



Observer data analysis for the Atlantic Ocean purse seine tuna FIP (Capsen and Grand Bleu)

Version 1.0

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Glossary

Acronym	Explanation
ICCAT	International Commission for the Conservation of Atlantic Tunas
FIP	Fishery improvement project
EEZ	Exclusive economic zone
MSC	Marine Stewardship Council
ETP	Endangered threatened and protected
FAD	Fish aggregating device
P2	Principle 2
CMS	Convention on Migratory Species
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
IUCN	International Union for Conservation of Nature and Natural Resources
TRP	Target reference point
LRP	Limit reference point

Executive Summary

This document presents the analysed catch data, retrieved from the observer data obtained from the Atlantic Ocean purse seine tuna FIP (Capsen and Grand Bleu). The fishery targets bigeye (*Thunnus obesus*), yellowfin (*T. albacares*), and skipjack (*Katsuwonus pelamis*) tuna in the high seas of the eastern Atlantic Ocean, and the exclusive economic zones (EEZs) of Senegal, Mauritania, Liberia, Sierra Leone, Guinea, Guinea Bissau, and Cape Verde. The fleet consists of six purse seine vessels flagged to Senegal, and the fishery is regionally managed by ICCAT.

The fishery is aiming to achieve certification by the Marine Stewardship Council (MSC) in 2024, and has already entered into the MSC Assessment process. One of the main elements required by the MSC assessment is to demonstrate the fishery's direct impact on bycatch species, including ETP species. Therefore, the aim of this report is to analyse and describe the total observer data from all the purse seine vessels within the Atlantic Ocean purse seine tuna FIP to understand the impact the fishery is having on both target and non-target species, including ETP.

In May 2023, Capsen and Grand Bleu conducted specific observer training workshops to improve the quality of the data being recorded by the observers in Senegal. This training used templates produced by the fishery consultant and in line with the requirements of the MSC, in order to start recording bycatch species ID, fate (discarded or retained), and condition (alive or dead) of the animals. Since then, the trained observers have been operating onboard the FIP vessels and have provided data to be used in the fishery's MSC assessment. Furthermore, in order to supplement the observer data, EM systems were installed on the vessels in January 2023. Subsequently EM reports were also consulted during this analysis to understand the fishery's impact on secondary and ETP species.

The data was collected by observers from May 2023–to–early 2024 and analysis was conducted by consultants at Key Traceability Ltd.

The main findings from this report show that:

- Target species, skipjack, yellowfin, and bigeye tuna were caught in the highest abundance (83%);
- Elasmobranchs, including sharks and rays, and turtles were the only ETP species recorded in this dataset. There were zero incidents of ETP species retention onboard which verifies the use of best practice handling and release techniques required under ISSF skipper guidebook to purse seine fishing.
- There were zero incidents of shark finning recorded on board

Introduction

This report presents the results of an analysis conducted on the observer data from the Atlantic Ocean purse seine tuna FIP (Capsen and Grand Bleu). The aim of this analysis is to provide critical information about the impact of the purse seine fishery on target catch rates of tuna, as well as bycatch rates of endangered, threatened, and protected (ETP) species, which is required to progress with Principle 2 actions of the workplan.

The fishery targets bigeye (*Thunnus obesus*), yellowfin (*T. albacares*), and skipjack (*Katsuwonus pelamis*) tuna in the high seas of the eastern Atlantic Ocean, and the exclusive economic zones (EEZs) of Senegal, Mauritania, Liberia, Sierra Leone, Guinea, Guinea Bissau, and Cape Verde. The fleet consists of six purse seine vessels flagged to Senegal, and the fishery is regionally managed by ICCAT. The entire FIP scope can be found in Table 1 of this report.

Table 1: FIP Scope

Species	Yellowfin (<i>T. albacares</i>), bigeye (<i>Thunnus obesus</i>), and skipjack (<i>Katsuwonus pelamis</i>) tuna
Stocks	Atlantic Ocean bigeye, yellowfin, and skipjack tuna stocks.
Fishing gear	Purse seine
Geographical area	Atlantic Ocean (FAO 34), and the following EEZs: Senegal, Mauritania, Sierra Leone, Guinea, Guinea Bissau, Cape Verde, Liberia
Management	International Commission for the Conservation of Atlantic Tunas (ICCAT)
Number of vessels	6 (flagged to Senegal)

1.1 Data collection

The vessels within the FIP comply with 100% observer data coverage and observer data from May 2023–to–early 2024 was obtained from the Directorate de la Protection et de la Surveillance des Peches (DPSP), the observer authority in Dakar, Senegal. The FIP also provided the vessels' electronic monitoring (EM) reports across 14 trips that also describes the rate of bycatch from each of the six vessels in the FIP. Upon retrieval of the observer data, KT compiled the data and analysed it to understand the impacts that the fishery is having on non-target species, and especially those that are ETP.

Data Analysis

2.1 MSC Principle 2 definition summary

This section provides a short summary of how the MSC Fisheries Standard designates components for Principle 2 to provide context of the following species' category allocations and analysis.

Fisheries assessed against the MSC Fisheries Standard are evaluated against 28 Performance Indicators (PIs) within the three principles. Principle 2 has 15 performance indicators split into three components (outcome, management strategy, information) for primary species, secondary species, endangered threatened and protected species, habitats and ecosystem.

The fishery under assessment is within the scope of the MSC Fisheries Standard (7.4 of the MSC Certification Process v2.1):

- The target species is not an amphibian, reptile, bird or mammal.
- The fishery does not use poisons or explosives.
- The fishery is not conducted under a controversial unilateral exemption to an international agreement.
- The client or client group does not include an entity that has been successfully prosecuted for a forced labour violation in the last two years.
- The fishery has in place a mechanism for resolving disputes, and disputes do not overwhelm the fishery.
- The fishery is not an introduced species-based fishery (ISBF) as per the MSC FCP 7.4.7.
- The free-school UoAs in this fishery are not classified as enhanced, but the FAD UoAs are, as per the MSC FCP 7.4.6. See paragraph directly below.

The FAD component UoAs for this fishery are classified as enhanced fisheries, as FADs are classified by MSC scope criteria as habitat modified (see FCP v2.1 G7.4): "Habitat modifications in enhanced fisheries can include both physical changes to the sea bed or river course and the use of a range of man-made structures associated with the rearing or capture of fish that are not strictly 'fishing gear'. In the first case, modifications can range from the construction of simple ponds in intertidal areas or river floodplains through to watercourse management measures aimed at improving spawning habitats. Examples of the second case are fish attracting and/or aggregating devices (e.g. FADs), lobster casitas and mussel culture ropes (in CAG systems). Such artificial habitat modifications either enhance the productivity of the fishery or facilitate the capture or production of commercial marine species".

Under the MSC Fisheries Standard (version 2.01), Primary species are defined as:

1. Species in the catch that are not covered under P1 because they are not included in the UoA;
2. SA3.1.3.2 Species that are within scope of the MSC program as defined in FCP Section 7.4; and
3. SA3.1.3.3 Species where management tools and measures are in place, intended to achieve stock management objectives reflected in either limit or target reference points.
 - a. In cases where a species would be classified as primary due to the management measures of one jurisdiction but not another that overlaps with the UoA, that species shall still be considered as primary.

Secondary species are defined as:

1. Not considered ‘primary’ as defined in SA 3.1.3; or
2. SA3.1.4.2 Species that are out of scope of the program, but where the definition of ETP species is not applicable. SA3.1.5

The team shall assign ETP (endangered, threatened or protected) species as follows:

1. SA3.1.5.1 Species that are recognised by national ETP legislation;
2. SA3.1.5.2 Species listed in the binding international agreements given below:
 - a. Appendix 1 of the Convention on International Trade in Endangered Species (CITES), unless it can be shown that the particular stock of the CITES listed species impacted by the UoA under assessment is not endangered.
 - b. Binding agreements concluded under the Convention on Migratory Species (CMS), including:
 - i. Annex 1 of the Agreement on Conservation of Albatross and Petrels (ACAP);
 - ii. Table 1 Column A of the African-Eurasian Migratory Waterbird Agreement (AEWA);
 - iii. Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS);
 - iv. Annex 1, Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS);
 - v. Wadden Sea Seals Agreement;
 - vi. Any other binding agreements that list relevant ETP species concluded under this Convention.
3. SA3.1.5.3 Species classified as ‘out-of scope’ (amphibians, reptiles, birds and mammals) that are listed in the IUCN Redlist as vulnerable (VU), endangered (EN) or critically endangered (CE).

2.2 Data Review

Analysis of the observer data demonstrated that the vast majority of the catch derives from target species (83%). This is a combination of the yellowfin, bigeye, and skipjack tuna total catch weight (MT). A total of 2536 MT of non-target species were caught by the fishing vessels in the Atlantic Ocean tuna purse seine tuna FIP (Capsen and Grand Bleu). Of these, primary species contributed the highest percentage (16%) of the catch, comprising of little tunny (*Euythunns alletteratus*). Secondary species contributed to 1% of the catch and ETP species contributed only 0.4% of the total catch (Table 2).

Table 2: Total mass of species recorded in observer data (Mt) and designated by MSC Fisheries Standard (v2.01) group

MSC Designation	Sum of Total Captured (metric tonnes)
Target	83%
Primary	16%
Secondary	1%
ETP	0.4%

Table 3: Total number of individuals from each species caught from observer data.

Species	Common name	Designation	Category	Justification	Total catch (MT)	% composition of total catch
<i>Katsuwonus pelamis</i>	Skipjack tuna	Target	Main	>5% total catch	8446	56%
<i>Thunnus albacares</i>	Yellowfin tuna	Target	Main	>5% total catch	3869	26%
<i>Thunnus obesus</i>	Bigeye tuna	Target	Main	>5% total catch	178	1%
<i>Euthynnus alletteratus</i>	Little tunny	Primary	Main	>5% total catch	1385	9%
<i>Caranx crysos</i>	Blue runner	Primary	Minor	<5% total catch	86	<1%
<i>Elegatis bipinnulata</i>	Rainbow runner	Primary	Minor	<5% total catch	22	<1%
<i>Makaira indica</i>	Blue marlin	Primary	Minor	<5% total catch	6.55	<0.1%
<i>Isurus glauca</i>	Blue shark	Primary	Minor	<5% total catch	3.8045	<0.1%
<i>Istiophorus albicans</i>	Atlantic sailfish	Secondary	Minor	<5% total catch	0.766	<0.1%
<i>Mola mola</i>	Ocean sunfish	Secondary	Minor	<5% total catch	0.36	<0.1%
<i>Pteroplatytrygon violacea</i>	Pelagic stingray	Secondary	Minor	<5% total catch	0.3	<0.1%
Istiophoridae	Marlins,sailfishes,etc. nei	Secondary	Minor	<5% total catch	0.11	<0.1%
<i>Ranzania laevis</i>	Slender sunfish	Secondary	Minor	<5% total catch	0.095	<0.1%

	Bullet tuna	Secondary	Minor	<5% total catch	0	<0.1%
<i>Carcharhinus falciformis</i>	Silky shark	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	36.499	<0.1%
<i>Sphyrna lewini</i>	Scalloped hammerhead	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	8.735	<0.1%
<i>Caretta caretta</i>	Loggerhead turtle	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	5.74	<0.1%
<i>Mobula mobular</i>	Devil fish	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	4.369	<0.1%
<i>Sphyrna mokarran</i>	Great hammerhead	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	3.7	<0.1%
Mobulidae	Manta spp.	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	2.815	<0.1%
<i>Sphyrnia zygaena</i>	Smooth hammerhead	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	1.14	<0.01%
<i>Mobula thurstoni</i>	Smoothtail mobula	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	0.53	<0.01%

<i>Mobula tarapacana</i>	Chilean devil ray	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	0.29	<0.01%
<i>Chelonia mydas</i>	Green turtle	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	0.237	<0.01%
<i>Carcharhinus longimanus</i>	Oceanic whitetip	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	0.21	<0.01%
<i>Isurus oxyrinchus</i>	Shortfin mako	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	0.13	<0.01%
<i>Lepidochelys olivacea</i>	Olive Ridley turtle	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN	0.08	<0.01%
<i>Isurus paucus</i>	Longfin mako	ETP	N/a	CITES Appendix II, CMS Appendix II, IUCN Redlist EN		<0.01%

1. Catch data

The fishery operates using both fish aggregating devices (FADs) and free school sets during the FAD closure period mandated by the International Commission for the Conservation of Atlantic Tunas (ICCAT). The FIP has a mandatory FAD management policy in place that requires all FADs to be made using 100% non-entangling materials (those without mesh or netting), as aligned with the Conservation Measure (CM) 3.7 from the International Seafood Sustainability Foundation (ISSF). The FADs used by the Capsen S.A. vessels are also constructed using 100% biodegradable materials. Grand Bleu S.A. states that the vessels are trialling the use of biodegradable materials but have not fully implemented these yet. The FAD management policies also require regular monitoring and reporting of tracking data to the national ministry Centre de Recherches Oceanographiques Dakar-Thiaroye (CRODT). Finally, the policies also require efforts to be made to retrieve and recover any lost, broken, or damaged FADs to prevent the further contribution to marine plastic pollution and ghost gear.

Since the observer training sessions that were conducted in May 2023 and March 2024, there has been a vast improvement in the reporting of bycatch species, including important information about the fates and conditions of bycatch. This is particularly important for ETP species, including sharks, and turtles because historical observer data did not record whether the animals were being released, nor their specific species identification. This information is now being reported on during all sets, which means that we now have a greater picture of the potential impact the fishery has on non-target species.

3.1 Catch composition

The majority of the catch was derived from the target tuna species (83%), comprising skipjack (56%), yellowfin (26%), and bigeye (1%). The remaining 16% of species that contributed to total catch composition were designated as primary (16%), secondary (1%), and ETP (0.4%) as required under the MSC Fisheries Standard version 2.01.

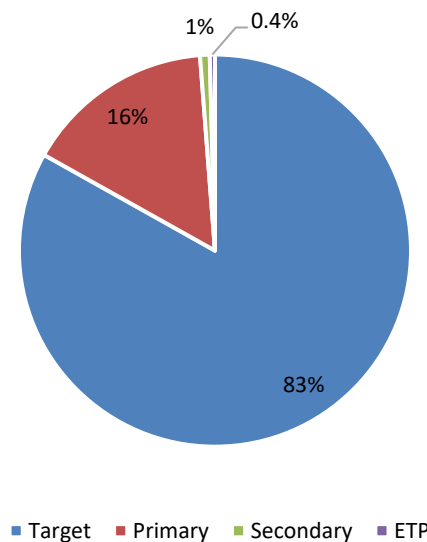


Figure 1: Total catch composition for the Atlantic Ocean purse seine tuna FIP (Capsen and Grand Bleu) demonstrating the percentage composition of target species (skipjack, yellowfin and bigeye tuna), and other non-target (bycatch) species

3.2 Principle 1 species

The main target species contribute the greatest proportion of the total catch (MT), largely due to the skipjack catch. The fishery does target bigeye tuna, along with skipjack and yellowfin, however, catches of this stock are low (1%) and the FIP does not rely on sales of bigeye tuna as significantly as the other tuna species.

3.3 Principle 2 species

Non-target species comprised 16% of the total catch composition for this fishery as demonstrated through the observer data. The majority of the P2 species were designated as primary under the MSC Fisheries Standard version 2.01 requirements (93%). Secondary species contributed to 5% of the total bycatch, and 3% were designated as ETP (Figure 2). Further explanation of each designation can be found in the following part of the report.

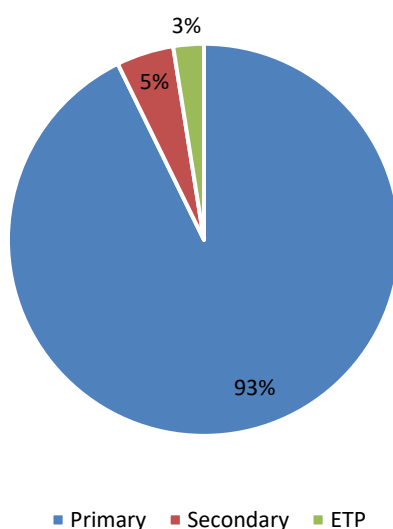


Figure 2: Percentage composition of Principle 2 species (Primary, Secondary, and ETP)

3.2.1 Primary species

Under the MSC Fisheries Standard version 2.01, any non-target species that are caught as bycatch are considered to be primary species if there is some regional management in place to protect the species. These species are also able to be sold by the fishery but are not the target species. The majority of primary species were derived from little tunny (*Euthynnus alletteratus*) and unknown species that were unable to be identified by the observer. Of the total primary species caught, 100% were retained onboard.

3.2.2 Secondary species

Secondary species contributed to 1% of the total catch from the Atlantic Ocean purse seine tuna FIP and was mainly comprised of blue runner (*Caranx crysos*) (72%), rainbow runner (*Elegatis bippinulata*) (18%), and blue marlin (*Makaira nigricans*) (5%). The majority of the secondary species caught were discarded back into the sea after catch (75%).

3.2.3 ETP species

ETP species comprised the smallest contribution to total catch for this fishery (0.4%). There were zero reported incidents of marine mammals caught by the vessels across the reporting period. The majority of the ETP bycatch derived from sharks and rays, with 12 species identified in the observer data. There were three turtle species identified in the data, loggerhead (*Caretta caretta*), green (*Chelonia mydas*) and olive ridley (*Lepidochelys olivacea*).

The largest contribution to ETP species bycatch was from silky shark (*Carcharhinus falciformis*) (57%), scalloped hammerhead (*Sphyrna lewini*) (14%), loggerhead turtle (9%), and devil fish (*Mobula mobular*) (7%) (Figure 3).

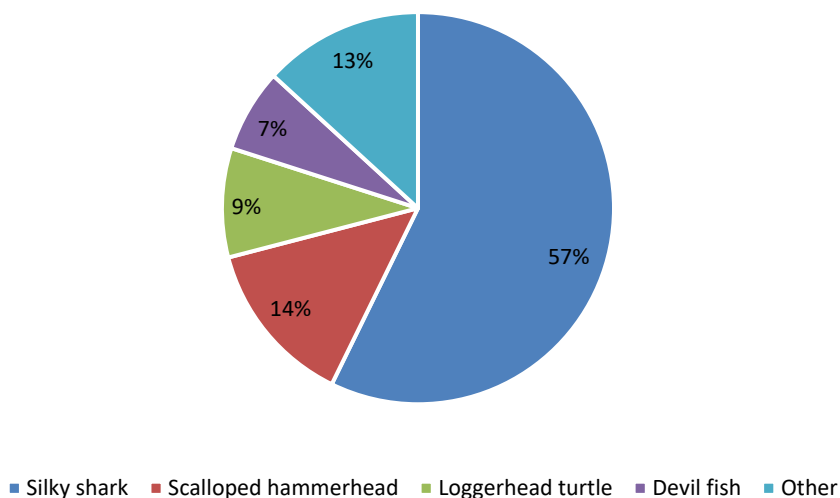


Figure 3: Percentage composition of all ETP species with reference to the three species that contribute to the highest proportion of catch, silky shark, scalloped hammerhead shark, loggerhead turtle, and devil fish

The observer data reports recorded that 100% of the ETP species caught by the vessels were also discarded, which complies with the zero shark retention policy outlined in the FIPs’ anti shark finning policy commitments and the ICCAT recommendations 18-06, 2011-08, and 2010-08. Further, 69% of the ETP species that were discarded were also alive upon discard. This demonstrates that the FIP are adhering to their commitments to ensure that best practice handling and release techniques are being used for ETP bycatch as defined by the ISSF Skipper Guidelines for purse seine fishing.

2.3 FAD usage

The fishery uses a combination of FAD fishing and free-school fishing. The majority of the sets made by the vessels in the fishery from 2023-2024 were on FADs (79%), followed by free-school sets (20%).

There was no information available in the current observer data that indicated towards the type of FADs being used by the fishing vessels (entangling, low-entangling, or fully non-entangling). However, the FIP has a strict FAD management policy that describes the use of non-entangling materials in their FAD construction (Appendix), which has been in place since 2022. Further information from the observers will be required to verify that the materials used are non-entangling and comply with the requirements of the FAD management policy.

2. Conclusion

The information presented in this report outlines the observer data from the Atlantic Ocean purse seine tuna FIP (Capsen and Grand Bleu) from 2023-to-early 2024. As anticipated, the greatest proportion of the total catch was derived from target (principle 1) species, skipjack, yellowfin, and bigeye tuna. The subsequent catch was a combination of largely primary and secondary species, including little tunny, blue runner and other finfish. ETP species, which consisted of mostly elasmobranchs contributed to a minority portion of the bycatch composition but the data showed that all ETP species were discarded into the ocean after capture, and that the majority of those discarded were released alive.

Overall, the data was consistent across the year that was obtained and was useful in understanding more about the fishery's specific interaction rate with non-target, and in particular ETP species. The information obtained from this report will be used in ensuring that fishery-specific management practices are developed and relevant to the fishery itself. The very small numbers of ETP species interactions is positive for the fishery because it means that the potential interaction with these animals is minimal.

The fishery has specific shark finning policies in place that prohibit the finning of sharks onboard the vessel. There were zero reported incidents of shark retention onboard, and likewise, there were zero reports of shark finning highlighting that the vessels are complying with the commitments made in the policy.

Finally, whilst the observer data was able to demonstrate the FIPs' compliance with the FAD closure period between January-March as required by ICCAT, in order to verify the use of non-entangling FADs by the fishery, observer data will need to include reference to the types of materials that have been used in the FAD construction. These details will then be able to clearly demonstrate the application and compliance with the FAD management policies.

3. Appendix



FAD MANAGEMENT POLICY

FOR ISSF CONSERVATION MEASURE 3.7

DATE : April 2024

With reference to ISSF Technical Paper 2019-11, Vessels owned by CAPSEN S.A requires onboard its vessels(s) the use of the following best practices for FAD management, identified in Tropical Tuna Purse Seine Fisheries.

(a) Regarding FAD management, CAPSEN S.A fully complies with all of the reporting obligations by set type, such as logbook and DCR recording, 100% observer coverage, and various FAD related reporting, required by RFMOs, the Senegal government and coastal state governments in order to accurately understand the impact of our fishing operation on the marine environment and to contribute to the scientific works of the management bodies.

(b) To report additional FAD bouy data (FAD daily position data and echo sounder acoustic records) for use by RFMO science bodies. CAPSEN S.A reports FAD position data to the relevant RFMO science bodies and/or national scientific institutions and/or its flag State, with a maximum time lag of 90 days. If we report these data to national scientific institutions and/or its flag State, we shall request that these data be made available to the relevant RFMO for scientific purposes.

(c) CAPSEN S.A manages FAD in accordance with the relevant regulations, including science based limits on the overall number of FADs used per vessel and/or FAD sets made. We commit to abiding by limit of active number of FADs adopted by RFMO and comply FAD closure period and area established by RFMO.

(d) In addition, CAPSEN S.A prohibits all of the vessels from having onboard or deploying FADs that are of Highest Entanglement Risk as defined in the ISSF Guide for Non-entangling FADs and use only non-entangling FADs to reduce ghost fishing. In order to achieve this, construction of FADs to be deployed by our vessels adheres to the following:

- Raft: The surface structure shall not be covered with netting or meshed materials. If covered, cover with canvas, tarpaulin, shade cloth, or non-entangling materials.

- Tail: Subsurface structure is made with ropes, canvas sheets, or other non-entangling materials.
- No netting should be used anywhere on the FAD (raft or tail) to prevent any entanglement according to the following ICCAT/ISSF of timeline and regulation.

(e) Furthermore, in order to mitigate other environmental impacts, we continue to study and conduct research on Biodegradable FADs, promote the increase the portion of Biodegradable FADs used in our operation and follow FAD recovery policy. We commit to participating in trials of biodegradable FAD designs and/or FAD recovery programs that include the participation of the relevant RFMO science bodies and/or CPCs or ISSF scientist to monitor experimental design. To reduce the ghost fishing, our vessels put efforts into reusing, recycling and retrieving FADs.

(f) To mitigate the impacts on sharks, primarily silky sharks listed as Endangered, Threatened and Protected (ETP) species, we distribute the “best handling practices for the safe release of sharks” to our fleet and educate our crews on the material. CAPSEN S.A’ internal policy related to shark is already established.

GRAND BLEU S.A

Public Policy on FAD Management

Atlantic Ocean tuna - purse seine (GRAND BLEU) – April 2024

<https://fisheryprogress.org/fip-profile/atlantic-ocean-tuna-purse-seine-capsen-sa>

Grand Bleu S.A. is a fishing company operating out of Dakar, Senegal and targets primarily tuna species in the Atlantic Ocean. The fishery is part of a joint Fishery Improvement Project (FIP) to improve the sustainability of its fishing operations and eventually become certified by the MSC. The fishery targets Atlantic bigeye (*Thunnus obesus*), eastern Atlantic skipjack (*Katsuwonus pelamis*) and Atlantic yellowfin (*T. albacares*) tunas through free-school and FAD-associated purse seine sets. The fishery has two fishing vessels which are flagged to Senegal and operate on the high seas of the eastern Atlantic Ocean and the Exclusive Economic Zones (EEZs) of the following coastal states: Senegal, Mauritania, Cape Verde, Guinea Bissau, Guinea, Sierra Leone and Liberia. The fishery is managed regionally by the International Commission for the Conservation of Atlantic Tunas (ICCAT).

The fishery aims to improve its sustainability and reduce its impact by working towards the objectives below.

- Sustainable fish stocks - Formal commitment to working towards the sustainable exploitation of target and bycatch species in the Atlantic Ocean, to as far as is practicable for this FIP.
- Minimising environmental impacts - To promote the ecosystem-based approach to fisheries management and promote best practices with FAD fishing.
- Effective management - To strengthen governance systems in flag and coastal states, RFMO and the fishery itself.
- Overall, we aim to meet an unconditional pass of the MSC Fisheries Standard by April 2025.

To ensure the participating vessels meet the above objectives the fishery has made this commitment to achieve using only non-entangling Fish Aggregating Devices (NEFADs).

NEFADs, as defined by the International Seafood Sustainability Foundation (ISSF) are constructed with no netting material to minimise ghost fishing (entanglement of fauna, primarily sharks and turtles). For a FAD to be completely non-entangling, it must not use netting materials either in the surface structure (raft) or the submerged structure (tail).

By not using netting in FADs, tuna-vessel owners and fishers can significantly reduce the entanglement and "bycatch" of sharks, sea turtles, and other non-target marine species. In addition, by choosing vegetal based instead of plastic derived materials for FADs, fisher can avoid contributing to the ocean pollution caused by abandoned, lost and discarded fishing gear.

The Fishery is dedicated to make trials with various Biodegradable materials and aims to implement fully biodegradable FADs in the near future.

The fishery intends to engage on minimising habitat and ecosystem impacts by engaging on a number of related actions for biodegradable FADs and recovery programmes.

The fishery recognises this and adopts the following practices and commitments:

- The FIP has transitioned to deploying 100% fully non-entangling FADs without any netting in any components, including both the raft and the tail.
- To implement ISSF best practice and participate in trials of Biodegradable FADs and FADs recovery programs.
- For all skippers to attend training to understand the reason for these changes and agree to these best practices.
- All vessels will comply with ISSF recommended best practices mitigating bycatch of silky sharks and sea turtles.
- If encircled by a purse seine net, actively releasing sharks (via other fishing gear) and turtles (via manual capture).
- If brought on deck, practicing safe-handling techniques for sharks and resuscitation/revival techniques for sea turtles, to reduce mortality after release and record Interactions.
- Develop a FIP strategy for FAD recovery to retrieve and replace any encountered pre-existing FADs (whether a set is done or not) which is not in compliance with ISSF

conservation measures. The strategy will include provisions to minimise loss, abandonment, or interaction with sensitive habitats.

- Monitoring of FAD deployments and locations of drifting FADs with the goal of understanding FAD density impacts on the pelagic ecosystem and to avoid high-risk deployment areas.
 - Provide FAD track data in confidentiality to scientists or ICCAT upon their request, in order to quantify their impacts on coastal environments, and to measure the efficiency of the initiatives taken to mitigate the loss and abandonment of FADs. If FADs are deactivated when they drift out of the fishing zone, these buoys can still communicate position to buoy providers.
- | |
|---|
| <ul style="list-style-type: none">• To report FAD position data and FAD echosounder biomass data to ICCAT science bodies and CRODT the national scientific institutions and to the Fishery Directorate, with a maximum time lag of 90 days. |
|---|
- Frequently review and improve procedures in line with best practices.
 - Promote FAD marking schemes and FAD ownership rules. This may include collaborations with other FIPs in the eastern Atlantic to develop a collaborative marking ownership scheme that will rely less on activities on opportunistically encountered FADs.
 - Continue to mark FADs deployed to indicate its ownership.
 - All vessels will comply with ISSF Best Practices for FAD management Plans, including the ISSF Guide for Non-Entangling FADs and be listed on the ISSF Proactive Vessel Register (PVR).

Recommendation for fully non-entangling FAD designs are as follows:

- **Raft:** The surface structure shall not be covered with netting or meshed materials. If covered, cover with canvas, tarpaulin, shade cloth, or non-entangling materials.
- **Tail:** Subsurface structure is made with ropes, canvas sheets, or other non-entangling materials.
- No netting should be used anywhere on the FAD (raft or tail) to prevent any entanglement.

Recommendations for biodegradable FAD configurations are as follows:

- **Raft:** Rafts should be constructed using bamboo, balsa wood or other natural materials that degrade without producing pollution on the marine environment. For FAD flotation, the use of plastic buoys and containers should be reduced as much as possible (e.g., reducing the weight and volume of the FAD structure would require less flotation).
- **Tail:** Only natural and/or biodegradable materials (cotton ropes and canvas, manila hemp, sisal, coconut fibre, etc.) should be used, so that they degrade without causing impact on the ecosystem.

In accordance with the above Non-Entangling and Biodegradable Fish Aggregating Devices - Public Policy, the policy is effective from the date mention below.