EMS FOUNDATION
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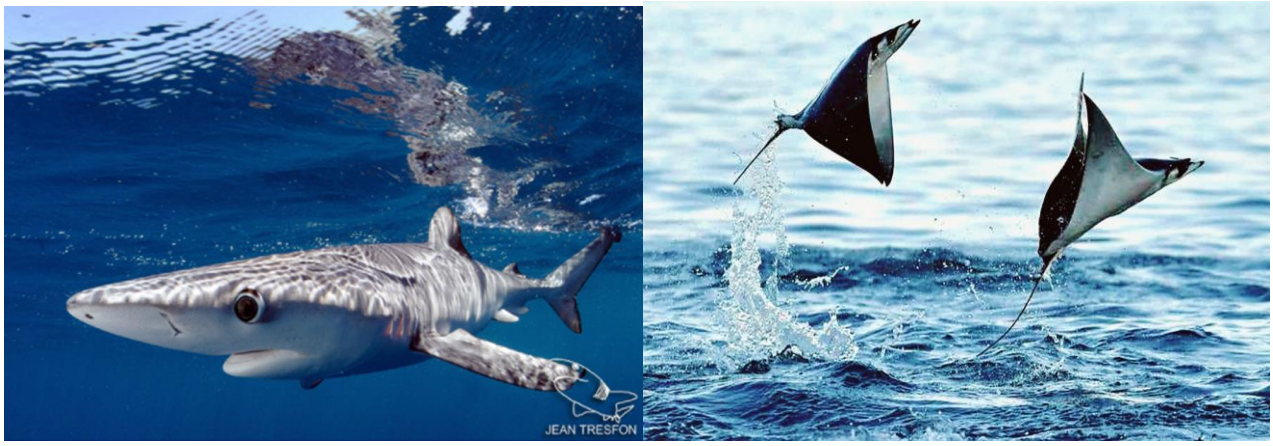
DRAFT SHARK BIODIVERSITY MANAGEMENT PLAN (SBMP)

COMMENTS SUBMITTED BY THE EMS FOUNDATION

2 July 2023



Ms Zintle Langa
Deputy Director-General
Department of Forestry, Fisheries and the Environment
Oceans & Coasts
marinespecies@dffe.gov.za

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The EMS Foundation hereby acknowledges the opportunity afforded to them to submit the following comment on the Draft Shark Biodiversity Management Plan 2023.

The EMS Foundation is a registered South African non-profit organisation (NPO and PBO) with a substantial interest in environmental protection. The EMS Foundation has, since its inception, expressed an interest in governance and policies, lobbying to achieve lasting solutions, alleviate and end suffering, raise public awareness, provide dignity, and promote the rights and interests of vulnerable groups, particularly children, the elderly and wild animals.

Contact: info@emsfoundation.org.za

Cover Images:
A Blue Shark patrols the pelagic zone 20 nautical miles off Cape Point
Stingray leap
Images Credit: Jean Tresfon and Shutterstock

Green energy, green economy, green growth, green steel, green cement, green roads, green jets, green cruise ships, green skyscrapers, green chainsaws, green bulldozers, green aircraft carriers, green tanks, green missiles, green spaceships, green nuclear weapons, green extinction.
BEN SEE – CLIMATE ACTIVIST

The EMS Foundation endorsed the submission of comments submitted by the members of the Wildlife Animal Protection Forum of South Africa (WAPFSA) to the Draft SBMP.

The EMS Foundation is in agreement with WAPFSA member organisations that the Draft SBMP does not adequately address the issue of climate change and the predicted negative effect on marine life, which will exacerbate the decline in shark population numbers risking extinction.

SURVIVAL ECOLOGY

The EMS Foundation supports the research published by Gardner and Bullock, whose conclusions are that as a result of the climate emergency, conservation must become a "survival ecology".

11,000 scientists have unequivocally declared that planet Earth is facing a climate emergency, a critical situation requiring immediate, extraordinary, remedial reaction.

The survival ecology agenda recognises that current conservation goals are largely obsolete, in particular, because:

(i) Biodiversity's important role in maintaining human civilisation, is underplayed; and
(ii) the reliance on false assumptions on how to catalyse transformative change.

Scientists warn against seeking to maintain a world which will no longer exist. Survival ecology instead, is a concept that scientifically acknowledges unavoidable human-caused change and seeks to shape a world that will continue to support life on the planet.

The urgency of the climate crisis means that harmful emissions into our atmosphere must be reduced immediately.

Avoiding the long-term catastrophic results of climate change and restoring climate stability requires the following actions:

a. Discontinue the expansion of activities that cause climate change, such as the increase of GHG emissions
b. Increase the resilience and carbon-absorption capacity of ecosystems; and
c. Restore ecosystems and ecological processes that create and maintain climate stability.

The negative effects of climate change can be attributed to:

a. governments making economic growth their top priority without properly researching the negative effects of this growth and prioritising the protection of the natural environment,
b. governments favouring certain sectors which prioritise profit without properly researching the negative effects of these sectors and their ability to protect the natural environment,
c. governments who make decisions that dominate and exploit nature and people, in much the same manner as during the colonial and apartheid systems of governance.

The aforementioned decisions often result in:

a. the exploitation of people and nature
b. the alienation of people from nature

The EMS Foundation continues to encourage the South African government that a shift is required to restore living interconnected systems that create a stable climate, a shift that is of utmost importance for the well-being of humans and all life on the planet.

Forced habitat change, overharvesting, species introductions and cascading effects are current trends that fail to prevent extensive anthropogenic biodiversity loss

Sharks, rays and chimaeras, (we can refer to them as "SHARK") are part of an estimated one million species that face extinction.

The negative effects of climate change include the rise of oceans' temperatures. This and other climatic changes will render large portions of the current ranges of many species unsuitable within

decades. Many species will be unable to adapt sufficiently or shift their ranges within these timeframes.

Environmental conservation was failing to arrest biodiversity loss even before climate impacts started to become obvious. It has become apparent that the negative effects of climate change will be so severe that the survival of entire biomes will be threatened thus condemning many species to extinction. The principal conservation objective of preventing extinctions is built on the assumption that all species can be saved from extinction, yet climate change renders this largely obsolete.

Gardner and Bullock's findings support the aforementioned statement and furthermore agree that the continuation of the current conservation paradigm is not an option. The scientists suggest that the field must rapidly adapt its objectives and strategies. Furthermore, while the climate emergency necessitates an evolution in conservation, it also presents an opportunity to mainstream conservation by reframing the field as critical to the maintenance of human civilisation and all living species.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) states that preventing catastrophic climate change and reversing other drivers of biodiversity loss will require "transformative change, namely a fundamental, system-wide reorganisation across technological, economic, and social factors, making sustainability the norm rather than the altruistic exception".

Some environmental scientists warn that *"conservation"* largely continues to portray and market itself as an "altruistic exception" by framing the field as the endeavour to prevent the extinction of other species.

This is problematic because, while many decision-makers may agree that conserving species is a noble goal, few behave as if it is essential. As a result, conservation remains an economically and socially marginal activity.

Conservation does not seem to be a priority for our society in general, and neither the public nor political leaders seem to understand the gravity of the threat biodiversity loss poses to humanity.

Some authors have argued that utilitarian rationales for conservation have partly contributed to the ecological crisis, and thus that anthropocentric framings carry risks

SHARKS MIGHT BE THE FIRST GLOBAL MARINE FISH EXTINCTION, DUE TO THE EXTRACTION OF MARINE LIFE AT THE INDUSTRIAL SCALE

The slow growth cycle of shark species, their shortened longevity, natural mortality rates and low fecundity, collectively render shark species particularly vulnerable to extinction.

Overfishing by industrial fisheries drives over one-third of all shark rays and chimaeras species towards a global extinction crisis. This was confirmed by the first global assessment of 1999 species in Class Chondrichthyes-sharks, rays, and chimaeras, conducted in 2014.

The scale and drivers of marine biodiversity loss are being revealed by the International Union for Conservation of Nature (IUCN) Red List assessment process. The first global assessment of the 1,199 species of SHARK, concluded that one-quarter (24%) of species were threatened and 391 (32.6%) species were threatened with extinction. The assessment found that three species were Critically Endangered (Possibly Extinct), representing the first global marine fish extinctions due to overfishing. Overfishing was the universal threat affecting all 391 threatened species and is the sole threat for 67.3% of species, the study found.

While an estimated 91% of aquatic wildlife is unknown, for many ecosystems we lack the ecological knowledge to be able to intervene.

EXTRACTING SHARK AT THE INDUSTRIAL SCALE

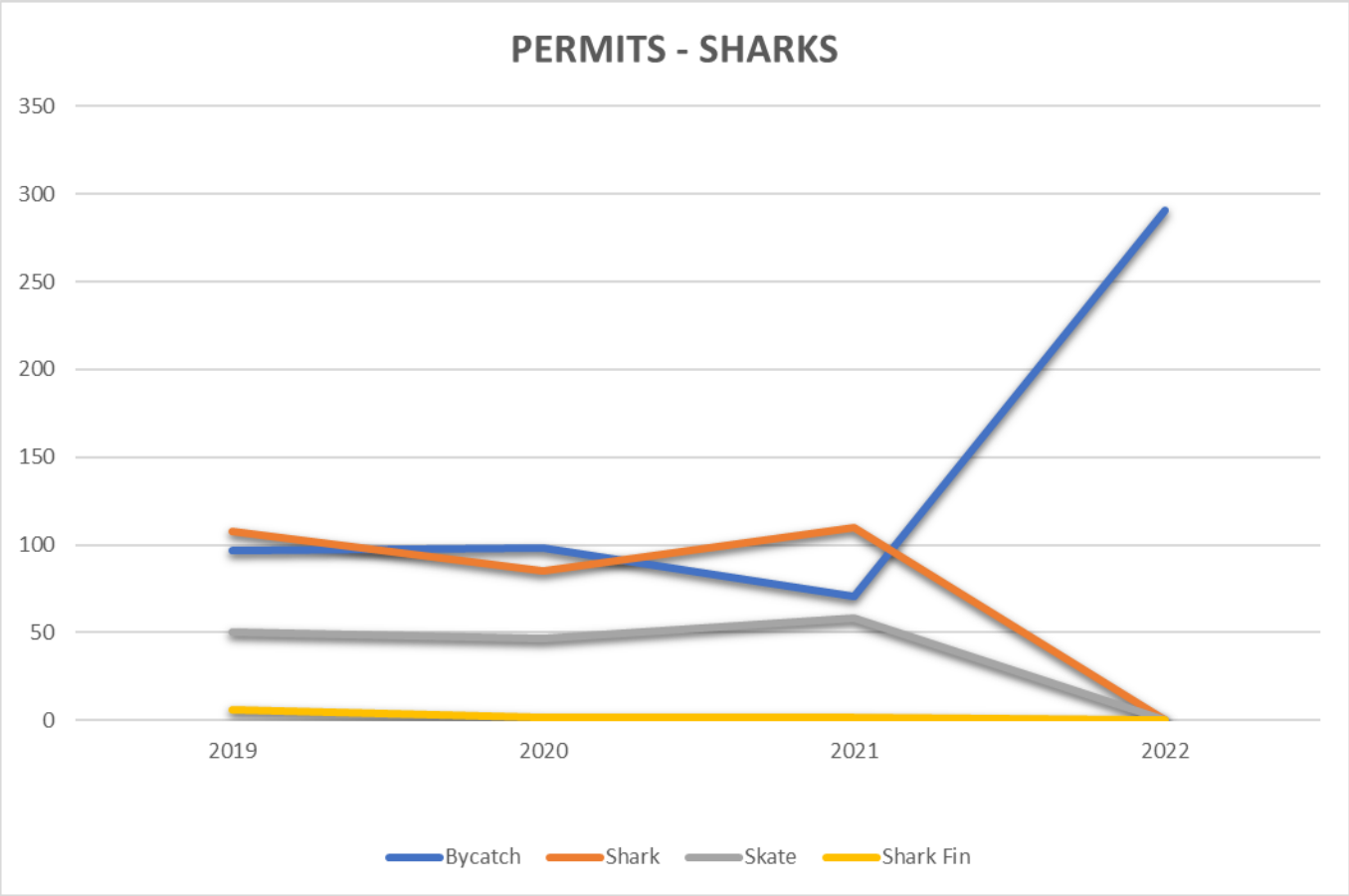
The Ems Foundation analysed fisheries permits obtained via the Promotion of Access to Information Act 2 of 2000 (PAIA) requested in 2019, 2021 and 2023, relative to the years 2015 to 2022.

While permits for directly targeting sharks, rays and skates were issued from the years 2015 to 2021. In 2022 permits were not issued. However, permits to fish "bycatch species" sharply increased.

Of concern is the fact that two-thirds of the reported SHARK catch is "bycatch", research confirms this number. Bycatch has been identified as the major threat to all SHARK species.

Number of permits by species	2019	2020	2021	2022
Total listed permits – years 2019 to 2022	8144	5504	5921	6731
Bycatch	97	98	71	291
Shark	108	85	110	-
Skate	50	47	58	-

Shark Fin	6	2	2	-
Commercial fishing of Abalone	286	46	176	141
Octopus	115	108	112	-
Pilchard	402	403	266	221
Sardines	770	782	40	512
Anchovies	916	1031	1	1171
West Coast Rock Lobster	4410	1930	2805	1932



Analysis of SHARK permits - Years 2019 to 2022

Permitted bycatch is responsible for two-thirds of SHARK killing, this practice is associated with several fisheries "sectors" some identified by research. Bycatch, trawling and demersal longline fishing are the biggest extinction threat for SHARK species.

Of concern is the seeming inability of government inspectors to monitor what species are extracted and in which quantities; the permitted practise of processing and preparing fish directly at sea on "Processing vessels" is also alarming, especially when bycatch is offloaded already prepared, filleted or powered and packaged.

Permits: Sectors and activities	2019	2020	2021	2022
Total listed permits	8144	5504	5921	6731
Bycatch	97	98	71	291
Prohibited deepwater species trade	42	22	47	13
Bottom Trawl	97	82	140	116
Inshore Trawl	161	114	159	50
Midwater Trawl	57	51	54	32
Large pelagic longline	102	101	89	34
Small Pelagic	16	18	16	-
Processing Vessel	277	232	278	12
Import	1322	741	838	609
Export	1175	565	741	667
Enter the Exclusive Economic Zone with fishing gear	658	264	448	326
Purse seine net	796	863	458	803
Exemptions to local and foreign fisheries	302	48	1503	170

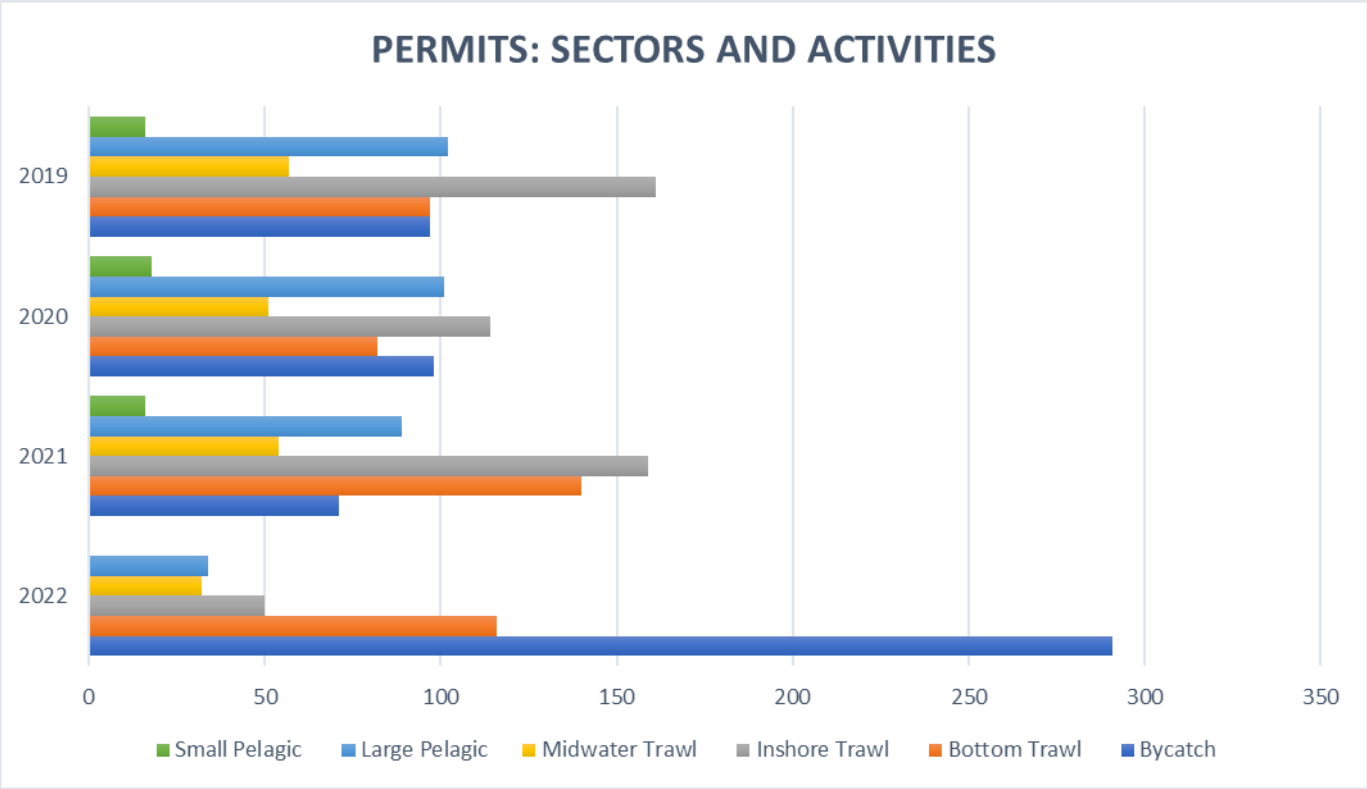
BYCATCH AND BOTTOM TRAWLING

Benthic habitats cover about 70% of the Earth's surface. Of the identified marine species, 98% live on or in the ocean floor. These marine species and organisms, called benthos or bottom dwellers, often live buried in the sand, shells or mud or attached to rocks. The benthic zone completes a substantial part of the world's biodiversity. These areas are extensively exploited and destroyed by human activities such as bottom trawling.

The direct effects of bottom trawling, include 1 billion tonnes of underwater emissions every year. Marine habitat destruction has been well documented. However, the potential negative ramifications of bottom trawling on the ecological function of seafloor communities and ecosystems have yet to be fully considered. Soft-sediment organisms create much of their habitat's structure

and also have crucial roles in many population, community, and ecosystem processes. Many of these roles are filled by species that are severely impacted by bottom trawling.

The consequences of these activities have not been properly investigated and researched.



In the legal High Court matter between SUSTAINING THE WILD COAST NPC and Others Vs MINISTER OF MINERAL RESOURCES AND ENERGY and Others, CASE NO: 3491/2021, the Precautionary Principle, as risk-aversion approach, was explained, S 109:

> *[..] the duty imposed on environmental authorities was examined. The court emphasised that the approach adopted in our environmental legislation is one of risk-aversion and caution, which entails 'taking into account the limitation on present knowledge about the consequences of an environmental decision.' It was further held that the precautionary principle is applicable 'where, due to unavailable scientific knowledge, there is uncertainty as to the future impact of the proposed development*.

Also, in S 110, it is mentioned that:

> The onus rests on the party refuting the applicability of the precautionary principle to establish that the principle is of no application (Ref: Space Securitisation (Pty) Ltd v Trans Caledon Tunnel Authority and Others [2012] 4 All SA 624 (GSJ))

MONITORING AND ENFORCEMENT

During the Symposium on Prevention of Illegal Fishing and Enforcement in Southern Africa and Beyond, held at the University of Cape Town, it was noted that historically, the government has been inefficient in the monitoring of compliance and the patrolling and management of South Africa's Exclusive Economic Zone (EEZ) and coastline.

It was also noted that South Africa did not have an independently operating ocean fishing "observer programme", since programmes are strictly industry-funded. There are no seafaring vessels truly dedicated to actively patrolling South African oceans.

South Africa has a shore-based monitoring programme which displayed significant shortcomings such as weak compliance, allegations of corruption and reports of illegal landings in the presence of fisheries control officers and inspectors. Control officers' working hours are limited to a strict 9h00 to 16h00 policy, five days a week. In addition, there was no significant follow-through process for prosecutions of reported cases.

The results of the symposium confirmed that modern technology had been applied for intensifying extraction. Since the 1950s, more advanced technology had allowed the industry to become more extractive, developing industrialized fishing fleets and fish processing plants.

Fishing vessels have become larger, and more complex and allowed deep sea fishing, further away from the harbours and for longer periods than at any point in history; the invention of nylon has allowed larger nets, with some as large as 50 miles long; satellite tracking has been used to more precisely identify the location of fish stocks; technologically advanced autonomous fish aggregating devices have been used to attract juvenile fish who haven't reached full maturity.

In order to protect our oceans and aquatic wildlife, investments for the acquisition of existing technologies such as low-cost satellite tracking, unmanned drones that can fly for months on end, unmanned vessels, and low-cost sensors are required.

ECOCIDE?

In June 2021, legal experts from across the globe announced the legal draft definition of *Ecocide*, intended to be adopted by the International Criminal Court (ICC), to prosecute the most egregious offences against the environment.

The draft law defines *Ecocide* as "*Unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment being caused by those acts".*

This definition, if adopted by the ICC, will extend to the negative impacts of human activities on delicate aquatic systems and environments.

Two-thirds of the oxygen we breathe is produced - and over 90% of the Co2 is stored - in the ocean, we are reliant on marine plants, corals, bacteria, fish and all wildlife which moves up and down through the water column. In addition, as indicated by research, marine forests have a crucial role to play in capturing carbon dioxide from the atmosphere and accumulating it at a much faster rate than land forests.

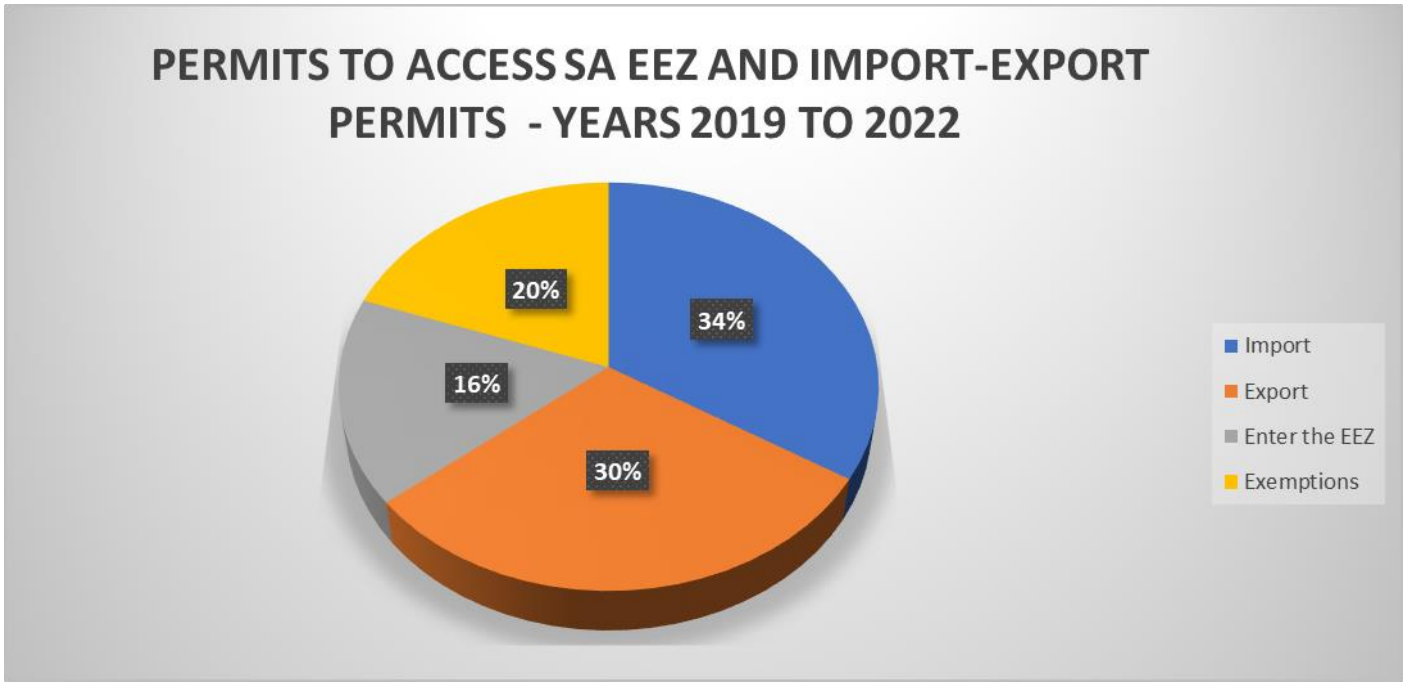
Image credit: Lærke Rosenberg / ScienceNordic

In the 1970's the Chinese criminal syndicates involved in the shark fin trade caught the attention of the police in South Africa. In the 1980's it became clear to the police these organised criminal groups were a major contributing factor to the rising crime rate in South Africa.

Detectives in the Western Cape were aware that Chinese criminal syndicates linked to triad societies were exporting dried shark fins from Cape Town via Johannesburg to Hong Kong and other destinations in South East Asia.

Trading in shark fins did not constitute a criminal offence under South African law, provided that the sharks were not captured in South African territorial waters.

Chinese fishing fleets operating the in the rich waters of the South Atlantic Ocean were not properly monitored, South African authorities had difficulty in countering their claims that shark fins that they had landed in Cape Town were caught outside territorial waters.



Overall permits issued in the years 2019 to 2022, the average percentage was calculated for permits to import / export and for exemptions

According to information obtained by the EMS Foundation via PAIA, permits to target SHARKS as direct fishery and bycatch were issued for the years 2015 to 2021.

In 2019 the following permits were issued, despite several species of SHARK being referred to as “depleted” or severely “depleted” in the scientific recommendations.

PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 01/01/2019 31/12/2019 Expired " HAKE AND BYCATCH SPECIES (KINGKLIP, MACKEREL, SOLE, PANGA, SILVERS, GURNARD, RED STUMPNOSE, MONK, SNOEK, SHARK, OCTOPUS, MAASBANKER, SKATE WINGS, CUTTLEFISH) SAILFISH, BREAM, SQUID, SANTER, COB, CAPE SALMON, YELLOW TAIL, ANGELFISH, WHITE STUMPNOSE, MARLIN, DORADO AND TUNA
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 01/01/2019 31/12/2019 Expired "HAKE AND BY-CATCH SPECIES (KINGKLIP, MONK, HORSE MACKEREL, RIBBON FISH, SNOEK, SQUID, SOLE, PANGA, JACOPEVER, SILVERFISH, GURNARDS, JOHN DORY, ANGEL FISH, SKATE, SHARK, CHUB MACKEREL, OCTOPUS, RED MULLET, ALFONSINO
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 01/01/2019 31/12/2019 Expired "HAKE AND BYCATCH SPECIES (KINGKLIP, MONK, JACOPEVER, JOHN DORY, RIBBON FISH, OCTOPUS, POTA, HORSE MACKEREL, RED MULLET, GURNARD, CHUBB MACKEREL, SNOEK, ANGEL FISH, SQUID, PANGA); SKATE; BANK STEENBRAS; ALFONSINO; RED EYE, ANCHOVY, ORANGE ROUGHY, BISKOP(WRECKFISH) PILCHARD AND BYCATCH AS PER SMALL PELAGIC PERMIT CONDITIONS. ONLY THE ABOVE SPECIES WILL BE ALLOWED AS BYCATCH AS PER YOUR APPLICATION.
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT (VESSEL) 01/01/2019 31/12/2019 Expired "MIDWATER TRAWL AND BYCATCH SPECIES (RIBBON FISH, SHARK, SNOEK, SQUID, RED MULLET, PILCHARDS, HORSE MACKEREL, RED EYE, ANCHOVY, HAKE, MACKEREL, SWORDFISH) ONLY ABOVE SPECIES WILL BE ALLOWED AS BYCATCH AS PER YOUR APPLICATION.
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT (VESSEL) 01/01/2019 31/12/2019 Expired "HAKE AND BY-CATCH SPECIES (KINGKLIP, MACKEREL, PANGA, CARPENTER, SILVERS, SHARK, FISH ROE, GURNARDS, JACOPEVER, RIBBON FISH, ANGELFISH, GARFISHES, HALFBEAKS, KOB, SCADS, SNOEK
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 14/01/2019 31/12/2019 Expired "SQUID PILCHARD AND ANCHOVY (BY CATCH SPECIES AS PER SMALL PELAGIC PERMIT CONDITIONS) TUNA AND SWORDFISH (BY CATCH SPECIES AS PER LARGE PELAGIC PERMIT CONDITIONS) DERMESAL SHARK HAKE AND BY CATCH (SNOEK, MAASBANKER, KINGKLIP, BUTTERSNOEK, GURNARD, JOHN

DORY, JACOPEVER, PANGA, MACKEREL, MONK, ANGELFISH, SHARK
PERMIT TO UNDERTAKE COMMERCIAL FISHING FOR DEMERSAL SHARK 01/01/2019 31/12/2019 Expired Sharks 0 - 1
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT (VESSEL) 01/01/2019 31/12/2019 Expired "HAKE AND BYCATCH SPECIES (KINGKLIP, SHARK, JACOPEVER, PANGA, SILVERS, MACKEREL, GURNARD, SNOEK, MONK, ANGEL FISH, SQUID); DEMERSAL SHARK
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT (VESSEL) 01/01/2019 30/06/2019 Expired "HAKE AND BY-CATCH (SNOEK, HORSE MACKEREL, KINGKLIP, MACKEREL, SOLE, SQUID, ANGEL FISH, RIBBON FISH, GURNARD, SKATE, MONK, OCTOPUS, MULLET, JACOPEVER, JOHN DORY, PANGA, SHARK, OILFISH, WALVIS BAY RED
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT (VESSEL) 01/01/2019 31/12/2019 Expired "HAKE AND BYCATCH (MONK, KINGKLIP, HORSE MACKEREL, JOHN DORY, RIBBON FISH, SNOEK, JACOPEVER, ANGELFISH, GURNARD, SQUID, RED MULLET, SILVERFISH, PANGA, SOLE, SKATE, BUTTERFISH
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT (VESSEL) 01/01/2019 31/01/2019 Expired "HAKE AND BYCATCH SPECIES (MAASBANKER, SNOEK, MONK, SOLE, KINGKLIP, RIBBONFISH, PANGA, SQUID, HORSE MACKEREL, JACOPEVER, JOHN DORY, BUTTERFISH, CHUB MACKEREL, ANGELFISH, GURNARD, SAND SOLE, RED SOLE, RED MULLET, ALFONSINO, CARDINALS, ORANGE ROUGHY, OREO DORY, SHARKS, SKATE, ST JOSEPH, OCTOPUS
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 01/01/2019 31/12/2019 Expired "HAKE AND BY-CATCH SPECIES (SNOEK, MAASBANKER, KINGKLIP, BUTTERSNOEK, JOHN DORY, JACOPEVER, PANGA, MACKEREL, MONK, SQUID, ANGEL, GURNARD, MULLET, OCTOPUS, ST JOSEPH, BARRACOUTA, SHARK), TUNA; PILCHARD
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 01/01/2019 31/12/2019 Expired "HAKE AND BYCATCH (SNOEK, MAASBANKER, KINGKLIP, BUTTERSNOEK, JOHN DORY, JACOPEVER, PANGA, MACKEREL, MONK, SQUID, ANGEL, GURNARD, MULLET, OCTOPUS, ST JOSEPH, SHARK); LOBSTER; SWORDFISH; PILCHARD
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 17/01/2019 31/12/2019 Expired Hake (Merluccius capensis), Snoek (Thyrsites atum), Maasbanker (Trachurus capensis), Kingklip (Genypterus capensis), buttersnoek (Lepidopus caudatus), John Dory (Zeus faber),Jacopever (Helicolenus dactylopterus), Panga, Mackerel (Scomber japonicus), Monk (Lophius), Squid

(Todarodes sagittatus), Angel (Zuas capensis), Gurnard (Chelidonichthys capensis), Mullet (Emmelichthys nitidus nitidus), Octopus (Lolligo vulgas), St Joseph (Callorhinchus capensis), shark, Tuna, Swordfish
PERMIT TO POSSESS AND SELL PROHIBITED DEEPWATER SPECIES 25/02/2019 24/03/2019
PERMIT TO UNDERTAKE COMMERCIAL FISHING FOR DEMERSAL SHARK 28/02/2019 31/12/2019
PERMIT TO UNDERTAKE COMMERCIAL FISHING FOR DEMERSAL SHARK 04/03/2019 31/12/2019
PERMIT TO OPERATE A FISH PROCESSING ESTABLISHMENT 12/03/2019 31/12/2019 Expired "ALASKAN POLLOCK, ALFONSINO, ANGEL FISH, BAIT, BARRACUDA, CALAMARI, CAPE DORY, CARDINAL, CHOKKA, CRAB STICK, DORADO, HADDOCK, HAKE, JACOPEVER, JOHN DORY, KABELJOU, KINGKLIP, LING, LOBSTER, MAASBANKER, MACKEREL, OCTOPUS, PACIFIC SAURY, HAKE ROES, PANGASUIS, PIKE, PILCHARDS, PRAWNS, RED COD, RIBBON, RUBY FISH, SALMON, SARDINES, SCALLOPS, SHARKFIN, SHRIMPS, SKATE WINGS, SNOEK, SOLE, SOUTHERN BLUE WHITENING, SQUID, YELLOWTAIL, POTA, SILVERS, BLACK TIGER, PANGA, SHARK FILLETS, FROZEN EEL, ST JOSEPH, ANGEL GREY, LUMP FISH, BUTTER FISH, MUSSEL MEAT
PERMIT TO UNDERTAKE COMMERCIAL FISHING FOR DEMERSAL SHARK 18/10/2019 31/12/2019 Expired Sharks 0 - 1

The EMS Foundation is particularly concerned about two permits issued in 2020 from March 2020 to March 2021, for the import of SHARK species that are listed by the IUCN as vulnerable, endangered and critically endangered to, a Chinese-owned company based in Cape Town.

PERMIT TO IMPORT 1500KG VAALHAAI SHARK (GALEORHINUS GALEUS) 1500KG SHORTFIN MAKO (ISURUS OXYRINCHUS) 1500KG LONGFIN MAKO (SOKO MORO/ISURUS PAUCUS 1500KG SANDBAR SHARK (CARCHARHINUS PLUMBEUS) 1500KG BLACKTIP SHARK (CARCHARHINUS LIMBATUS) 1500KG BLACKTIP SHARK (CARCHARHINUS LONGIMANUS)
PERMIT TO IMPORT 1500KG VAALHAAI SHARK (GALEORHINUS GALEUS)

1500KG SHORTFIN MAKO (ISURUS OXYRINCHUS)
1500KG LONGFIN MAKO (SOKO MORO/ISURUS PAUCUS
1500KG SANDBAR SHARK (CARCHARHINUS PLUMBEUS)
1500KG BLACKTIP SHARK (CARCHARHINUS LIMBATUS)
1500KG BLACKTIP SHARK (CARCHARHINUS LONGIMANUS)

GALEORHINUS GALEUS is depleted after many decades of global overexploitation. It is a quite small species of shark with a flat body, growing up to 2 m, its body mass being on average only 60 to 100 kg, commonly called school shark but also Soupfin shark. It is listed as a critically endangered species (CR) by the IUCN conservation list and is present in South Africa's West and East coasts, with reports of this species also being spotted in the False Bay. It is fished in target commercial fishery and as a bycatch. The whole body is used and consumed globally including Australia, Asia, Europe and South America; the flesh is typically used as a shark fillet or fried, with Australia being a big consumer of this species used for fish and chips. The fin is also used and these sharks are often finned and dismembered at sea.

SHORTFIN MAKO SHARK (ISURUS OXYRINCHUS) and LONGFIN MAKO SHARK (SOKO MORO/ISURUS PAUCUS) grow to a size up to 4 m and a mass of 200 kg and are classified and listed as endangered species (EN) by the IUCN conservation list. Both species are migratory and found in moderately deep waters up to 220 m. They are both present on the South African West and East coasts. The biggest threat to their survival is to be fished as by-catch in driftnets for other fishery and longlines intended mainly for tuna. The fins, although considered of low quality, are used in shark fin soup so these sharks are often finned at sea. The carcasses are mainly processed into animal feed and fish meal.

SANDBAR SHARK (CARCHARHINUS PLUMBEUS) is present on the Indian side of the South African EEZ and it is listed as Vulnerable (VU) in the IUCN list. It is a small shark, reaching an average of 1.5 m and a mass of about 80 kg. Due to its high fin-to-body weight ratio, this species has been heavily overexploited.

BLACKTIP SHARK (CARCHARHINUS LIMBATUS and LONGIMANUS) is also present on the Indian side of the South African EEZ and is listed as Near Threatened (NT) in the IUCN list with a very low reproductive rate. It is a relatively small shark, reaching an average of 2.5 m and a mass of about 150 kg. This species is heavily targeted and caught as bycatch in longlines, fixed-bottom nets,

bottom trawling and line fishing. The fins and flesh are superior in quality compared to other sharks' and, despite this species being overexploited, blacktip sharks are considered among the most important species in the global shark fishery.

RECOMMENDATIONS

Taking into account the concerning aforementioned observations, we recommend the following:

a. Recognise that current conservation goals are largely obsolete and an urgent shift towards "survival ecology" is needed. Rather than focusing on elements of the Earth system that are of value to people, survival ecology requires managing the system as a whole.
b. Prioritise eco-resilience over profit to arrest the current biodiversity loss and risks associated.
c. Issuing of permits strictly limited and science-based.
d. To enhance effective compliance and enforcement, there should be devolution of compliance and enforcement strategies and funds to national, provincial and local spheres.
e. Roadmap the phasing-out of destructive practises. This includes budgets and subsidies taken away from environmentally harmful practices, instead, being allocated to develop skills and jobs and opportunities around societal resilience and regenerative practices.