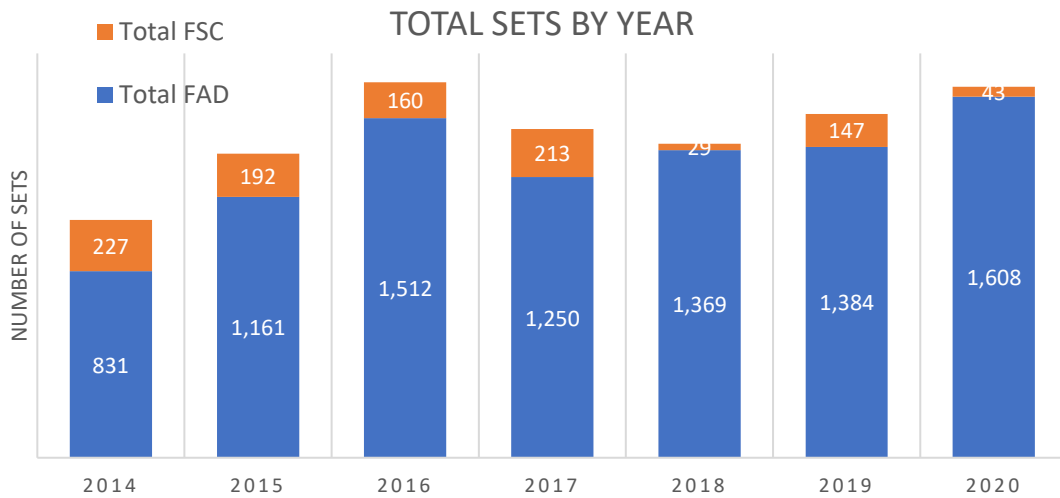


Figure 1: Echebatar: Total number of sets by type (FAD / FSC) (2014 – 2020)

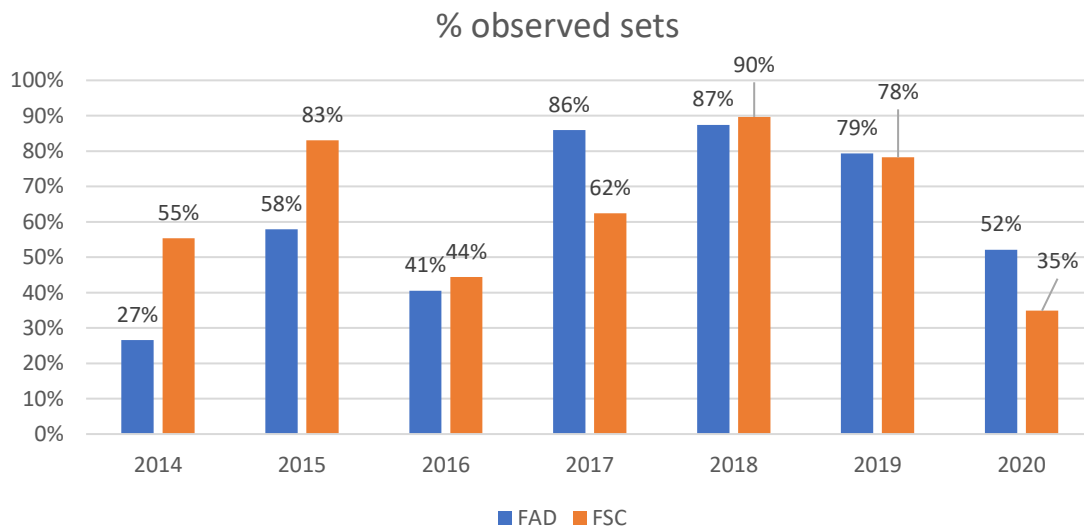


Figure 2: Echebatar: Trends in proportion of observed sets (2014 – 2020).

3 Echebatar: Annual Tuna Catch Composition 2006-2020

Table 3 and Figures 3 & 4 show the Echebatar catch of main tuna species 2006 – 2020.

In 2020, as verified by landing data, the breakdown of the total catch of 53,431 mt by the three main species was skipjack 63.4 %; yellowfin 29.4 %; and bigeye 6.8 %.

In 2017 – 19, the skipjack proportion was higher than historic levels due to: (i) restrictions on yellowfin catch from 2016; with (ii) the resultant shift from FSC to FAD sets.



Table 3: Echebatar: Catches of main tuna species 2006 – 2020.

Year	YF		BE		SKJ		Others		TOTAL
	ton	%	ton	%	ton	%	ton	%	
2006	19.277	39,3	1.952	4,0	27.178	55,4	665	1,4	49.072
2007	12.289	38,5	1.814	5,7	17.406	54,5	427	1,3	31.936
2008	16.006	39,5	3.192	7,9	20.787	51,3	498	1,2	40.483
2009	16.240	32,9	5.110	10,4	27.525	55,8	483	1,0	49.357
2010	22.116	39,3	3.837	6,8	29.919	53,1	441	0,8	56.313
2011	26.470	53,4	3.193	6,4	19.493	39,3	414	0,8	49.569
2012	24.862	61,3	3.383	8,3	11.544	28,5	759	1,9	40.547
2013	24.906	56,1	4.107	9,3	14.854	33,5	516	1,2	44.383
2014	17.534	50,8	2.736	7,9	13.903	40,2	375	1,1	34.547
2015	17.542	49,4	2.314	6,5	15.263	43,0	402	1,1	35.521
2016	17.653	43,1	2.894	7,1	19.980	48,8	384	0,9	40.911
2017	15.121	32,8	3.230	7,0	27.308	59,3	417	0,9	46.075
2018	14.800	28,1	3.603	6,8	33.866	64,2	460	0,9	52.729
2019	14.668	29,6	3.827	7,7	30.682	62,0	306	0,6	49.483
2020	15.702	29,4	3.654	6,8	33.867	63,4	208	0,4	53.431

Tuna catches (tons) 2006-2020

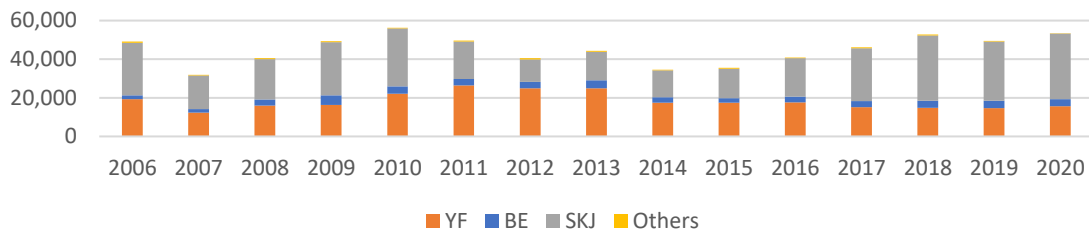


Figure 3: Echebatar: Catches of main tuna species 2006 - 2020.

Tuna catches % by species 2006-2020

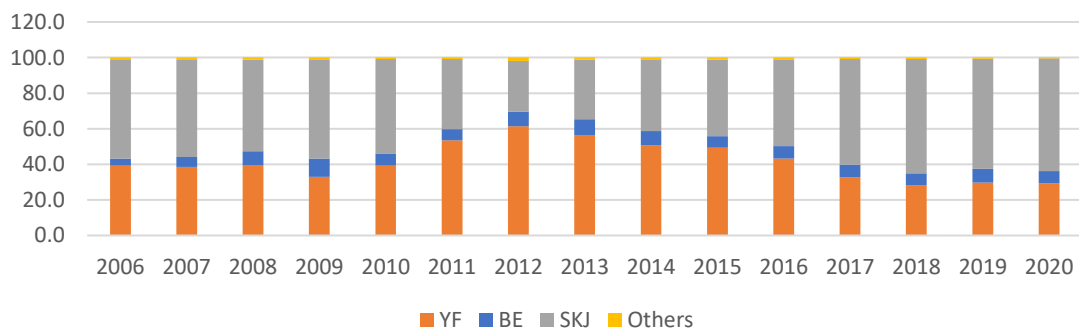


Figure 4: Echebatar: Catches of main tuna species relative to total catch 2006 – 2020.

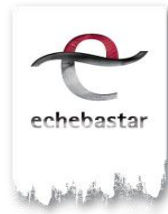


Table 4 shows the average annual catch by Echebatar by the number of operating vessels and the number of sets.

In 2017 – 2020, Echebatar complied with IOTC requirements (as applied by the flag states of Spain and Seychelles) to reduce the yellowfin catch by 15 % from the quantity recorded in 2014 (i.e. from 17,534 mt to around 15,700 mt in 2020). It is noted that over the period 2017 – 2020 the proportion of yellowfin in the catch remained stable, averaging just under 30 %. One of the reasons for the shift away from FSC to FAD was the limit on yellowfin catch.

In common with the overall situation, in 2018 the Echebatar catch of skipjack increased to 33,866 mt due mainly to the increased abundance resulting from favourable oceanographic conditions. The catch reduced in 2019, but increased in 2020. However, this was due to the introduction of the vessel Aterpe Alai into the fleet. Echebatar operates under the regulations of the Governments of the Seychelles and Spain which allocated catch quota in those years by vessel and the company was fully compliant.

Table 4: Echebatar: Annual tuna catch by vessel and set (2014 – 2020)

Year	Vessels (v)	Sets (s)	YF			BE			SKJ		
			ton (t)	t/v	t/s	t	t/v	t/s	t	t/v	t/s
2014	4	1,058	17,534	4,383.5	16.6	2,736	684.0	2.6	13,903	3,475.8	13.1
2015	6	1,353	17,542	2,923.7	13.0	2,314	385.7	1.7	15,263	2,543.8	11.3
2016	5	1,672	17,653	3,530.6	10.6	2,894	578.8	1.7	19,980	3,996.0	11.9
2017	5	1,463	15,121	3,024.2	10.3	3,230	646.0	2.2	27,308	5,461.6	18.7
2018	5	1,398	14,800	2,960.0	10.6	3,603	720.6	2.6	33,866	6,773.2	24.2
2019	5.5	1,531	14,668	2,666.9	9.6	3,827	695.8	2.5	30,682	5,578.5	20.0
2020	6	1,651	15,702	2,617.0	9.5	3,653	608.8	2.2	33,867	5,644.5	20.5
Year	Vessels (v)	Sets (s)	Others			TOTAL			% TOTAL CATCH		
			t	t/v	t/s	t	t/v	t/s	YF	BE	SKJ
2014	4	1,058	375	93.8	0.35	34,547	8,636.8	32.7	50.8%	2.0%	40.2%
2015	6	1,353	402	67.0	0.30	35,521	5,920.2	26.3	49.4%	1.1%	43.0%
2016	5	1,672	384	76.8	0.23	40,991	8,198.2	24.5	43.1%	1.4%	48.7%
2017	5	1,463	417	83.4	0.29	46,075	9,215.0	31.5	32.8%	1.4%	59.3%
2018	5	1,398	460	92.0	0.33	52,729	10,545.8	37.7	28.1%	1.4%	64.2%
2019	6	1,531	306	55.6	0.20	49,483	8,996.9	32.3	29.6%	1.4%	62.0%
2020	6	1,651	208	34.7	0.13	53,431	8,905.2	32.4	29.4%	1.1%	63.4%
Note: Aterpe Alai was only active for 6 months											



4 Echebastar: Fishery Interactions with other Species

4.1 FAD Sets: By Catch Trend (2016-2020)

Table 5 shows that from 2017 – 2019 the proportion of observed FAD sets was greater than 50 %. Due to COVID regulations restricting the ability to board observers in 2020 (a situation that has continued in 2021), the proportion reduced to 52%, but still higher than 50%. However, it is considered that the 5 years of data that are available is sufficient to identify trends in interaction of the Echebastar fishery with ETP species as the annual average is 68 %. Over the same period the live release of sharks, rays, sea turtles and whale shark averaged just under 70 %. The major part of this proportion is accounted for by silky sharks. Echebastar has a project to assess their post release survival rate.

Table 5: Echebastar FAD sets: number, observed, live release

Year	2016	2017	2018	2019	2020
Number of observed sets	613	1,074	1,197	1,098	775
Total number of sets	1,512	1,250	1,369	1,252	1,608
Observed sets (%)	41%	86%	87%	88%	52%
ETP released alive (%) *	68%	68%	69%	79%	54%

*Percentage of sharks, rays, turtles (SRT) and Whale shark (WS) released alive as a weighted average by number (i.e. the proportion of all sharks, rays, sea turtles and Whale shark released alive compared to the total number of sharks, rays and sea turtles captured per set type per year).

Table 6 shows interaction by species. Silky shark (*Carcharhinus falciformis*) is by far the most important ETP species, but the number of these reduced from 7,168 in year 2016 to 3,839 in 2020, despite the small reduction in the total number of sets.

Other points of note are:

- 19 Bull shark (*Carcharhinus leucas*) were taken in 2020; none were recorded in the previous 4 years. In the MSC standard this species is a minor secondary.
- 26 Oceanic white tip shark (*Carcharhinus longimanus*); a notable reduction from the previous 4 years. In the MSC standard this species is categorized as ETP. This shark is CITES Appendix 2 listed i.e. not necessarily nor threatened with extinction but that may become so unless trade is closely controlled.
- A single whale shark (*Rhincodon typus*) was taken in 2018 and 2019. In the MSC assessment (2018). In the MSC standard this species is ETP. Reg 13/05 covers whale shark. All sharks that interacted with Echebastar vessels were released alive.

Figure 5 shows the trend in catch of sharks, turtles, rays and whale sharks. Together with table 6, the data confirm the Echebastar operation as a “clean” fishery.



Table 6: Echebatar: FAD Sets - Estimated total catches (n) of other species (2016 – 2020).

FAO	Family	Species	2016	2017	2018	2019	2020
EAG	Rays	<i>Myliobatidae</i>	0	0	0	0	0
MNT	Rays	Manta sp.		0	2	0	0
PLS	Rays	<i>Dasyatys (Pteroplatytrygon) violacea</i>	6	2	6	7	0
RMB	Rays	<i>Manta birostris</i>	12	1	1	2	1
RMJ	Rays	<i>Mobula japanica (rancureli)</i>	9	4	6	0	2
RMM	Rays	<i>Mobula mobular</i>		8	0	1	0
RMV	Rays	Mobula sp.		8	9	4	0
STT	Rays	<i>Dasyatidae</i>	3	4	0	2	0
BSH	Sharks	<i>Prionace glauca</i>	0	0	2	0	0
CCE	Sharks	<i>Carcharhinus leucas</i>	0	0	0	0	19
CVX	Sharks	<i>Carcharhiniformes</i>	6	0	0	2	0
FAL	Sharks	<i>Carcharhinus falciformis</i>	7,168	4,297	5,658	4,882	3,839
OCS	Sharks	<i>Carcharhinus longimanus</i>	140	108	121	55	26
SPL	Sharks	<i>Sphyrna lewini</i>	0	0	0	1	0
DKK	Turtles	<i>Dermochelys coriacea</i>	0	0	0	0	0
LKV	Turtles	<i>Lepidochelys olivacea</i>	0	2	12	4	2
TTH	Turtles	<i>Eretmochelys imbricata</i>	6	2	2	3	3
TTL	Turtles	<i>Caretta caretta</i>	6	6	1	3	0
TTX	Turtles	Turtles not identified	0	0	3	12	0
TUG	Turtles	<i>Chelonia mydas</i>	0	0	2	0	0
RHN	Whale shark	<i>Rhincodon typus</i>	0	0	1	1	0

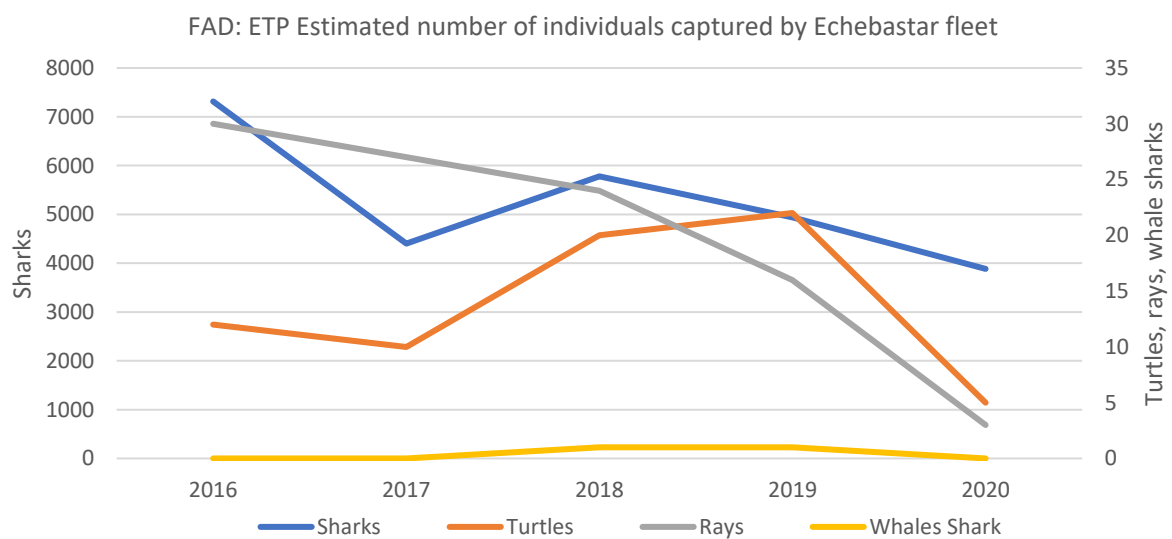


Figure 5: Echebatar – FAD Sets: Trend in catches of sharks, turtles, rays & Whale Sharks .



Table 7: Echebatar – FAD Sets: Average number of individual species caught per set.

FAO	Family	Species	2016	2017	2018	2019	2020
EAG	Rays	<i>Myliobatidae</i>	0	0	0	0	0
MNT	Rays	Manta sp.	0	0	0	0	0
PLS	Rays	<i>Dasyatis (Pteroplatytrygon) violacea</i>	0	0	0	0	0
RMB	Rays	<i>Manta birostris</i>	0	0	0	0	0
RMJ	Rays	<i>Mobula japanica (rancureli)</i>	0	0	0	0	0
RMM	Rays	<i>Mobula mobular</i>	0	0	0	0	0
RMV	Rays	Mobula sp.	0	0	0	0	0
STT	Rays	<i>Dasyatidae</i>	0	0	0	0	0
BSH	Sharks	<i>Prionace glauca</i>	0	0	0	0	0
CCE	Sharks	<i>Carcharhinus leucas</i>	0	0	0	0	0
CVX	Sharks	<i>Carcharhiniformes</i>	0	0	0	0	0
FAL	Sharks	<i>Carcharhinus falciformis</i>	5	3	4	4	2
OCS	Sharks	<i>Carcharhinus longimanus</i>	0	0	0	0	0
SPL	Sharks	<i>Sphyrna lewini</i>	0	0	0	0	0
DKK	Turtles	<i>Dermochelys coriacea</i>	0	0	0	0	0
LKV	Turtles	<i>Lepidochelys olivacea</i>	0	0	0	0	0
TTH	Turtles	<i>Eretmochelys imbricata</i>	0	0	0	0	0
TTL	Turtles	<i>Caretta caretta</i>	0	0	0	0	0
TTX	Turtles	Turtle not identified	0	0	0	0	0
TUG	Turtles	<i>Chelonia mydas</i>	0	0	0	0	0
RHN	Whales shark	<i>Rhincodon typus</i>	0	0	0	0	0

4.2 FSC Sets: By-Catch Trend (2016-2020)

Table 7 emphasises the low number of FSC sets over recent years, with the consequent limited number of non-tuna species (Table 8). The silky shark catch is limited and the four whale shark that interacted with the fishery in 2019 were released alive.

Table 8: Echebatar FSC sets: number, observed, live release

Year	2016	2017	2018	2019	2020
Number of observed sets	71	133	29	115	15
Total number of sets	160	213	29	146	43
Observed sets (%)	44%	62%	100%	79%	35%
ETP released alive (%)*	100%	53%	100%	100%	100%

*Percentage of sharks, rays, turtles (SRT) and Whale shark (WS) released alive as a weighted average by number (i.e. the proportion of all sharks, rays, sea turtles and Whale shark released alive compared to the total number of sharks, rays and sea turtles captured per set type per year).



Table 9: Echebatar: FSC Sets - Estimated total individuals catches in number of other species (2016 – 2020).

FAO code	Family	Species	2016	2017	2018	2019	2020
EAG	Rays	<i>Myliobatidae</i>		0	0	0	0
MNT	Rays	Manta sp.		0	0	0	0
PLS	Rays	<i>Dasyatis (Pteroplatytrygon) violacea</i>		0	0	0	0
RMB	Rays	<i>Manta birostris</i>		0	0	0	0
RMJ	Rays	<i>Mobula japonica (rancureli)</i>		0	0	0	0
RMM	Rays	<i>Mobula mobular</i>		3	0	0	0
RMV	Rays	Mobula sp.		0	1	2	0
STT	Rays	<i>Dasyatidae</i>		0	0	0	0
BSH	Sharks	<i>Prionace glauca</i>		0	0	0	0
CCE	Sharks	<i>Carcharhinus leucas</i>		0	0	0	0
CVX	Sharks	<i>Carcharhiniformes</i>		0	0	0	0
FAL	Sharks	<i>Carcharhinus falciformis</i>	53	33	2	60	1
OCS	Sharks	<i>Carcharhinus longimanus</i>		3	0	5	0
SPL	Sharks	<i>Sphyrna lewini</i>		0	0	0	0
DKK	Turtles	<i>Dermodochelys coriacea</i>		1	0	0	0
LKV	Turtles	<i>Lepidochelys olivacea</i>		0	0	0	0
TTH	Turtles	<i>Eretmochelys imbricata</i>		0	0	0	0
TTL	Turtles	<i>Caretta caretta</i>		0	0	0	0
TTX	Turtles	Turtle not identified		0	0	0	0
TUG	Turtles	<i>Chelonia mydas</i>		0	0	0	0
RHN	Whale shark	<i>Rhincodon typus</i>		0	0	3	0