



## Kenya National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2024

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### INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

<p>In accordance with IOTC Resolution 15/02 (and other data related CMMs as noted below), final scientific data for the previous year were provided to the IOTC Secretariat by 30 June of the current year, <b>for all fleets other than longline</b> [e.g., for a National Report submitted to the IOTC Secretariat in 2024, final data for the 2023 calendar year must be provided to the Secretariat by 30 June 2024)</p>	<p>YES</p>
<p>In accordance with IOTC Resolution 15/02, provisional <b>longline data</b> for the previous year was provided to the IOTC Secretariat by 30 June of the current year [e.g., for a National Report submitted to the IOTC Secretariat in 2024, preliminary data for the 2023 calendar year were provided to the IOTC Secretariat by 30 June 2024].</p> <p><b>REMINDER:</b> Final longline data for the previous year are due to the IOTC Secretariat by 30 Dec of the current year [e.g., for a National Report submitted to the IOTC Secretariat in 2024, final data for the 2023 calendar year must be provided to the Secretariat by 30 December 2024].</p>	<p>YES</p>
<p>If no, please indicate the reason(s) and intended actions:</p>	

## Executive Summary

The Kenyan tuna and tuna-like fishing fleets comprise of the artisanal, semi-industrial, industrial and recreational fisheries which have an impact on IOTC’s priority species. The commercial artisanal fishing fleet is composed of a multi-gear and multi-species fleet operating in the territorial waters. The artisanal boats are broadly categorized as outrigger boats or dhows which come with variants depending on the construction designs. It is estimated that 606 artisanal vessels are engaged in the fishing for tuna and tuna like species in 2022 within the coastal waters. The main gears used are artisanal long line hooks, gillnets, monofilament nets and artisanal trolling lines. In 2023, five (5) Kenya pelagic longline vessels operated in the IOTC area of competence. The IOTC species landed during the year included swordfish (217.3 tons), yellowfin tuna (129.1 tons) Bigeye tuna (35.3 tons), Sharks (52.3 tons), Marli while other species combined (18.6 tons). Artisanal fishers landed 388 tons of marlins, 4,959 tons of tuna and tuna like species and 1652 tons of sharks and rays. Catches of scombrids decreased from 6,160 tons to 4,959 tons but still above the landing of previous years of 1,953 tons and 1,613 tons in 2020 and 2021. The main target species from the recreational fisheries are marlins and sailfish (Istiophiridae), swordfish (Xiiphidae) and tuna (Scombridae). Other species caught include small pelagic species such as barracuda, Spanish mackerel, Wahoo and sharks. The artisanal fisheries and recreational fishing fleets have interactions with sharks where sharks are caught and the carcass is retained and fully utilised in artisanal fisheries and recreational trolling line fisheries have a voluntary shark release policy.

### 1. BACKGROUND/GENERAL FISHERY INFORMATION

Kenya’s coastline is estimated to be 640 km long and 880 km including bays and inlets. Situated in the Western Indian Ocean (WIO), it borders Somalia to the north and Tanzania to the south. Kenya’s Exclusive Economic Zone (EEZ) extends 200 nautical miles from the coastal baseline measuring 142,400 km<sup>2</sup>. The coastline is lined with an almost continuous fringing coral reef that runs parallel to the shoreline. The continental shelf is narrow (3-5 km) in most parts except in Ungwana bay. The richest inshore fishing grounds are located around the Lamu Archipelago, Ungwana Bay, North Kenya Banks and Malindi Bank. The areas where the two major Kenyan rivers (Tana and Sabaki) empty into the sea are also very productive. The annual production from artisanal coastal fisheries in 2023 was estimated at 36,983 MT consisting of demersal (44%), pelagics (26%), sharks and rays (5%) mollusc (7%) and crustaceans (9%). The artisanal fishing fleet consists of 3,174 vessels, dominated by wooden crafts usually for single day fishing trips. Troll lines, ringnets, handlines, longlines and gillnets are the most common artisanal gear types used to catch tuna and tuna-like species along the Kenya coast. Species under the IOTC mandate that are landed include yellowfin tuna, bigeye tuna, skipjack tuna and kawaka. The bulk of tuna and tuna-like species are caught by troll lines, ringnets, and drift gillnets. These gear types also catch other species, but the proportion of tuna and tuna-like species greatly differs among the gear types. Trolling lines, longlines and drift gillnets are more selective in capturing yellowfin and bigeye tuna, while neritic species are primarily caught by ringnets and reef seines. Billfish, mainly sailfish (Istiophoridae) are also caught by artisanal fishers using troll lines and handlines. Key landing sites for tuna along the Kenya coast are located in Vanga, Gazi, Kilifi central, Watamu, Mayungu, Amu and Kiwayu.

### 2. FLEET STRUCTURE

The national tuna fishing fleet structure consists of an artisanal commercial segment and to a lesser extent recreational fleet which all combined target and impact species under the IOTC mandate. The fishing fleet estimates provided in this report are based on the frame survey estimates of October 2022. The commercial artisanal fishing fleet is composed of a multi-gear and multi-species fleet operating in the territorial waters. The local boats are broadly categorized as outrigger boats or dhows which come with variants depending on the construction designs. It is estimated that 606 artisanal vessels are engaged in the fishing of tuna and tuna like species in 2022. A majority of the vessels are wooden planked propelled by sails and increasingly being motorised. These boats operate day fishing trips within the territorial waters. The mean craft size for tuna fishing vessels based on the frame survey was eight meters. The main gears used are artisanal long lines (75) handlines (201), gillnets (117), trolling lines (103), monofilament nets (110) and other gears (90). Recreational fishing vessels use trolling lines. Table 1: Number of vessels operating in the IOTC area of competence, by gear type and size class

**Table 1:** Number of vessels operating in the IOTC area of competence, by gear type and size class

Year	2018	2019	2020	2021	2022	2023
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Longliners	3	3	4	4	6	5
Purse seiners	0	0	6	6	0	0

### 3. CATCH AND EFFORT (BY SPECIES AND FISHERY)

Artisanal Fishery; Table 2 summarises artisanal catch data for year 2028-2023. Landings of tuna from artisanal fishers were 4,959 tons in 2023 which is a decline compared to 6,160 tons in 2022. The artisanal tuna fishery in Kenya is highly seasonal, heavily influenced by the seasonal monsoon cycle. Fishing effort in terms of number of fishers per trip ranges from 3 fishers per vessel for handlines to 23 fishers per vessel for ringnets (Okemwa et al., 2023). The most productive season when catch rates are high is during the calm north east monsoon from September to March when fishing conditions are optimal. A total of 8 gear types catches tuna and tuna like species with the highest proportion being caught by trolling lines (Figure x). Kawakawa is caught by the highest diversity of gear types. Maps of the spatial distribution of fishing effort and the fishing fleet dynamics is not possible due to lack of spatially disaggregated catch information.

**Table 2.** Annual catch and effort by fishery and primary species in the IOTC area of competence. Include a 'not elsewhere indicated – NEI' category for all other catches combined.

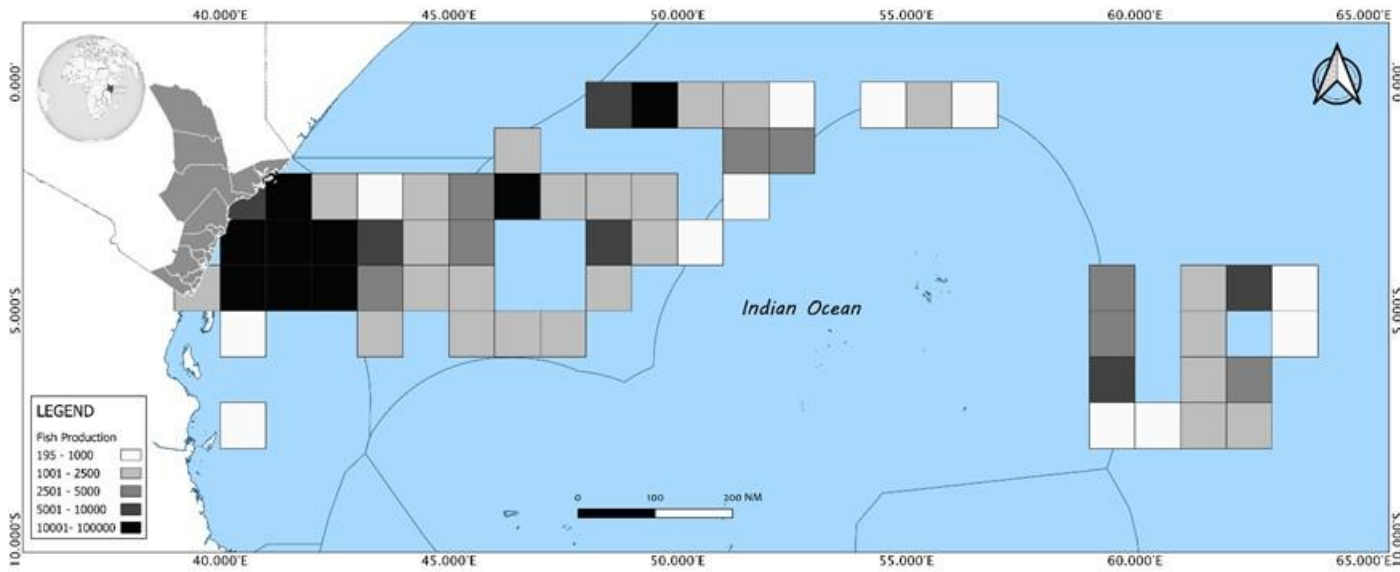
Species	2019	2020	2021	2022	2023
Istiophoridae	200.6	123	263	388	293
Scombridae	2737	1953	1613	6160	4959
Xiphiidae	205.8	137	571		
Carcharinidae	563.6	757.7	12	989	1046.2
Dasyatidae	232.8	342	0	80	459.7
Myliobatidae	0	109.8	0	11	146.0
Sphyrnidae	0	487	722	875	867
NEI	21,747	19,738	22,199	26,840	28,895

The Kenya flagged industrial longline vessels fished within the EEZ and the high seas in the period of 2018-2021 with the average number of hooks per vessel per day being 1290 in 2022. The vessel fished for a total of 764 days at sea. The catch and effort data as well as length frequency data was submitted IOTC. A total of 432.7 tons of fish was landed in 2021 with swordfish (261 tons) and sharks (80.7 tons) reported as the main species caught.

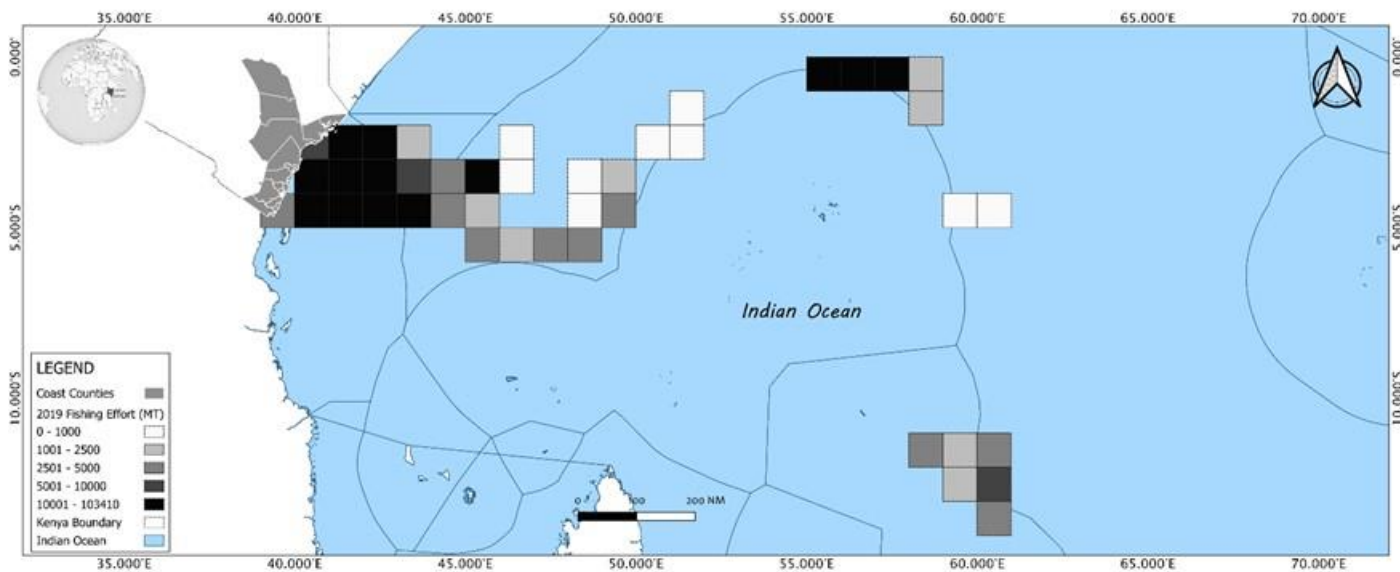
**Table 3.** Historical annual catch for the national fisheries by primary species, for the IOTC area of competence for the entire history of the fisheries. **[Mandatory]**

Species	2018	2019	2020	2021	2022	2023
Yellow Fin Tuna	107.6	190.3	131.9	12.2	18.7	129.1
Bigeye	27.6	52.5	68.7	17.6	11.6	35.3
Sword fish	294	385.2	331.9	297.7	261	217.3
Marlins	8.8	14.3	19.3	4.1	1.4	4.8
Sailfish	1.3	5	5	1.1	1.01	1.6
Sharks	55.9	114.6	92.8	96.5	80.7	52.3
Others	22.6	35.1	19.13	3.4	5.2	12.2
Effort hooks	618,385	985,560	1,252,160	1,406,960	2,123,400	2,115,866
Fishing Days	340	573	728	830	764	824

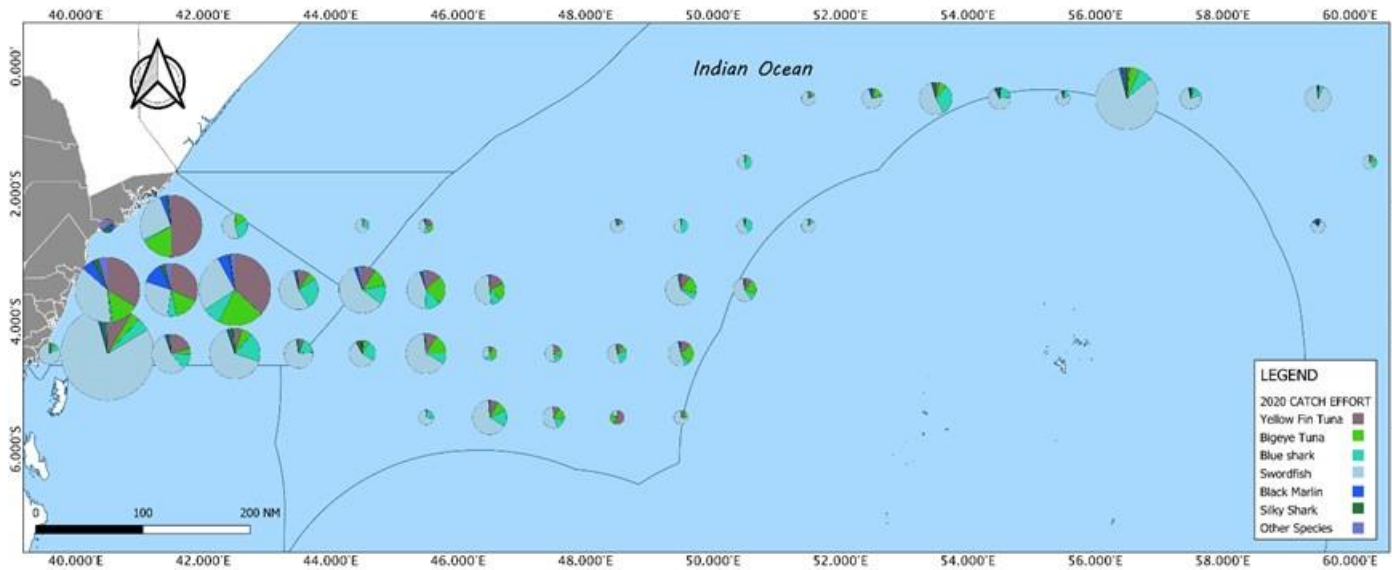
**Figure 2a.** Map of the distribution of fishing effort, by national fishery in the IOTC area of competence in 2023



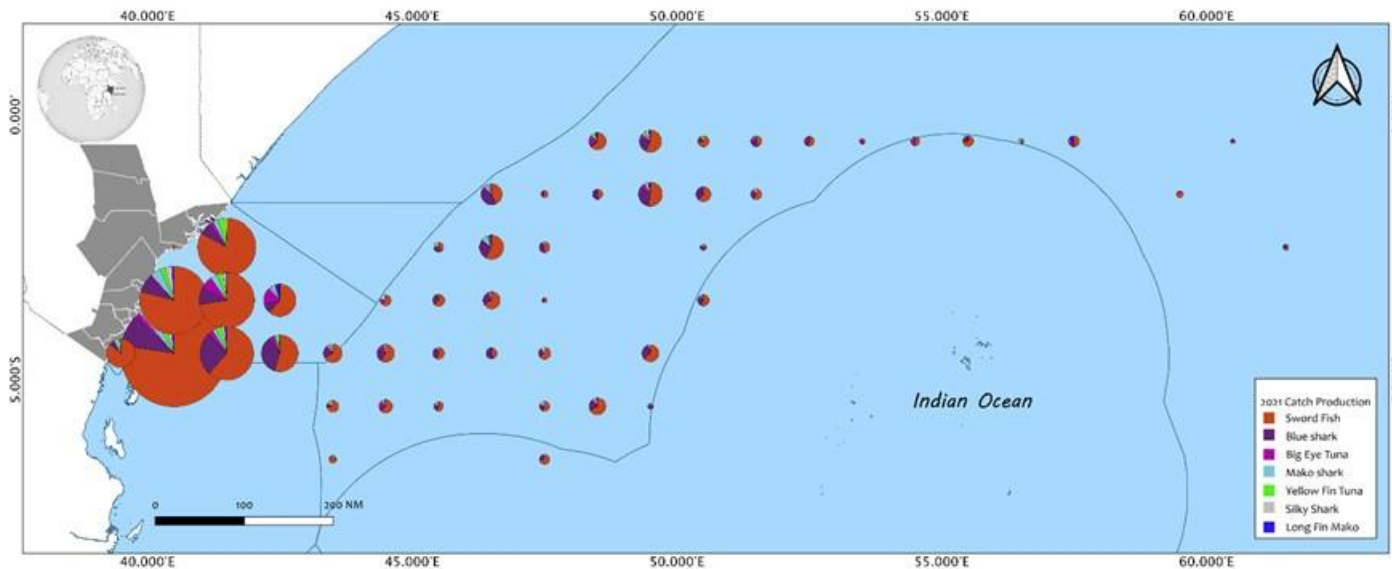
**Figure 2b.** Map of the distribution of fishing effort, by national fishery in the IOTC area of competence (average of the 5 previous years e.g., 2019–2023). *[may require a separate map for each fishery]* **[Mandatory]**



**Figure 3a.** Map of distribution of fishing catch, by species for the national fisheries, in the IOTC area of competence (most recent year e.g., 2023). *[may require a separate map for each species]* **[Mandatory]**



**Figure 3b.** Map of distribution of fishing catch, by species for the national fisheries, in the IOTC area of competence (average of the 5 previous years e.g., 2019–2023).



#### 4. RECREATIONAL FISHERY

Recreational fishing mainly encompasses sport or big game fishing. In the Kenyan context, this is undertaken mostly along the coast stretching from Lamu to Kwale. These recreational fishing activities take place in Amu Island, Malindi, Watamu, Kilifi, Mtwapa, Mombasa, Diani, and Shimoni with coordinated annual tournaments and competitions conducted in Malindi, Kilifi, Watamu and Diani (Kadagi et al., 2020, <https://captainandyskenya.com/kasa-fishing-tournaments-22-23/>, [Big Fish Mombasa | Big Game Sports Fishing in Mombasa](#)). The Kenyan recreational fishery targets billfish (sailfish, marlins and swordfish), species belonging to family Scombridae (yellowfin, skip jack, bigeye tuna etc.), giant trevally, barracuda, spanish mackerel, wahoo, and kingfish among others ([Fishing in KENYA: The Complete Guide](#)).

Recreational fishing for billfish is predominantly catch, tag and release, which is practiced by charter and private boats that fish during the fishing year or occasionally (Kadangi et al., 2022). Tags are supplied by the African Billfish Foundation, a regional tagging programme based in Kenya and has overseen tagging of billfish in Kenya and other areas for over 30 years.



According to Kadagi et al (2021), there is competitive interactions between recreational and artisanal fisheries whereby both groups target billfish predominantly sailfish landings. Further, the results indicate the socio-economic importance of the species to both fisheries thus ensuring social, cultural and economic security hence development of effective management strategies is key for sustainable resource use.

In a study by Thoya et al., 2022 focusing on the distribution and habitat association of billfish across transboundary levels in the Indian Ocean (IO), it is noted that the EEZ and the high seas are essential areas for billfish, where 55% of the billfish spatial distributions were found in the EEZ of the IO nations, while 45% were found in the high seas. In addition, areas Beyond National Jurisdiction (ABNJ) had a high probability of occurrence for most species and high fishing effort overlap.

Sport fishing is faced with data deficiency challenges whereby more often than not no data has been reported, data may be misreported or catches are known to be underestimated. Limited data on sport fishing is mainly attributed to non-compliance due to the fact that fishers are mostly tourists and private individuals with irregular fishing schedules mostly associated with holiday season. Detailed historical data on sport fishing in Kenya can be obtained from (Pepperell *et al.*, 2017).

Table 4: Status of the sportfishing clubs in Kenya.

Establishments	Main Ports	Size of Fleet (Charter/Private)	Number of fishing Days per Year (Charter)	Seasons	Target species per season
Kenya Association of Sea Anglers (KASA)	-Watamu – Ocean Sports; African Billfish Foundation (ABF).	-42 Charter boats -20 Private boats	75 - 180 days per Year	Monsoon Season (Mid-March/Early April to Mid-July	August to October: Yellowfin Tuna
Watamu Sea Fishing Club	-Malindi – Malindi Sea Fishing Club.				November to end of March: Marlin Season
Captain Andy's Fishing Supply	-Shimoni (Pemba Channel) -Diani -Kilifi -Mtwapa -Mombasa -Lamu				

Further, the status on sport fishing fleet indicates that Kilifi has the highest number of sport fishing vessels. However, data on catches is largely missing and all the available information is scanty and unpublished. This hinders effective management of the resource.

Table 5: Status of the sport fishing in Kenya

Sport Establishment	Fishing	Number of Vessels	Status
Fishing Clubs in Kilifi County		40	Active
Fishing Clubs in Kwale County		3	Active

Hotels	15	Active
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To address, some of the challenges faced in billfish conservation including data, the International Game Fish Association (IGFA) is undertaking a Billfish Research and Conservation Endowment campaign (<https://igfa.org/igfa-billfish-endowment/>). The campaign is dedicated to funding initiatives that directly or indirectly benefit billfish stocks by enhancing our knowledge on their biology and ecology, obtaining management measures that improve their abundance on national, regional and international levels, and improving recreational fisheries for these species.

## 5. ECOSYSTEM AND BYCATCH ISSUES

### 5.1 Sharks [Mandatory]

A total of 99 elasmobranch species (sharks, rays and skates) are estimated to occur in Kenya's marine waters consisting of 57 species of sharks and 42 species of rays (Kiilu et al., 2024). This estimate takes into consideration artisanal, prawn trawl and industrial longline fisheries.

Seventeen species are classified as High Vulnerability Species Assemblage (HVSA), and are considered to be at high risk of overfishing by different gears, and are recommended for management as a complex. Of the HVSA group, two species; *Pseudoginglymostoma brevicaudatum* and *Rhina ancylostoma* are classified by the IUCN Red List of Threatened Species as Critically Endangered (CR), while another four; *Rhinoptera jayakari*, *Mobula birostris*, *Stegostoma tigrinum* and *Carcharhinus plumbeus* are Endangered (EN), with the rest being either Vulnerable (*Gymnura poecilura*, *Pastinachus ater*, *Pateobatis jenkinsii*, *Taeniurops meyeri*, *Triaenodon obsesus*, *Carcharhinus falciformis*, and *Carcharhinus carcharias*), Near Threatened (*Maculabatis ambigua*, *Mustelus mosis*, *Prionace glauca*) or classified as Data Deficient (*Pliotrema warreni*) (Kiilu et al., 2024).

Of the 57 species of sharks, 56% are threatened with extinction at the global level, of which 28% are Vulnerable (VU), while 19.0% are Endangered (EN) and 9% are Critically Endangered (CR) according to the IUCN Red List of Threatened Species ([www.iucnredlist.org](http://www.iucnredlist.org), release 2022). For the ray species, 60% of the species (n = 42) potentially occurring in Kenyan waters are assessed to be those threatened at a global scale. Of the threatened species, 24% are Vulnerable and equally 24% Endangered, while 12% are Critically Endangered. A relatively high proportion of ray species (16%) have a Data Deficient (DD) status compared to those of sharks (10%). A higher proportion of sharks (23%) have a Near Threatened (NT) status as compared to rays (7%) (Kiilu et al., 2024).

From a 2020 survey conducted in the longline industrial fishery, seventeen species of sharks (n = 13) and rays (n = 4) were documented. Furthermore, recent studies on sharks and rays in Kenya (Kiszka & van der Elst, 2015; Kiilu et al., 2019; Temple et al. 2019,) provide information on the abundance and distribution of species caught in artisanal, trawl and longline fisheries but there are still significant knowledge gaps to be filled regarding spatio-temporal patterns of distribution, biology and ecology of the species. Sixteen species of sharks, 501 individual sharks caught using either trolling lines or rods and reels. were recorded in the recreational tagging data between 1987 and 2016. The families Carcharhinidae (56%) and Sphyrnidae (12%) represented the highest proportion of the catch (Wambiji et al, 2022). About thirty species are assessed to have High Relative Vulnerabilities to the fishing gears at all fishery categories (artisanal, prawn trawl and industrial longline) and form a High Vulnerability Species Assemblage (HVSA) that will require more targeted management strategies applied through a hierarchical approach in addition to a quantitative stock assessment.

Overall, in 2022, 6 species of sharks were caught and landed by the longliners namely blue sharks (*Prionace glauca*) 61 tons, silky sharks (*Carcharhinus falciformis*) 5.8 tons, Shortfin mako, (*Isurus oxyrinchus*) 1.9tons, Longfin Mako Shark, (*Isurus paucus*) 2 tons, and other unidentified sharks weighing 9 kgs.

### 5.1.1. NPOA sharks [Desirable]

Kenya received support from World Bank through the Kenya Marine and Social Economic Project (KEMFSED) to finalise the process of developing a National Plan of Action (NPOA) for Sharks as guided by FAO IPOA guidelines. The drafting of the National Plan of Action for Sharks and Rays (NPOA-Sharks and rays), was finalized in April 2023. The draft NPOA sharks underwent through the final stakeholder and is awaiting final approval and publication.

### 5.1.2. Blue shark [Mandatory]

In 2019 through 2023, concrete plans were put in place by the government to enable the Kenya Marine Fisheries Research Institute (KMFRI) to carry out pelagic fisheries research in Kenya's EEZ. This survey collected some data on the blue sharks among others for proper reporting. Kenya has also been implementing a scientific observer program on-board industrial fishing vessel since 2016. The data collected include catches and fate of blue sharks.

Table 6: Total weight and number of sharks, by species, retained by the Kenyan fleet in the IOTC area of competence (2016–2022).

		Weight								
Common Name	Scientific Name	2016	2017	2018	2019	2020	2021	2022	Grand Total	
Blue Shark	<i>Prionace glauca</i>	0	2,262	28,779	87,395	37,819	63,677	61,919	281,851	
Shortfin mako shark	<i>Isurus oxyrinchus</i>	40	0	7,197	15,266	5,374	22,396	6,335	56,608	
Silky Shark	<i>Carcharhinus falciformis</i>	0	0	2,213	7,889	7,233	10,466	5,137	32,938	
Hammerhead sharks		8,773	3,354	0	0	0	0	0	12,127	
Black Tip shark	<i>Carcharhinus limbatus</i>	5,196	644	0	0	0	0	0	5,840	
Other sharks		572		4,234	863	23	0	0	5,692	
Tiger sharks	<i>Galeocerdo cuvier</i>	5,334	0	0	0	0	0	0	5,334	
Grand Total		19,915	6,260	42,423	111,413	50,449	96,539	73,391	400,390	
		Number								
Common Name	Scientific Name	2016	2017	2018	2019	2020	2021	2022	Grand Total	
Blue Shark	<i>Prionace glauca</i>	0	90	954	2698	1258	1,961	1907	8,868	
Silky Shark	<i>Carcharhinus falciformis</i>	0	0	115	425	329	584	165	1,618	
Shortfin mako shark	<i>Isurus oxyrinchus</i>	1	0	109	238	66	329	161	904	
Hammer head shark		243	136	0	0	0	0	0	379	
Black Tip shark	<i>Carcharhinus limbatus</i>	158	58	0	0	0	0	0	216	
Other sharks		14	0	102	19	1	0	0	136	
Tiger sharks	<i>Galeocerdo cuvier</i>	121	0	0	0	0	0	0	121	



<b>Grand Total</b>		<b>537</b>	<b>284</b>	<b>1,280</b>	<b>3,380</b>	<b>1,654</b>	<b>2,874</b>	<b>2,233</b>	<b>12,242</b>
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Compared to the previous years, in 2023, Kenya's industrial longline vessels predominantly landed only three types of sharks namely; blue sharks, mako sharks and silky sharks.

Table 7: Total weight and number of sharks, by species, retained by the Kenyan fleet in the IOTC area of competence in 2023.

Common Name	Scientific Name	Weight (Kg)	Numbers
Blue shark	<i>Prionace glauca</i>	38,005	1,065
Mako shark	Mixed	9,838	233
Silky shark	<i>Carcharinus falciformis</i>	4,491	161

## 5.2 Seabirds

Kenya has initiated the process to develop NPOA for Seabirds, under the world bank funded KEMSFED project. The document has undergone stakeholders engagement and is awaiting final approval and publishing. A gazette notice with the IOTC requirements for mitigations against sea turtles was published in a gazette notice 2020 and contains the measures to protect seabirds. In 2022, no Kenyan flagged vessel operated south of 25°S.

## 5.3 Marine Turtles

Kenya has initiated the process to develop NPOA for Sea turtles, under the world bank funded KEMSFED project. A gazette notice with the IOTC requirements for mitigations against sea turtles was published in a gazette notice 2020. Kenya has implemented the use of TEDs since 2011 through a management plan for the prawn trawl fishery. Kenya is working in collaboration with NOAA to increase the efficacy of TEDs in the trawl fishery and for certification. Other measures taken by Kenya related to the conservation of marine turtles have been included in the 'Reporting of progress of implementation of the FAO Guideline to Reduce Sea Turtle Mortality in Fishing Operation and on the implementation of resolution 12/04 on marine turtles' already in April 2022

## 5.4 Other ecologically related species (e.g., cetaceans, mobulid rays, whale sharks)

Fishing around sea mammals and whale sharks is prohibited by the Kenyan laws. The Fisheries Management and Development Act no 35 of 2016 makes provision for the protection of marine mammals under Section 46(1) and with subject to section 3) and Section 45 (2,4) with regard to protection of whale sharks. Kenya is currently preparing a national plan of action for sharks and in the process of gazetted measures as stipulated in Res 13/05 (8). No catch of seabirds, marine turtles and marine mammals have been recorded for the national fleet in the IOTC area of competence for the most recent five years. Fishing around sea mammals and whale sharks is prohibited by the Kenyan laws.

## 6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS

### 6.1. Logsheet data collection and verification

Data reporting is a requirement according to the Fisheries management and Development Act 2016 section 75. Kenya initiated the implementation of artisanal fishers' data log sheets since 2020 and monitoring through the Beach management units. In 2022, we fully adopted an application to capture the data and report through the mobile phones. A recreational fisheries log sheet was developed in collaboration with IOTC and introduced to the fishing clubs.

The data collection and reporting forms have been published and will be fully integrated into the Fisheries Information Management system (FIMs) currently under development. Further capacity building on species identification is necessary. As a license condition all vessels are required to fill data in the vessel logbook and submit the logbooks for inspection when they call to port. The logbooks are verified on routine basis during inspection and annually once the vessels submit the logbook data. The verified logbook data for 2023 to be submitted to IOTC as per the requirements.

Fishery Type	Routine Schedule	Validation
1. Purse Seine 2. Longline	After end of fishing Trip	Validate using observer data

## 6.2. Observer scheme

As of 2023, Kenya Observers pool comprises of fully employed Kenya Fisheries Service, Kenya Marine and Fisheries Research Institute and County fisheries officers. During the year the country had a had a pool of 30 observers including both trained and untrained. The categorization is as; 10 fully trained (STCW certification and IOTC Technical Scientific Training) KeFS Officers (waiting certification); 6 partially trained (STCW certification only) KMFRI Officers; 14 untrained KeFS and County Fisheries Officers (just in-house training).

Kenya's current commercial fishing fleet consists of eight (8) trawlers, six (6) long liners and two (2) pot vessels. Number of observation days for the long line fisheries in the years 2022 and 2023 is 456 days and 360 days respectively. Total deployments for the years 2022 and 2023 in the longline fishery is 34 and 25 deployments respectively.

## 6.3. Port sampling programme

Port sampling is mainly done for the longline fisheries. Kenya is in the process of training more staff in the port sampling so as to cover all the Kenyan commercial fisheries as it is provided for in section 150 (1) of the FMDA No. 35 of 2016. In the year 2023, four port sampling were conducted for longline vessels.

## 6.4. Actions taken to monitor catches & manage fisheries for Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish

KMFRI is monitoring catches from 16 landing sites where billfish are caught and recorded. In addition, with the Observer program and logbooks submitted from the commercial fisheries especially the longlines and midwater trawlers, billfish species records are monitored.

## 6.5. Gillnet observer coverage and monitoring

Monitoring of the gillnet fishery is conducted through field sampling of landed catches in selected landing sites based on standardized catch assessment surveys (Fig.xx). Three gear types capture tuna and tuna: monofilament gillnets, drift gillnets and set gillnets. Monofilament gillnets mainly catch kawakawa and mackerels. Drift gillnets mainly catch skipjack, bigeye and some kawakawa while set gillnets mainly catch kawakawa, sailfish and frigate tuna.

### Catch Rates by Craft-Gear Combinations

Craft-Gear Type	Craft-Gear type (n)	Crew (n)	BAC	CPUE_Craft-gear	CPUE_Fisher
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Dau-Gillnet	721	2651	0.6	30.5	8.3
Mashua-Gillnet	550	2744	0.8	35.5	7.1
Hori-Gillnet	341	929	0.5	33.7	12.4
Footfisher-Gillnet	205	350	0.7	8.8	5.2
Mtumbwi-Gillnet	177	358	0.6	11.3	5.6
Mtori-Gillnet	115	581	0.6	31.1	6.2

## 6.6 Sampling plans for mobulid rays

A study on the distribution taxonomy, biology and ecology of mobulid species in Kenya to enhance Kenya's biodiversity conservation and management is currently being finalized. This study is working toward realisation of the objectives of the Convention on Biological Diversity, biodiversity conservation, sustainable use and equitable share of resultant benefits from utilization of biodiversity among the stakeholders. It will also contribute to an efficient system or mechanism of linking in-situ and ex-situ conservation of marine sharks and rays. Sampling of mobulid rays is undertaken incidentally during field sampling in selected landing sites. However, there is no targeted sampling programme.

## 7. IMPLEMENTATION OF SCIENTIFIC COMMITTEE RECOMMENDATIONS AND RESOLUTIONS OF THE IOTC RELEVANT TO THE SC.

**Table 9.** Scientific requirements contained in Resolutions of the Commission, adopted between 2012 and 2023.

Res. No.	Resolution	Scientific requirement	CPC progress
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	Conservation measures gazetted
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	Conservation measures gazetted
13/04	On the conservation of cetaceans	Paragraphs 7–9	Conservation measures gazetted
13/05	On the conservation of whale sharks ( <i>Rhincodon typus</i> )	Paragraphs 7–9	Conservation measures gazetted
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	Research taking place in the Kenyan EEZ
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–10	Catch assessment survey to monitor catch and effort in artisanal fishery
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	The longline data collected as per the requirement and submitted to the IOTC by 30 <sup>th</sup> June. The coastal fisheries length frequency data has also been submitted by 30 <sup>th</sup> June. The nominal catch data and effort by gear has also submitted
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6, 9, 11	Re. Para. 6: Data on sharks reported according the 15/02 Re. Para. 9: Kenya in the process of development of the NPOA sharks, Kenya participated.

Res. No.	Resolution	Scientific requirement	CPC progress
18/02	On management measures for the conservation of blue shark caught in association with IOTC fisheries	Paragraphs 2-5	Re. Para. 2 – 4: Data on Blue sharks has been collected and reported to the IOTC according to Res. 15/02. Re. Para. 5: Kenya research institutions have been working on the blue sharks
18/05	On management measures for the conservation of the Billfishes: Striped marlin, black marlin, blue marlin and Indo-Pacific sailfish	Paragraphs 7 – 11	Kenya has been monitoring the billfishes and attending the Working Party of Billfish where the country has been reporting the results of the monitoring
18/07	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraphs 1, 4	Re. Para 1: Kenya reported in the Implementation Report actions taken to implement reporting obligations. Re. Para 4; Catch reported in 30th June using the IOTC template
19/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence ( <i>If not provided under Res 21/01 below</i> )	Paragraph 22	Re. Para 22. Kenyan catches are below the required threshold
19/03	On the Conservation of Mobulid Rays Caught in Association with Fisheries in the IOTC Area of Competence	Paragraph 11	Have developed measures to implement Resolutions 13/05 whale sharks. Awaiting gazettelement
21/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence ( <i>If not provided under Res 19/01 above</i> )	Paragraph 23	Re. Para 22. Kenyan catches are below the required threshold
22/04	On a regional observer scheme	Paragraph 12	National observer program - 10 observers undergoing training under IOTC ROS pilot
23/07	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	Kenyan vessels do not operate in the seabird zones

## 8. LITERATURE CITED [Mandatory]