FIA PNG

Marine litter and Fishing gear procedure FIAPNG 002-v1.0
Fishing Industry Association | November 2026

In accordance with revised MARPOL 73/78, Annex V IMO Res. MEPC.201(62)



Source: Hani Amir

FIA PNG

Procedure Information

This Marine litter and Fishing gear procedure has been prepared with the support of the Fishing Industry Association members (FIA) of Papua New Guinea (PNG).
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Citation: FIA PNG (2019). 08. PNG FIA Marine litter and Fishing gear Procedure - Report produced by PNG FIA
Responsible: Fishing Industry Association of Papua New Guinea
Version: Final (FIA-v1.0) - 2026
Report ref: 082018-FIA/M/03
Date issued: November 2020 (updated and published by PNG FIA in March 2021), revised and updated by FIA PNG members Dec 2026
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CONTENTS

Acronymns 4

Definitions 6

Background 8

1. Introduction 9

2. Scope 11

3. Purpose 11

4. Requirements and practices 12

5. Prevention of Pollution from Marine litter and Fishing gear 17

6. Contents of Marine litter and Fishing gear management plan 20

7. Education and training 29

8. Responsibility of FIA Office 30

9. Recording 31

10. History of revision 31

11. References 31

Annexes 35

Appendix 1 a. Form "Record of garbage disposal"
b. Form for reporting alleged inadequacy of port reception facilities for garbage
Appendix 2 Locations of receptacles and collection and separation places

Appendix 3 Garbage processing equipment and devices

Appendix 4 Appointment of the Designated Person and the responsible staff for the operation of the processing devices
Appendix 5 List of storage devices and appliances for the storage until disposal ashore or discharge into the sea

Appendix 6 Shipboard placard about restricted areas for the disposal of garbage

ACRONYMNS:

ALDFG Abandoned, L, orost otherwise Discarded Fishing Gear

AW Archipelagic waters

BPF Best Practices Framework

EU European Union

ETP endangered, threatened or protected species

EEZ Economic Exclusive Zone

FAO Food and Agriculture Organization of United Nations

FAD Fishing Aggregating Device (a) anchored (d) drifting

FIA Fishing Industry Association (PNG)

FFA Pacific Islands Forum Fisheries Agency

GGGI Global Ghost Gear Initiative

GTA Global Tuna Alliance

IMO International Maritime Organization

IUU Illegal Unregulated Unreported

ISSF International Sustainable Seafood Foundation

MSC Marine Stewardship Council

ML&FG Marine litter and Fishing gear

MARPOL International Convention for the Prevention of Pollution from Ships

MEPC Marine Environmental Protection Committee

MSC Marine Stewardship Council

PNG Independent State of Papua New Guinea

PNA Parties to The Nauru Agreement

PRF Port Reception Facility

RSP Responsible Sourcing Policy

SPC Secretariat of the Pacific Community

SuP Single used Plastic

SPREP South Pacific Regional Environmental Programme

UNEP United Nations Environmental Programme

DEFINITIONS:

Audit: is a systematic, independent, objective and documented process for gathering facts. These will help you identify areas for improvement and ensure you have best practice processes in place (ISO)

Internal Audit (first party audit): are commonly referred to as 'first-party **audits**' and are conducted by an organization to determine compliance to a set of requirements which might arise from internal procedures, company policies like **FIA PNG ML&FG**, as well as customer or regulatory requirements (ISO)

Second party Audit: is when a company performs an audit of a supplier to ensure that they are meeting the requirements specified in the contract. ... It is important to understand that a second-party audit is between the customer and the supplier and has nothing to do with becoming certified.

Third party Audit: A third-party audit occurs when a company has decided that they want to create a quality management system (QMS) that conforms to a standard set of requirements, such as ISO 9001, MSC fishery standard, and hire an independent company to perform an audit to verify that the company has succeeded in this endeavour. Also this works hiring an independent company (certification assessment body) to perform an audit to verify the company compliance against their internal company polices for instance the FIA PNG RSP.

Biodegradable material: Capable of being decomposed by biological processes. The term biodegradable is applied to a material or substance that is subject to a chemical process during which microorganisms that are available in the environment convert materials into natural substances such as water, carbon dioxide, and decompose organic matter that are non-toxic for the environment (ISSF)

Debris: rubble, wreckage, scattered remains of something that has been destroyed, pieces of rubbish or unwanted materials (AQUA-LIT, 2019).

ETP: Endangered or Threatened Species: It refers to vulnerable marine wildlife—such as sea turtles, seabirds, marine mammals (dolphins, whales), and protected sharks—that are at an elevated risk of extinction. Fisheries are heavily evaluated on their "ETP interactions," which measure how effectively they minimise accidental bycatch or gear entanglements with these high-risk animals

Fishing gear: (MARPOL, Annex V) any physical device or part thereof or combination of items that may be placed on or in the water or on the sea-bed with the intended purpose of capturing, or controlling for subsequent capture or harvesting, marine or fresh water organisms. This procedure also includes FADs.

Fishing Aggregating Devices (FADs): Man-made floating objects specifically designed to encourage fish aggregation at the device. They can be anchored to the ocean floor (anchored FADs) or set to drift in the open ocean (drifting FADs) (ISSF).

Garbage: includes all kinds of food, domestic and operational **waste**, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear, and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically (MARPOL Annex V)

Ghost fishing: The accidental capture of marine fauna (primarily sharks and turtles) by fishing gear (usually gillnets, or traps, pots, etc.) that has been lost or discarded into the sea and which continues to entangle animals (ISSF).

Ghost gear: refers to any fishing gear that has been abandoned, lost or otherwise discarded, and is the most harmful form of marine debris (GGGI)

IMO: International Maritime Organisation

IUU – Illegal, Unreported, and Unregulated fishing:

- **Illegal Fishing:** Conducted by national or foreign vessels in waters without permission, in violation of local laws, or against the rules of a Regional Fisheries Management Organisation (RFMO).
- **Unreported Fishing:** Not reported, or falsely reported, to national authorities or management bodies in a way that breaks standard reporting laws.
- **Unregulated Fishing:** Conducted in areas or for fish stocks that have no active conservation or management measures, or carried out by stateless vessels or ships flying the flag of a country not part of that management group

Marine litter (Marine debris): consists of (anthropogenic, manufactured, or processed solid) items that have been deliberately discarded, unintentionally lost or abandoned, or transported by winds and rivers, into the environment. The term 'litter' has the connotation of been discarded incorrectly and/or deliberately at an unsuitable location. The verb 'to litter' means to drop and leave fabricated objects in the environment.

The United Nations Environment Program (UNEP) and the European Commission define marine litter as "*any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment*" (UNEP, 2005; Galgani et al., 2010).

Observer: A certified person on board fishing vessels who collects scientific and technical information on the fishing operations and the catch. Observer programs can be used for monitoring fishing operations (e.g. areas fished, fishing effort deployed, gear characteristics, catches and species caught, discards, collecting tag returns, etc.). Observers may or may not have legal coercion powers, and their data may or may not be used for nonscientific purposes (e.g., enforcement) depending on the situation (ISSF).

Purse seiner gear: A purse seine is a large wall of netting deployed around an entire area or school of fish. ... Once a school of fish is located, a skiff encircles the school with the net. The lead line is then pulled in, "pursing" the net closed on the bottom, preventing fish from escaping by swimming downward (FAO)

Plastic litter: Litter of plastic is probably the most visible aspect of the production of such high volumes of plastic. Many plastics float in water and many items blow around in the wind. While litter itself is a human caused problem, there are many factors that contribute to our overwhelming litter problem (Plasticwastesolutions).

Recycling: means the activity of segregating and recovering components and materials for reprocessing (MARPOL)

Waste: any substance or material which is eliminated or discarded after primary use, or is worthless, defective and of no longer useful (AQUA-LIT, 2019).

Background

The Fishing Industry Association (FIA) is a non-profit organization, founded in 1991, with membership comprising of the fishing companies and seafood processors of Papua New Guinea (PNG) aiming to promote responsible management of the fishery in PNG. Through its commitments, the FIA members are encouraged to implement practices that drive social responsibility on labour conditions, mitigate and minimise the impact of Marine litter and Fishing gear, as well as requiring FIA members to manage the fishing operation in a responsible manner looking after the biodiversity and conforming to the conservation measures included in the Marine Stewardship Council (MSC) certification.

Over the last decade or so, there has been considerable attention brought on the scale of abandoned, lost and discarded fishing gear (ALDFG) and the impacts on the marine environment through ghost fishing, entanglement and habitat damage (Macfadyen *et al*, 2009). This attention has been enhanced in recent years by the growing realization of the scale and potentially bigger impact of plastic pollution and its accumulation in the marine ecosystem, and the contribution of ALDFG to this global problem (Huntington, T, 2019).

Also IUU fishing is a €10 billion market every year worldwide, making up 19% of the worldwide reported value of catches (DG MARE, 2016). Leaving the fishing gear at sea removes the evidence of (IUU) fishing. IUU can in general be a problem of intentional dumping of fishing gear.

In 2016, the Global Ghost Gear Initiative (GGGI) set up a framework for best fisheries practices of ALDFG. This framework provide tools and a risk analysis to design policies and procedures to prevent fishing gear is lost and become in ghost gear globally. The best practices for fishing gear provide a detailed explanation how to design and implement performance indicators, policies and procedure to minimize the negative impact of fishing gear.

In the last 5 years, FIA PNG members have decreased dramatically the use of Fish Aggregating Devices (FADs), which possess a high likelihood and risk to become ghost gear. At the same time the National Fishery Authority (NFA) has developed and set up regulations for compliance on the PNG FAD management plan (NFA, 2015).

In addition, the International Seafood Sustainability Foundation (ISSF) has been working closely with The Common Oceans ABNJ Tuna Project to accelerate the use of biodegradable materials in fish aggregating devices (FADs). This initiative addresses some of the challenges facing tuna fisheries by implementing best practice solutions to reduce the amount of plastic materials used to construct fishing devices, in an effort to achieve sustainable fisheries practices and biodiversity conservation (FAO August 2019).

In 2018, FIA PNG committed to developing and implementing the Responsible Sourcing Policy (RSP), which includes 4 pillars: MSC certification of species in PNG, Marine litter & Fishing gear mitigation, Crew welfare and labour conditions, and traceability. FIA PNG's RSP aims to increase transparency in fishing operations and position the organization as a leader in fisheries management.

In 2020, the FIA PNG Biodiversity Commitment 2018 was launched and Update by 2025 that include in its element Marine litter and fishing gear audit to ensure with are mitigating the impact of our gear and fishing operations.

In 2025, FIA PNG engaged with the Secretariat of Pacific Countries (SPC) and the International Sustainability Seafood Foundation (ISSF) to carry out a workshop to build and deploy biodegradable and non-entangling FADs by our tuna fleet – FIA PNG. All our members joined it and participated it.

FIA PNG has therefore decided to find practical solutions for the responsible management of marine litter and fishing gear at the sea and at ports. To produce policies, procedures and audit tool to assess mitigation measures and progress on the FIA tuna fleet fishing on the PNG Exclusive Economic Zone (EEZ) and the Archipelagic Waters (AW).

Introduction

1.1 In 1995, International Maritime Organization (IMO) adopted by resolution MEPC.65(37), amendments to Annex V of the International Convention for the Prevention of Pollution from Ships 1973 as modified the Protocol of 1978 relating thereto (MARPOL 73/78).

1.2 In 2011, IMO adopted by Resolution MEPC.201(62) amendments to MARPOL Annex V which require that:

.1 every ship of 100 gross tonnage and above, and every ship certified to carry 15 or more persons, and fixed or floating platforms shall carry a Garbage Management Plan;

.2 every ship of 400 gross tonnage and above, and every ship certified to carry 15 or more persons engaged in voyages to ports or offshore terminals of another Party, and every fixed or floating platform shall be provided with a Garbage Record Book; and

.3 every ship of 12 meters or more in length overall, and fixed or floating platforms shall dis- play Placards which notify the crew and passengers of the ship's disposal requirements of regulations 3, 4, 5 and 6 of the Annex as applicable.

These provisions are included in regulation 10 to the revised MARPOL Annex V with an entry into force date of 1 January 2013.

1.2 This plan has been developed to cover all requirements of Annex V considering that Administrations have further enhanced Port State Control inspections.

1.3 Preparing this plan, the IMO guidelines published in resolution MEPC.201(62) have been taken into account. Hence the mandatory requirements for the preparation of a shipboard garbage management plan have been fulfilled.

1.4 According to the requirements of the Annex V, the Garbage Management Plan shall be written in the working language of the crew, and, for ships engaged in international voyages, in English.

1.5 The garbage management plan must to contain a list of the particular ship's equipment and arrangements for the handling of marine litter as well as extracts from and/or references to existing company instructions. If any is available a manual of the equipment shall be attached hereto (appendix 3 to this plan).

1.6 A priority action in the G7 Action Plan to Combat Marine Litter includes: 'Identifying the options to address key waste items from the fishing industry and aquaculture which could contribute to marine litter, and implement pilot projects where appropriate (including deposit schemes, voluntary agreements and end-of-life recovery)' (G7 Action Plan on Marine Litter, 2015). The G20 maintains that the tools to reduce marine litter have to be as diverse as the challenge of marine litter itself.

1.7 In 2016, the United Nations Environment Programme highlights in its report "Marine Plastic Debris and Microplastics: Global Lessons and Research To Inspire Action And Guide Policy Change" the need of reduction measures such as 'Best Available Techniques', 'Best Practices' 'Market-based instruments' and 'Legislation' to reduce the impact of fishing Activities.

1.8 In 2018, the Thirty-third session of COFI endorsed the Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) (FAO, 2019). The Voluntary Guidelines complement FAO's Code of Conduct for Responsible Fisheries and are an important tool to guide States in preventing and reducing Abandoned, Lost and otherwise Discarded Fishing Gear (ALDFG) and its impact such as ghost fishing, and in combatting Illegal, Unreported and Unregulated (IUU) fishing.

1.9 In 2018, the Global Ghost Gear Initiative (GGGI) developed a Best Practice Framework for the Management of Fishing Gear (BPF) to address ALDFG. This global framework provide tools and a risk analysis to design policies and procedures to prevent fishing gear from becoming ALDFG and potentially becoming ghost gear. The best practices for fishing gear provide a detailed explanation of how to design and implement performance indicators, policies and procedure to minimize the negative impact of fishing gear. This BFP should be followed and implemented by FIA fishing companies.

1.10 The International Seafood Sustainability Foundation (ISSF) has been working closely with The Common Oceans ABNJ Tuna Project to accelerate the use of non-entangling FADs (i.e. without netting) and the use of biodegradable, organic, materials to construct fish aggregating devices (FADs). This initiative addresses some of the challenges facing tuna fisheries by implementing best practice solutions to reduce the number of plastic materials used to construct fishing devices, in an effort to achieve sustainable fisheries practices and biodiversity conservation (FAO August 2019). ISSF approached FIA members asking for a joint cooperation in 2018. Several workshops have been attended by PNA countries representatives and FIA members representatives to learn, share and improve the technic on how to build and test non-entangling and biodegradable FADs in the Western and Central Pacific Ocean and the PNG EEZ & AW waters as well. Currently FIA fishing companies members are applying ISSF recommendations to build and set up FADs (non-entangling FADs and with biodegradable materials) when the tuna fleet use it https://iss-foundation.org/knowledge-tools/guides-best-practices/non-entangling-fads/

1.11 In May 2018, the European Parliament and Council agreed on developing and setting up a new EU legislation & policy regarding the Single use Plastic to prevent the pollution of the Ocean with marine litter.

The public consultation, that took place between December 2017 and February 2018, received more than 1800 contributions. 98.5% of respondents considered that action to tackle SUP marine litter are "necessary", and 95% consider them "necessary and urgent". More than 70% of manufacturers and more than 80% of brands and recyclers considered action "necessary and urgent". Only 2% of respondents believed that there should be no new measures at European level and 79% believed that unless measures are taken at the EU level, they would remain ineffective. FIA fishing members should assess plastic that is taken on board to prevent, and reduce the impact of SUP that is also part of the MARPOL regulations.

1.12 In 2019, FAO published voluntary guidelines on the marking of fishing gear. These are a tool to contribute to sustainable fisheries, to improve the state of the marine environment, and to enhance safety at sea by combatting, minimizing and eliminating abandoned, lost or otherwise discarded fishing gear (ALDFG) and facilitating the identification and recovery of such gear

1.13 This plan should be part of the Safety Management System of each FIA fishing company and the ships operated by them.

1.14 The Garbage Management Plan developed by MARPOL has been re-designed and this procedure has added plastic, marine litter, and fishing gear in order to have a much more comprehensive approach to reducing and minimizing sources of pollution into the Ocean. Therefore we will call this procedure the Marine Litter and Fishing Gear Procedure.

1.15 In 2021 the Global Ghost Gear Initiative (GGGI) developed guidance for addressing marine debris in aquaculture production; since this is a global and transboundary problem, there is a collective and universal approach to propose solutions and best practices.

FIA PNG members aim to set up a baseline procedure that should be improved and adapted for each FIA fishing company member and FIA fishing company's partner, for Marine litter and Fishing gear management.

2. Scope

Applicable: FIA PNG fishing companies members, their staff, fleet, Captains and Crew
Geographical area: to the fishing operation at Sea within the PNG EEZ and PNG AW, and their landing ports.
Fishing gear: Purse seiner, anchored FADs, drifting FADs, and target and non-target species

3. Purpose

This document delineates the approach, control, prevention, reduction, and, when is applicable tracking of Marine litter and Fishing gear of the PNG FIA MSC fishery scheme.

It also aims to reduce and minimise the sources of Marine litter and fishing gear impacting the Ocean.

This procedure set up a baseline for the FIA PNG fishing companies to improve and adapt to their realities and fishing operations. FIA aims to provide a holistic approach for these topics

4. Requirements and practices

4.1 FIA fishing companies' members will implement, follow up, communicate internally and externally, and carry out internal audits annually to verify compliance of this FIA procedure to minimize the impact of the FIA fleet operation in the Ocean. FIA recognizes that regulations were identified as the primary mechanism with which changes in behaviour are achieved, and creates a positive impact in the fishery.

The Global Ghost Gear Initiative (GGGI) have reported that Abandoned, Lost or otherwise Discarded Fishing Gear (ALDFG) has numerous negative impacts which are causing increasing concern. The potential of some forms of ALDFG to continue fishing (often referred to as 'ghost fishing') has detrimental effects on fish stocks and potential impacts on endangered, threatened or protected (ETP) species and marine ecosystems. Fishing gear has been abandoned, lost or otherwise discarded since fishing began. However, increases in the scale of fishing operations and technologies used in recent decades mean the extent and impact of ALDFG debris have increased significantly. This is through the use of synthetic materials, increased fishing capacity and the targeting of more distant and water grounds. The consequences of ALDFG are both environmental and economic (Huntington, 2016).

(1) Placards

a) Every ship of 12 meters or more in length overall and fixed or floating platforms shall display placards which notify the crew and passengers of the FIA PNG Marine litter and fishing gear requirements mentioned in this procedure and in the Annexes at the end of this document, as applicable.

b) The placards shall be written in the official language of the State whose flag the ship is entitled to fly, and for ships engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention, in English or French.
A minimum content of information should include MARPOL requirements, EU directive (SuP) and Best fishing practices from the Ghost Gear Initiative.

(2) Marine litter Management Plan

Every ship of 100 tons gross tonnage and above and every ship which is certified to carry 15 persons or more and fixed or floating platforms shall carry a Marine litter and Fishing gear management plan which the crew shall follow. This plan shall provide written procedures for minimizing, collecting, storing, processing and disposing of garbage, marine litter, and single used plastic (SUP) including the use of fishing gear and the equipment on

board. It shall also designate the person in charge of carrying out the plan. Such a plan shall be in accordance with the guidelines developed by the Organization and written in the working language of the crew and for ships, engaged in international voyages, in English.

(3) Marine litter Record Book

Every ship of 400 tons gross tonnage and above and every ship which is certified to carry 15 persons or more engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the convention and every fixed and floating platform shall be provided with a Marine litter (Garbage Record) record Book. The Marine litter Record Book, whether as a part of the official logbook or otherwise, shall be in the form specified in the Appendix to this Annex.

a) Each discharge operation or to a reception facility, or completed incineration, shall be promptly recorded in the Marine litter record book and signed for on the date of the incineration or discharge by the officer in charge. Each completed page of the Record Book shall be signed by the master of the ship. The entries in the Record Book shall be at least in English, or French or Spanish. The entries in an official national language of the flag the ship is entitled to fly shall prevail in case of a dispute or discrepancy;

b) The entry for each incineration or discharge shall include date and time, position of the ship, category of the garbage and the estimated amount incinerated or discharged;

c) The Marine litter Record Book shall be kept on board the ship or the fixed or floating platform, and in such a place as to be available for inspection in a reasonable time. This document shall be preserved for a period of two years after the last entry is made in the record. A description of the items shall be included (i.e., plastic bags, sacks, gear)

d) In the event of any discharge or accidental loss referred to in regulation 7 of this Annex any entry shall be made in the Marine litter Record Book, or in the case of any ship of less than 400 gross tonnage, an entry shall be made in the ship's official log-book, of the location, circumstances of, and the reasons for the discharge or loss, details of the items discharged or lost, and the reasonable precautions taken to prevent or minimize such discharge or accidental loss.

(4) The Administration may waive the requirements for Marine litter Record Books for:

- any ship engaged on voyages of (one) 1 hour or less in duration which is certified to carry 15 persons or more; or

- log (record) smaller organic materials only (e.g., food scraps, unused bait, processing waste, etc.)

(5) The competent authority of the Government of a Party to the Convention may inspect the Marine litter Record Book or ship's official logbook on board any ship to which this regulation applies while the ship is in its port or offshore terminals and may make a copy of any entry in those books, and may require the master of the ship to certify that the copy is a true copy of such an entry. Any copy so made, which has been certified by the master of the ship as a true copy of an entry in the ship's Marine litter Record Book or ship's official logbook, shall be admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of the Marine litter Record Book or ship's official logbook and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

(6) The accidental loss or discharge of fishing gear as provided for in revised MARPOL, Annex V, regulations 7.1.3 and 7.1.4 which poses a significant threat to the marine environment or navigation shall be reported to the State whose flag the ship is entitled to fly, and, where the loss or discharge occurs within waters subject to the jurisdiction of a coastal State, also

to that coastal State. While Single Used Plastic shall be recorded and reported to the Fishing company head office as well as any type of plastic handled onboard.

(7) Fishing gear Management Plan

Every ship of 100 tons gross tonnage and above and every ship which is certified to carry 15 persons or more and fixed or floating platforms shall follow the PNG FADs management plan regulations for monitoring (PNG NFA September, 2015), control and recording which the fishing company managers shall follow. This plan shall provide written procedures for FAD location, FAD monitoring, FAD marking/ coding and collecting in case this is lost, including the use of the gear/equipment and technology on board for tracking and location. (at least date and position) FAD marking must enable identification of the owner in accordance with FAOs VGMFG (FAO, 2019). It shall also designate the person in charge of complying with the PNG FADs management regulation. The Fishing Company shall follow and comply with the guidelines developed by the National Fishery Authority (NFA) including reporting lost gear, found buoys & gear, PNG law compliance, including sharing FAD's position until the end od their life or use.

(8) Fishing gear Record Book

Every ship of 400 tons gross tonnage and above and every ship which is certified to carry 15 persons or more engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the convention and every fixed and floating platform shall be provided with a Fishing gear Record Book. The Fishing gear Record Book, whether as a part of the official logbook or otherwise, shall be in the form specified in the Appendix to this Annex. Total of gear and possible sources of litter should be recorded at the departing and also at the end of the voyage in order to carry out a balance of litter and any lost gear.

a) Each discharge operation or to a reception facility, shall be promptly recorded in the Fishing gear record book and signed for on the date of the event (lost gear, reparation, damage, accidentally discarded or discharge) by the officer in charge. Each completed page of the Fishing gear Record Book shall be signed by the master of the ship. The entries in the Fishing gear Record Book shall be at least in English, or French or Spanish. The entries in an official national language of the flag the ship is entitled to fly shall prevail in case of a dispute or discrepancy;

b) The entry for each lost gear, reparation; damage, accidentally discarded or discharge shall include date and time, marking of the gear, position of the ship, category of the Fishing gear and the estimated amount;

c) The lost gear, reparation, damage, accidentally discarded or discharge Record Book shall be kept on board the ship or the fixed or floating platform, and in such a place as to be available for inspection in a reasonable time. This document shall be preserved for a period of two years after the last entry is made in the record;

d) In the event of any event or accidental gear loss referred to in regulation 7 of this Annex any entry shall be made in the lost gear, reparation, damage, accidentally discarded or discharge Record Book, or in the case of any ship of less than 400 gross tonnage, an entry shall be made in the ship's official log-book, of the location, circumstances of, and the reasons for the event or gear loss, details of the fishing gear, and the reasonable precautions taken to prevent or minimize such event or accidental loss recurrence.

e) Port Reception Facilities (PRF) should have disposal of fishing gear according to MARPOL annex V.

f) When is possible Information exchange with IMO's PRF database to ensure that specialist reception facilities are easily located.

g) PRF – fishing company manager should communicate to local authorities, stakeholders and internally the FIA PNG Marine litter and Fishing gear policy and procedure.

(9) Fishing gear marking

Every ship of 400 tons gross tonnage and above and every ship which is certified to carry 15 persons or more engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the convention and every fixed and floating platform shall implement the following

a) FIA PNG fishing companies should, using the FAO guidelines (FAO VGMFG, 2019), consider need, scope, implementation and coordination procedures for a fishing gear marking system in their waters.
b) FIA PNG members should effectively implement of a system for gear marking, which should effectively identify the owners and/or vessel. To communicate, educate, training and other forms of capacity development should be provided to fishers, and other interested parties to facilitate the implementation of the gear marking system. The adoption of voluntary best practice by fishery organisations for preventing gear loss (such as those practices outlined in the VGMFG (FAO, 2019) and GGGI sections of best practices for fishing gear) should be supported.
c) FIA PNG fishing companies shall Report gear loss to the NFA and/or recording within logbooks.
d) FIA PNG fishing company managers shall report and record lost and abandoned fishing gear in order to have a robust reporting management system. It should be consistent with the context of different of the NFA FADs management plan.

(9.1) Prevention of impact by lost of abandoned fishing gear

e) Mandatory gear retrieval for FADs and other lost gear should be required where practical.
f) The use of biodegradable material for FADs is required, when a FIA PNG fishing company decide to deploy FADs
g) FIA PNG members should follow and implement best practices for FADs building according to the ISSF biodegradable guidelines
h) Restricting or zoning the use of certain gears, in areas with a high risk of their loss due to local conditions or gear conflict, or destruction on the environment (reefs) should be considered.

(10) Minimum information for vessel's records onboard and for auditing purposes.

This data is part of the requirement of principle 8 – Vessel Data Verification

Name of the Vessel
Engine serial number
Call Sign IMO Number Official
Number Port of Registry Flag Owner
Manager/Operator Charterer
Year Built Shipyard
Displacement
Length of the F/V Main
Engine(s) kW
Number Crew/Passengers
Trade/Purpose
Fishing Gear Markings (List of fishing gear markings being used by the vessel)
Fishing license

4.2 Further global regulatory requirements

In 2018, FIA PNG in joint with Seafoodmatter, has developed a benchmark for the audit checklist that included in advance the following regulations, standards and guidance in order to support the FIA PNG Marine litter and fishing gear procedure implementation. FIA PNG fishing companies members shall prepare and use in this plan the following should be taken into consideration:

- Revised MARPOL Annex V MEPC.201(62) adopted 15th July 2011
- IMO Guidelines on the implementation of Annex V of MARPOL 73/78
- MEPC.219(63) adopted 2nd March 2012
- IMO Guidelines for the development of Garbage Management Plans
- MEPC.220(63) adopted 2nd March 2012
- FAO Code for Responsible Fisheries (1995) - Fishing gear
- International Guidelines on Bycatch Management and reduction of Discards (FAO 2011) - reducing the impact of lost fishing gear
- Port State Measures Agreement to prevent, deter, Eliminate Illegal Unreported and Unregulated Fishing (2009)
- The United Nations 2030 agenda on Sustainable Development (A/RES/70/1) - SDG 14.1: Prevent and significantly reduce marine pollution of all kinds, including ALDFG
- FAO Voluntary Guidelines on the Marking of Fishing Gear (FAO, 2019)
- Best Fishing Practices - Global Ghost Gear Initiative
- Non-Entangling and Biodegradable FADs Guide, ISSF
- Bycatch Mitigation – 3.7 Transactions with Vessels or Companies with Vessel-based FAD Management Policies, (ISSF, 2019)
- EU directive for Single Used Plastic (SuP)
- The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas Compliance Agreement.
- Seafoodwatch Fishery Standard v4.0 (2020)
- ISO 21070:2011 – Management and handling of garbage generated on board ships during the period the garbage will be on board.
- ISO 16304: 2013 – Best practices for the arrangement of port waste reception facilities.
- Global Tuna Alliance (GTA) Fish Aggregating Device (FAD) Management Best Practices, 2021

Other available technical guidance on shipboard garbage handling, such as ISO 21070 "Standard for the management and handling of shipboard garbage"

4.3 Sources of Industry practices – FIA fishing company members:

For the development of this procedure, FIAO received the support of the FIA fishing company member's documentation in order to harmonize and combine the current industry practices with international requirements.

The following fishing company documents were received and reviewed

- Site specific contingency plan for Port of Lae – PNG (Frabelle fishing, 2018) for the PNG National Maritime Safety Authority.
- Pollution plan & Marine Pollution for Port of Lae and the waters immediately surrounding marine environment (Frabelle fishing, 2017). For the PNG National Maritime Safety Authority and NATPLAN (National Marine Pollution Contingency Plan)
- Report of Cargo from PNG to GENSAN, Golden shower 888, May 2019. Photos and quantities of debris, old parts, old tanks, used batteries, used extinguishers, plastic/liners, etc.
- Packing list of Cargo from PNG to GENSAN, Golden shower 888, May 2019.
- Removal Report (Frabelle fishing, from February to June 2019). Description and quantities of onboard items that are brought to Port. Domestic waster, used equipment & parts, empty drums, plastic liners, extinguisher.
- Used radio buoys drop off inventory, Port of Noro (from January to May 2019) – National Fisheries Development Limited. Describing buoys owner, Flag, collected by vessel name, date of recover and serial number.
- PNG FIA Fleet waste reduction and recycling plan (March 2019)
- SPC/FFA regional Observer Pollution report Form GEN-6
- SPC/FFA regional Observer vessel trip monitoring Form GEN-3
- SPC/FFA regional Purse seiner Observer general information Form PS - 1
- FCF sustainable policy v3.0
- RD fishing waste management plan v1.0

- Frabelle Fishing garbage manual and procedure GMP02 v. 2013

5 Prevention of Pollution from Marine litter and Fishing gear

On-board and at the port facilities, good practices regarding the waste prevention should be mandatory (no alternative accepted) and they should become another part of the daily workflow.

5.1 Minimizing of garbage

To achieve cost-effective and environmentally sound results, FIA fishing companies members should use a combination of an integrated management on the reduction of plastic waste (incl. KPIs for implementation), e.g. banning of single use plastics, use of recycled plastic items, and five complementary techniques to manage garbage and fishing gear:

a) Source reduction at the place of origin

FIA PNG request fishing company to reduce as much as possible packaging on board of tuna purse seiners. Wrapping which protect goods on its way to the ship should be replaced in the port before receiving the goods. The storage and handling of goods on board should be organized without the need of packing material. The crew and the passengers should be instructed to come on board with a minimum of packaging.

Also in the day-to-day business of the vessel, a minimum of packaging should be moved within the ship. Wrapping material should be e.g. removed in the provisions room and the transport to the galley should be organized in two-way-boxes. By doing so, the amount of garbage arising in the galley can be reduced.

Recycling and Marine litter removal processes are fully responsibility of the fishing company and also the treatment of their own litter

b) Recycling

Where packaging is imperative, two-way-packaging or recyclable material should be used preferably. Recyclable waste and packaging should be collected on board and disposed to special companies guaranteeing a proper recycling.

Every practical effort made to recycle and reuse fishing gear components is highly recommended by FIAO. Responsible on-shore disposal of redundant fishing gear and other garbage, preferably in official onshore port reception facilities (see also MARPOL Annex V). Records shall be in place for an audit proposes.

FIA fishing companies should Put in place various contractual agreements with external contractors to collect used or damaged goods (cardboards and equipment) to be recycled or upgraded, when it is possible or arrange the handling at Land and/or Port.

c) Fishing gear lost prevention

Fishing company's member should adjust fishing methods to prevailing conditions to reduce the risk of gear loss.

Fishing companies should avoid setting their fishing gears in areas of high probability of gear loss.

All vessels must carry necessary equipment and storage space required to retrieve lost gear.

Training and awareness-building of crew in good practice and responsible fishing following FAO VGMFG (FAO, 2019) and GGGI best practices for fishing gear should be integrated.

Clear marking and identification of fishing gear and its main components is required i.e. FADs (anchored and drifting). The responsible disposal of end of life fishing gear and other potential sources of marine litter should be ensured.

d) Disposal

Discharge into the sea in those limited situations where it is permitted.
Generally disposal of all Marine litter into the sea is prohibited, except as provided otherwise in regulations 4, 5, 6 and 7 of revised MARPOL Annex 5.

The proper disposal in the ports has the priority over discharge at sea, including FADs which shall be collected onboard if found it (point 6.6).

When requisitioning stores and provisions, fishing companies should request suppliers to remove, reduce all packaging, at an early stage, to limit the generation of garbage on board ships.

The ship's marine litter is made up of distinct components, some of which are regulated in MARPOL Annex V, while others may be regulated locally, nationally or regionally, e.g., domestic, operational, cargo-associated, food and maintenance waste. Each component of the garbage should be evaluated separately to determine the best management practice for that type of garbage, and to be grouped into categories specified in the Marine litter and Fishing gear Record Book

It is mandatory gear retrieval for FADs and other lost gear is required where practical and possible for the operational point of view and it does not represent a risk for crew onboard and for the fishing operation. See also point 6.6

e) Prevent, and mitigate fishing gear lost

The GGGI best practices framework for managing fishing gear reviews and analysis the global fishing gear use, this BPF analysis indicated that seine nets, mid-water and bottom trawls account for most fish catches by volume. When calculated by effort, the results are similar – trawls (both bottom and mid-water) rank highest.

When considering the risk of ghost fishing, gillnets have the highest risk; with traps and pots second and Fish Aggregating Devices (FADs) third. These guidelines are reviewed and considered in this procedure. Point 6.6 addresses FADs management

5.2 Marine litter and Fishing Record Book and Record-Keeping

The ship's officers document each disposal of marine litter and fishing gear in the Record Book. The Record Book exists as ready-made booklet. Appendix 1 to this plan shows a sample of the form "Disposal Record" (Marine litter and Fishing gear) which you will find in the Record Book. The entries into the Garbage Record Book have to be made in English, or in French or in Spanish.

Receipts

The master or a designated person obtains from the operator of port reception facilities, or from the master or designated person of the ship receiving the marine litter and fishing gear, a receipt or certificate specifying the estimated amount of marine litter and fishing gear transferred. The receipts or certificates must be kept on board the ship with the marine litter and fishing gear Record Book (garbage record book) for two years.

Amount marine litter and fishing gear

The amount of marine litter and fishing gear onboard is estimated in Kilo, m^3, and/or per items if possible separately according to category to estimate type of litter with type of fishery.

The Record Book contains many references to estimated amounts of marine litter and fishing gear. It is recognized that the accuracy of estimating amounts of marine litter and fishing gear is left to interpretation. Volume or weight estimated will differ before and after processing (e.g. shredding, compacting, incinerating, etc.). Some processing procedures may not allow for usable estimate of volume, e.g., the continuous processing of food waste. Such factors are taken into consideration when making and interpreting entries in a record. The record should separate plastic litter from organic litter and fishing gear to be consistent and assess the impact of each component in the fishing operation.

On Monthly basis or per fishing vessel, FIA members should generate knowledge and data on which type of litter are generating, creating a database that quantifies the contribution per type of category. This allows estimating the correlation between the type and amount of marine litter produced and the potential litter associated with the fishing operation.

5.3 Placards and information

MARPOL 73/78 Annex V, Regulation 10, paragraph 1 demands the display of placards for informing crew and passengers about the marine litter (garbage) handling. The placards have to be written in the official language of the State whose flag the ship is entitled to fly, or in English, or French or Spanish.

In the passenger area placards are being displayed at several places which forbid throwing overboard of marine litter and cigarettes. In all passenger cabins extensive information are available about the marine litter matter, separation and disposal. With this the passer are required to follow the regulations of garbage management. At the beginning of the voyage the ship‘s command instructs the passengers by the public address system to refrain from throwing anything overboard, in particular garbage and cigarettes and to use the receptacles provided.

In the crew’s area further placards are being displayed, in particular about collection, separation, transportation, processing and disposing of garbage. They contain clear instructions for the particular case. Appendix 6 to this plan can be used as placard.

5.4 Control of suppliers

The fishing company will assess suppliers that minimize the use of single used of plastic and give preference to supplier that use recycling material or not plastics. According to the EU regulation of Used of single plastic. Also inform and share with them the FIA PNG Marine litter and fishing policy and procedure.

FIA PNG company’s members should require their suppliers to conform with this procedure and with the best practices for fishing gear, marking/traceability and comply with maritime legislation (code of practice, GGGI BPF) when it is applicable.

6 Contents of the Marine litter and Fishing Management Plan

6.1 Designated Person for the execution of the plan

In accordance with the regulation 10.2 of the revised MARPOL Annex V, and also for the FIA PNG Responsible Sourcing Policy best practices; FIA PNG company members should designated a person in charge of the Marine litter and Fishing gear management plan to be responsible for implementing the procedure within the plan. The master appoints the designated person also onboard at the commencement of the voyage and displays his/her name by a notice.

The duties of the designated person include but are not limited to

- training fishing company's officers, crew members and fishers on the management plan and implementation.
- training on no shark finning and best practices for handling ETP
- ensuring placards are displayed in accordance with the Regulation specified in Chapter 4.5,
- ensuring the crew complies with the ship's waste (marine litter and fishing gear) management strategy,
- ensuring incineration of wastes in accordance with the equipment manufacturer's instructions
- ensuring the proper condition and functioning of all equipment for reception, collection, processing, incineration and disposal (maintenance)
- liaison with shore authorities for the port reception facilities for Marine litter and Fishing gear
- signing the Marine litter (Garbage) and fishing gear Record Book as required by regulations,
- monitoring the arising amount and composition of Marine litter, recognizing development on time and initializing appropriate measures,
- verifying the effectiveness of procedures of this Marine litter and Fishing gear management plans and introducing improvement in accordance with the master, as necessary.

The designated person will be assisted by personnel of all departments in order to ensure an extensive support in collecting, separating, processing and disposal of garbage in all departments of the vessel and to ensure that all procedures are being carried out according to the garbage management plan.

6.2 Marine litter treatment on board

This section includes how Marine litter (garbage) should be handled onboard, including plastic, organic waste and fishing gear.

6.2.1 Collection of Marine litter (garbage)

Suitable receptacles for collection and separation

Where the Marine litter (garbage) arises FIA PNG fishing vessels provide for suitable receptacles. As the space allows it we put up separated receptacles as per the separation scheme. The locations of the receptacles should be obtainable and to the convenience of the people on board.

Any garbage may be put in the receptacles of the appropriate category only. All persons on board - regardless the crew or passenger - have to comply with this principle. The crew ad- vises the passengers or guests in case of misuse or any violation of MARPOL Annex V (e.g., throwing overboard of garbage), also the single used plastic shall be reported.

The type and size of the receptacles correspond with the need of the respective category of garbage.

Receptacles for ash, cigarettes, matches or other hot material, have to be fireproof.

Receptacles for wet waste or humidity-sensitive substances have to be water-proof. These are, for example cans, one-way cups, food packaging, food waste, single-use plastic, etc.)

All receptacles and containers have to be marked with their determination, i.e. the description of the garbage category or the type of the appropriate Marine litter waste. Warnings have to be shown for specific dangers of particular types of garbage (e.g. poisonous material or material dangerous to health). Furthermore, warnings have to be

shown for all material which must not be put into that container (e.g. contents of ash trays).

Locations of receptacles, collection and separation stations

Locations and stations of all receptacles for collection and separation are identified as specified in Appendix 2.

6.2.2 Transport from the source of generation to the collection and separation stations

Garbage in the passenger area (passenger cabins)
In each passenger cabin a rubbish bin for all categories of garbage has to be located. Furthermore, a bin for sanitary towels in the bathroom/toilet.
The cleaning personnel empties these receptacles into separate transportable containers once a day. The garbage has to be brought to the central garbage collection and separation place.

Garbage in the crew area (crew cabins)
The cabins of the ship's command are being served by stewards as described under 4.2.3.1. All other crew cabins are being served by the respective crew. They bring their garbage to the central collection and separation stations in the receptacles located in their cabins.

Garbage in the accommodation area
Garbage arising in the accommodation area of the crew and in public passenger areas is being collected in receptacles served by the stewards.

Can and bottle waste are generated in galley, dining room, saloon and private rooms and collected separately by each responsible person and individual.

Garbage in pantries and galleys
Very different types of garbage are being generated here. They are divided into the following categories which are the basis for separation:

- paper, cardboard, cartons, etc.
- synthetic material, foils, synthetic material bags, shrink-wrap, etc.
- metal cans, lids and bottle caps, etc.
- bottles, glasses and glass products generally
- raw food waste
- plastic and single-use plastic (i.e., empty bags)
- gear (pieces or for reparation)
- food scraps, food particles, and all other materials contaminated by such wastes

All waste is taken to the collecting places at least once a day.

Cargo-associated waste

These are all materials which have become wastes as a result of use on board a ship for cargo stowage and handling. The cargo-associated wastes include, but are not limited to dunnage, shoring, pallets, lining, plastic, gear and packing materials, plywood, paper, cardboard, separation nets (used gear), jute cloths, wire and steel strapping. The waste is collected and separated by a responsible person for the deck area.

Water-pollutant wastes
Garbage contaminated by water pollutants must not be discharged to the sea but have to disposed in a port as special garbage. Garbage like this has to be stored on board separately and has to be marked and labelled with information about the type of contamination.

Other kinds of wastes are e.g. rugs/twist, paint residues, thinner, residues of other chemicals, cleaning agents, waste oils etc. as well as bins and rags contaminated with these substances. Furthermore, soot, machinery residues, scrapped paint, deck sweepings, wiping wastes and rags, toner cartridges from photocopiers or laser printers, ink cartridges of computer printers (poisonous!) etc. arise. Also, the residues and waste of freelancers on board, particularly hairdressers, belong to the ship's garbage. Under no circumstance, all these wastes must not be discharged at sea but have to be disposed as special waste to professional waste reception facilities ashore.

Incineration ashes
These are to be collected and separated by the engine crew.

Food waste
Some Governments have regulations for controlling human, plant and animal diseases that may be carried by foreign food wastes and materials that have been associated with them. These regulations may require incinerating, sterilising or other special treatment of garbage to destroy possible pest and disease organisms.

Such garbage is kept separate from other garbage and preferably retained for disposal in port in accordance with the laws of the receiving country.

Precautions must be taken to ensure that plastics associated with food wastes (e.g. plastic food wrappers) are not discharged at sea with the food wastes.

Fishing gear (Lines and nets)
Synthetic fishing net and line scraps generated by the repair or operation of fishing gear shall collected in a manner that prevents loss overboard. Such material may be incinerated, compacted or stored along with other plastic wastes.

Recyclable waste
It is recommended that the crew should deposit recyclables such as glass, metal, plastic, paper wastes, etc., into separate receptacles provided.

Reduction of single-use plastic
FIA strongly recommend FIA PNG fishing companies members to engage in a reduction of single use of plastic by 2030 at least 60%. When it is not possible, to get recyclables or biodegradable materials is recommended or find alternatives containers materials.

6.2.3 Handling of garbage from collecting and separation places to the possible processing places and plants

Suitable identified receptacles are provided on primary collection and separation stations.
The wastes are separated automatically when they are properly put into appropriate receptacles. The Designated Person verifies this and ensures the separation in accordance with the instructions given.

From here the Marine litter (garbage) can be
- processed on board (see 6.3)
- stored on board (see 6.4)
- discharged into the sea in those limited situations where it is permitted (see 6.5)

All these tasks have to be performed by qualified personnel upon explicit instruction of the Designated Person, only.

6.3 Processing of Marine litter (garbage)

6.3.1 Personnel responsible for the operation of the equipment

The functions and names of the persons in charge have been laid down in appendix 4.

At crew change, these details have to be changed and the appendix 4 has to be amended respectively. It is being authorized by signature of the master and has to be displayed in at least one place on board well visibly.

Other then the persons mentioned in appendix 4 are not entitled to operate the equipment!

6.3.2 Processing equipment

The garbage processing equipment, plants and units available on board are listed in appendix 3. The respective capacity should be mentioned there. This helps planning the operation. Furthermore, the Designated Person is able to calculate the right time of garbage disposal, recognizing the arising amount of garbage and the storage capacities.

All equipment used by the fishing operation for processing of garbage shall be included and listed in Appendix 3.

Locations of the processing devices and equipment

The details are listed in appendix 3.

These devices have to be located as far away as possible from provisions rooms, stores, galleys and pantries. The floor of this room should be prepared for easy cleaning with water.

Categories of garbage processed by the equipment available

The details are listed in appendix 3.

6.3.3 Handling of garbage between the primary processing stations and the storing and disposal facilities

Between the locations described in 6.2.2 and the storage and disposal locations the garbage has to be transported in appropriate and suitable containers only. Doing so, it has to be observed that no parts of the garbage or substances leak or are lost in any other way. This should avoid dirtying of the ship or pollution of the sea.

In particular, it has to be observed that no health risk arises by leaking vapours (e.g. solvents)
or from bacteria (e.g., from rotting food, sanitary towels, waste from hospital, etc.).

Transportation containers have to be stowed and secured well in case of using them for storage purposes.

6.3.4 Procedures for the processing of Marine litter

The respective person in charge (see appendix 4) prepares the garbage processing equipment according to the operation instruction, gets the appropriate collecting containers ready, switches the unit on and feeds it. Doing so, he pays special attention in observing all safety at work instructions to avoiding injuries. In particular while doing maintenance and cleaning work of the equipment, the unit has to be switched off.

Only admitted substances may be processed in a particular garbage-processing unit. Before the unit is operated with garbage of another category, all residues of the garbage processed before have to be removed to avoid intermixing.

All garbage to be disposed at sea, in those limited situations where it is permitted, is stored in separate marked containers. It can be ground and/or compacted to reduce the storage volume. A description of the items and approximate volumes shall be recorded.

a) Comminuting/grinding

The volume of the Marine litter can be reduced by comminuting or grinding.

Comminuted or ground garbage must be able to pass through a screen with mesh size no greater than 25mm for disposal into the sea. Such comminuted or ground garbage is stored in suitable receptacles for subsequent discharge into the sea. This requirement generally applies to food wastes and the comminutor or disposer is installed in the galley area. Such comminuted or ground garbage shall not be discharged into a ship's sewage treatment system unless it is approved for treating such garbage. It is recommended that the discharge from shipboard comminutor be directed into a garbage holding tank when the vessel is operating within an area where discharge is prohibited.

Residues of shell and crustaceans (mussels, crabs, lobsters etc.) shouldn't be ground since the mineral substances let the cutters of the comminutor get dull.

b) Compacting/compressing:

Also compacting/compressing is able to reduce the volume of the garbage. If grinding machines are used prior to compaction, the compaction ratio can be increased and the storage space decreased.

Prior to compaction, it has to be checked whether humidity of the garbage can leak out. In this case, the compactor has to be designed for wet garbage and the leakage has to be collected in suitable containers.

c) Composting

Composting is a further method of reducing the volume of garbage and for generating a valuable biological fertiliser. During the composting, raw and uncooked food waste are being converted to fertiliser and soil by micro-organism. These will be added by means of a composting-agent.

Substances from animals like meet, fish, eggs etc. must not be composted. Furthermore, no cooked or mouldy foodstuff. Composting needs a lot of oxygen. Garbage to be composted should not be compacted but should be fed as loose as possible into the composter. The temperature around should be at least 20°C. The room should be fitted with a suitable ventilation which exhausts to outside. An always low air pressure in that room should ensure that no air can flow into the superstructure, because it contains bacteria. These could lead to pneumonia over a longer period of time.

The generated compost has to be retained on board in suitable containers until its dispose to shore based processing.

d) Incineration of garbage

Special rules on incineration under domestic law may apply in some ports and may exist in some special areas.

Incineration of hazardous materials (e.g., scraped paint, impregnated wood) and certain types of plastics (e.g., PVC-based plastics or other plastics containing hazardous chemicals) calls for special precaution due to the potential environmental and health effects from combustion of by-products.

Garbage is incinerated by a type-approved incinerator on board the ship.

Any incineration of garbage by using only a simple frame incinerator installed on deck is strictly prohibited.

Operating an incinerator the following should be noted:

- Before starting the incineration in a port or in the territorial waters it must be checked, whether the operation is allowed or under which special rules by the authorities. The person in charge for incineration has to ask the ship's officers for permission before commencing the incineration.
- Incineration of plastic waste can generate high temperatures. The temperature has to be observed continuously. Too high temperatures can generate poisonous and environment polluting nitric oxides. Too low temperature can lead to sooting. The combustion of plastics requires huge amount of oxygen.
- The incineration of dangerous goods and substances, e.g., scrapped paint, painted or impregnated wood, etc. is prohibited.
- All instruction given by the manufacturer of the incinerator as well as the classification society has to be observed and followed.

6.3.5 Available operating and maintenance procedures

Operating and maintenance procedures for all processing equipment are available on board and are part of this garbage management plan. Due to the limited space they have been extracted. Appendix 3 to this plan lists all valid documents and states its storage places on board.

6.4 Shipboard storage of Marine litter, Fishing gear, or reusable or recyclable material

Appendix 5 to this Marine litter and Fishing gear management plan lists the following items:

Location, intended use and capacity of the available storage stations for each category of garbage or reusable or recyclable material.

Conditions of how the Marine litter, Fishing gear, or reusable or recyclable material will be stored, e.g.

"food – frozen"
"cans – compacted and stacked"
"paper – compacted and should remain dry"
"plastic – compacted and stacked"
"end of life fishing gear" - stored

Handling of garbage, including reusable and recyclable material, between the primary storage locations and the disposal

The persons in charge of the handling of garbage are specified in appendix 4 to this plan.

If garbage can be discharged directly to the sea from its storage facility (e.g., emptying of a garbage tank through a port hole), the port hole or its handle must be locked in restricted areas. The same applies even for permitted areas on special instruction of the shipping company.

If there is a danger of a spontaneous combustion (e.g., oily rags etc.), these have to be stored in fire-proof special containers and be checked regularly.

Garbage to be disposed to shore based reception facilities will be stored in separate clearly marked containers. As such garbage is expected to be stored for a long time on board, efforts are made to reduce weight and volume of the garbage. Attention is paid to prevention of fire accident.

Garbage to be discharged into the sea, in those limited situations where it is permitted, will be stored in separate clearly marked containers. This garbage is expected to be stored on board for a short period only. Attention is paid to prevention of fire accident. Items and volumes must be recorded and reported in the Marine litter and Fishing gear logbook.

6.5 Disposal of Marine litter

Garbage disposal by garbage type in accordance with revised Annex V of MARPOL 73/78:

Garbage Type[1]	All Ships except Platforms[2]		Offshore platforms located more than 12 nm from nearest land and ships when alongside or within 500 meters of such platforms[2] Regulation 5
	Outside special areas Regulation 4 (Distances are from the nearest land)	Within special areas Regulation 6 (Distances are from nearest land or nearest ice- shelf)	
Food waste comminuted or ground[3]	≥ 3 nm, en route and as far as practicable	≥ 12 nm, en route and as far as practicable[4]	Discharge permitted
Food waste not comminuted or ground	≥ 12 nm, en route and as far as practicable	Discharge prohibited	Discharge prohibited
Cargo residues[5,6], not contained in washwater	≥ 12 nm, en route and as far as practicable	Discharge prohibited	Discharge prohibited
Cargo residues[5,6], contained in washwater	≥ 12 nm, en route and as far as practicable	≥ 12 nm, en route and as far as practicable (subject to conditions in regulation 6.1.2)	Discharge prohibited
Cleaning agents and additives contained in cargo hold washwater	Discharge permitted	≥ 12 nm, en route and as far as practicable (subject to conditions in regulation 6.1.2)	Discharge prohibited
Cleaning agents and additives[6] in deck and external surfaces washwater	Discharge permitted	Discharge permitted	Discharge prohibited
Animal Carcasses (should be split or otherwise treated to ensure the carcasses will sink immediately)	Must be en route and as far from the nearest land as possible. Should be > 100 nm and maximum water depth	Discharge prohibited	Discharge prohibited
Oil, Lubricants and liquid used in Engines	Discharge prohibited	Discharge prohibited	Discharge prohibited

All other garbage including plastics, synthetic ropes, fishing gear, plastic garbage bags, incinerator ashes, clinkers, cooking oil, floating dunnage, lining and packing materials, paper, rags, glass, metal, bottles, crockery and similar refuse	Discharge prohibited	Discharge prohibited	Discharge prohibited

[1] When garbage is mixed with or contaminated by other harmful substances prohibited from discharge or having different discharge requirements, the more stringent requirements shall apply.
[2] Offshore platforms located 12 nm from nearest land and associated ships include all fixed or floating platforms engaged in exploration or exploitation or associated processing of seabed mineral resources, and all ships alongside or within 500 m of such platforms.
[3] Comminuted or ground food wastes must be able to pass through a screen with mesh no larger than 25 mm.
[4] The discharge of introduced avian products in the Antarctic area is not permitted unless incinerated, autoclaved or otherwise treated to be made sterile.
[5] Cargo residues means only those cargo residues that cannot be recovered using commonly available methods for unloading.
[6] These substances must not be harmful to the marine environment.

6.5.1 Disposal of Marine litter (garbage) ashore

The Marine litter disposal ashore should be preferred. The designated person coordinates disposal with port authorities and reception facilities. All Parties to the MARPOL Convention have obliged themselves to provide sufficient and professional reception facilities, also fishing gear to be disposed at port reception facilities should follow the best practices for fisheries of the Global Ghost Gear Initiative

The shore based organization of the shipping company should be informed in case disposal is impossible or there are doubts about the technical and environmental orientated disposal (form provided in the Marine litter and fishing gear Record Book, see a sample form in appendix 1 to this plan). The company addresses a letter of protest to the respective flag state of the ship.

6.5.2 Discharge into the sea

Each discharge into the sea will be planned and arranged, exclusively, by the designated person. Any discharge must be approved by the master, case by case. Before commencing discharging it has to be checked and ensured that

- this substance is allowed to be discharged according to revised MARPOL, Annex V
- the ship outside is of restricted areas according to revised MARPOL, Annex V
- the ocean current doesn't wash the garbage ashore
- no fishing vessels are in the vicinity.

Having completed discharging, the cleanness of each container/tank should be verified. In case of faulting - particularly by food waste and domestic waste - the containers/tanks should be washed and cleaned.

6.5.3 Documentation

Every disposal, discharge or incineration has to be documented in the Marine litter and fishing gear Record Book. From third Parties a confirmation of receipt has to be obtained.

6.5.4 Further definitions

Cargo residues
Cargo residues means the remnants of any cargo which are not covered by other Annexes to the present MARPOL Convention and which remain on the deck or in holds following loading or unloading, including loading and unloading excess or spillage, whether in wet or dry condition or entrained in wash water but does not include cargo dust remaining on the deck after sweeping or dust on the external surfaces of the ship.

Cargo material contained in the cargo hold bilge water should not be treated as cargo residues if the cargo material is not harmful to the marine environment and the bilge water is discharged from a loaded hold through the ship's fixed piping bilge drainage system.

Cleaning agents and additives
Cleaning agents and additives contained in hold wash water, and deck and external surface wash water are considered "operational wastes" and are classed as garbage under MARPOL Annex V.

Cleaning agents or additives may be discharged into the sea so long as they are not considered harmful to the marine environment, provided the cleaning agents or additives – a. are not a „harmful substance" in accordance with the criteria in MARPOL Annex III; and

b. do not contain any components which are known to be carcinogenic, mutagenic or re- protoxic.
c. are biodegradable

In order to demonstrate that the cleaning agent or additive is not harmful to the environment, records must be available on the vessel containing evidence by the producer that the product meets the criteria for not being harmful to the marine environment. This could be in the form of a safety data sheet or a stand-alone document.

6.6 FADs

FIA PNG fleet and fishing vessels shall follow the PNG FADs' management plan developed in September 2015 when the fishing company decides to use Fishing Aggregating devices as part of the fishing operations. Gear marking practices following the FAO guidance shall be also included.

As the PNG FADs' management plan request, each drifting FAD or anchored FAD shall be marked, monitored, reported, controlled and recorded on the e-logbook. FADs collecting and maintain onboard should be done as per point 5.1

FIA members have been attending ISSF workshop looking at the construction of non-entangling and biodegradable FADs. FIA fishing companies should follow ISSF guidance focus on construction of FADs that will not represent a risk of entanglements, are constructed using only organic and/or biodegradable materials (e.g. bamboo. Sisal, jute, palm leaves, coconut fiber, cotton).

7 Education and training

7.1 Facilitate collection of Marine litter

When signing on for the first time on one of FIA fishing company vessels, all crew members receive an introduction for collecting and separating Marine litter and Fishing gear, preventive measures, handling onboard and how to minimize the occurrence of gear lost. The treatment of Marine litter and keeping the oceans and waters clean is an integral part of our FIA PNG RSP programs.

Commencing the voyage, ship's officers give a brief introduction to the voyage schedule at which all crewmembers as well as all other employees on board have to take part. Repeatedly, the proper Marine litter treatment and Fishing gear handling are being pointed out.

In addition to that, this Marine litter and Fishing gear Management Plan is being made available to everybody at any time for information.

7.2 Facilitate the processing of Marine litter and Fishing gear

All people who work and handle garbage processing devices (Marine litter) must have sufficient knowledge of the respective plant.

The Designated Person carries out trainings on board. The training programs contains particularly

- the requirements of MARPOL, Annex V
- the subdivision of Marine litter into categories
- the restrictions and ban of discharging garbage (Marine litter) into the sea
- the instructions of this Marine litter and fishing gear management plan, including FADs
- the used of single plastic, sources and how to minimize or reduce their use.
- the best practices for fishing of the Global Ghost Gear Initiative (GGGI) - fishermen
- the instructions of this Marine litter and fishing gear management plan
- instructions or manuals for the processing equipment
- instructions for the inspection and maintenance of the appliances
- waste disposal requirements of the states and ports called.

7.3 Facilitate the storage of garbage

The designated person in charge of the plan carries out periodical training and education for facilitating the storing of garbage on board. All training programs treat the difficulties at the execution of this plan. The programs emphasize problems in implementing this plan and the program outcome is reported to the head office for reference to development of training and education programs. FIAO may support with training material.

The training programs aims to raise awareness among FIA fishing companies and crew members.

8. Responsibility of FIA Office

8.1. The FIAO will ensure the full implementation of this FIA PNG Marine litter and Fishing gear by the participants in the FIA MSC scheme in accordance with the FIA policy & procedures, NFA regulatory requirements, WCPFC measures, and 12 international references used for developing this procedure.

8.2. The FIAO will audit in annual basis FIA fishing company members and fishing vessels. Fishing vessels will be randomly audited against the FIA PNG checklist attached to this procedure. The outcomes will be shared with the FIA fishing company and the FIAO management.

FIA encourages FIA PNG members to also allow second-party audits to assess the degree of implementation and progress. In a later stage, after the first review cycle , the FIA PNG office aims to suggest a third-party audit against the FIA PNG RSP ML&FG.

Using the FIA PNG RSP for marine litter and fishing gear metrics developed by Seafoodmatter for

classifying the degree of conformance with marine litter and fishing gear in ten (10) areas and 49 performance indicators:

1. Management system & Mechanisms
2. Voluntary schemes compliance
3. Best practices framework (GGGI onboard) Fishing companies
4. Best practices framework (GGGI) Port facilities
5. Marine litter
6. Verification process
7. Training and awareness
8. Vessel Data Verification
9. RFMO participation – WCPFC
10. ETP handling – occurrence onboard

FIA PNG fishing companies will be audited on annual basis against these 10 KPIs (see the FIA PNG RSP ML&FG checklist). This process will score the performance of each fishing company.

8.3. The FIAO Management and officers shall be responsible for seeing that the process approach of control measures, and that all non-conforming products/processes are identified and given appropriate containment, corrective and preventive actions accordingly.

8.4. The FIA RSP Coordinator and/or auditor is responsible for establishing, reviewing and sending non-conformances, as well as following up with sites (purse seiners and carriers) and fishing companies on correctiv plans in order to comply fully with the requirement or standard.

9. Recording

- **a.** The fishing company records electronically when it is applicable (FIMS). The checklist, annexes, records shall be kept at least for 2 years.
- **b.** Each FIA PNG fishing company should develop their own procedure and internal checklist based on this baseline, facilitated by FIA

10. History of Revision

Revision No.	Date	Reasons/ Details
00	November 2013	Creation for a FIA Frabelle Fishing waste management plan.
01	December 2020	FIA members shared versions as base line: *FCF sustainable policy v3.0 *RD fishing waste management plan v1.0 *Frabelle Fishing garbage manual and procedure GMP02 v. 2013 *FIA PNG Gap Analysis 2019
02	January 2021	Initial FIA PNG draft radding FADs, fishing gear and markets requiriments
03	January 2021	Peer review by FIA TWG & FIA TDG
04	March 2021	Peer review by Stakeholder TWG (final draft)
05	September 2026	New acronyms, adding traning and principles 8, 9 and 10. M. Hidalgo & TWG

11.References

SCS Global FIA PNG Fishery certification final report, May 2020

Fishing Industry Association (FIA) Memorandum of Understanding (MoU) with applicants into FIA Marine Stewardship Council (MSC) scheme.

FIA PNG Responsible Sourcing Policy v4.0

PNG Tuna Fishery Management plan 2014

PNG FADs management plan (2015)

Conservation and Management Measure (CMM 2009-06) on the Regulation of Transshipment December 2019

PNG National Fishing Authority License Policy

FAO, 2019. Voluntary Guidelines on the Marking of Fishing Gear (VGMFG).

ISSF 2019. ISSF Guide to non-entangling FADs. International Seafood Sustainability Foundation, Washington, D.C., USA. https://iss-foundation.org/knowledge-tools/guides-best-practices/non-entangling-fads/

Moreno, G., Murua, J., Jauharee, A.R., Zudaire, I., Murua, H. and Restrepo, V. (2020). Compendium of ISSF research activities to reduce FAD structure impacts on the ecosystem. ISSF Technical Report 2020-13. International Seafood Sustainability Foundation, Washington, D.C., USA. https://iss-foundation.org/download-monitor-demo/download-info/issf-2020-13-compendium-of-issf-research-activities-to-reduce-fad-structure-impacts-on-the-ecosystem/

FAO. 2018. Gilman, E., Bigler, B., Muller, B., Moreno, G., Largacha, E., Hall, M., Poisson, F., Toole, J., He, P., Chiang, W. Stakeholder Views on Methods to Identify the Ownership and Track the Position of Drifting Fish Aggregating Devices Used by Tuna Purse Seine Fisheries with Reference to the FAO Draft Guidelines on the Marking of Fishing Gear Fisheries Circular No. 1163. Rome, FAO. 2018.

Best Practices Framework for fishing gear, Global Ghost Gear Initiative (GGGI)

PNG FIA Fleet waste reduction and recycling plan (March 2019)

SPC/FFA regional Observer Pollution report Form GEN-6

SPC/FFA regional Observer vessel trip monitoring Form GEN-3

SPC/FFA regional Purse seiner Observer general information Form PS – 1

FCF sustainable policy v3.0

RD fishing waste management plan v1.0

Frabelle Fishing garbage manual and procedure GMP02 v. 2013

FIA PNG Gap Analysis of Marine litter and Fishing gear in the PNG Purse Seiner fishery, Seafoodmatter 2019

Site specific contingency plan for Port of Lae – PNG (Frabelle fishing, 2018) for the PNG National Maritime Safety Authority.

Pollution plan & Marine Pollution for Port of Lae and the waters immediately surrounding marine environment (Frabelle fishing, 2017). For the PNG National Maritime Safety Authority and NATPLAN (National Marine Pollution Contingency Plan)

Report of Cargo from PNG to GENSAN, Golden shower 888, May 2019.

Photos and quantities of debris, old parts, old tanks, used batteries, used extinguishers, plastic/liners, etc.

Packing list of Cargo from PNG to GENSAN, Golden shower 888, May 2019.

Removal Report (Frabelle fishing, from February to June 2019). Description and quantities of onboard items that are brought to Port. Domestic waster, used equipment & parts, empty drums, plastic liners, extinguisher.

Used radio buoys drop off inventory, Port of Noro (from January to May 2019) – National Fisheries Development Limited. Describing buoys owner, Flag, collected by vessel name, date of recover and serial number. MARPOL Annex V 73/78 - Prevention of disposal of garbage from ships

FAO Code for Responsible Fisheries (1995) - Fishing gear

International Guidelines on Bycatch Management and reduction of Discards (FAO 2011) - reducing the impact of lost fishing gear

Port State Measures Agreement to prevent, deter, Eliminate Illegal Unreported and Unregulated Fishing (2009)

The United Nations 2030 agenda on Sustainable Development (A/RES/70/1) - SDG 14.1: Prevent and significantly reduce marine pollution of all kinds, including ALDFG

FAO voluntary guidelines on Marking of Fishing Gear (2018)

Best Fishing Practices - Global Ghost Gear Initiative

EU directive for Single Used Plastic (SuP)

The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement).

Seafoodwatch Fishery Standard v4.0 (2020)

ISO 21070:2011 – Management and handling of garbage generated on board ships during the period the garbage will be on board.

ISO 16304: 2013 – Best practices for the arrangement of port waste reception facilities.

Non-Entangling and Biodegradable FADs Guide, ISSF



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Annexes

Record of Marine litter and Fishing gear disposal Description **Appendix 1a**

Ship's Name: Distinctive No. or letters: IMO No.:

Categories

A. Plastics and/or Marine litter
B. Food wastes
C. Domestic wastes (e.g. paper products, rags, glass, metal, bottles, crockery, etc.)
D. Cooking oil
E. Incinerator ashes
F. Operational wastes
G. Cargo residues
H. Animal carcass(es)
I. E n d o f l i f e
f i shing gear

Date / Time	Position of the Ship/ Remarks (e.g., accidental loss)	Category	Estimated Amount Discharged into Sea or incinerated (m^3)	to Sea	to Reception Facility	Incineration	Certification / Signature

Signature of the Master: Date:

Form FIA-GMP-001

Form for reporting alleged inadequacy
of port reception facilities for marine litter and fishing gear **Appendix 1b**

1	**Place of the inadequacy:**	
	Country:	
	Name of port or area:	
	Location in the port, berth, terminal, jetty:	
	Date of incident:	

2	**Type and amount of garbage for discharge to facility:**	
a.	**Total amount:**	
	Fishing gear waste or end of life gear:	
	Plastic waste:	(m^3 / Kg)
	Food waste:	(m^3 / Kg)
	Cargo-associated waste:	(m^3 / Kg)
	Maintenance waste:	(m^3 / Kg)
	Other:	(m^3 / Kg)
b.	**Amount not accepted by the facility:**	
	Fishing gear waste:	(m^3 / Kg)
	Plastic waste:	(m^3 / Kg)
	Food waste:	(m^3 / Kg)
	Cargo-associated waste:	(m^3 / Kg)
	Maintenance waste:	(m^3 / Kg)
	Other:	(m^3 / Kg)

3	**Special problems encountered,** please mark as appropriate**:**
	Undue delay:
	Inconvenient location of facilities:
	Unreasonable charges for use of facilities:
	Use of facility not technically possible:
	Special national regulations:

4 Remarks

5	**Ship's particulars:**	
	Name of ship:	
	Owner or operator:	
	Distinctive number or letters:	
	Port of registry:	
	Number of persons on board:	

Date of completion of form **Signature of master**

Form FIA-GMP-002

Date: Signature of the Designated Person:

Locations of receptacles and collection and separation places

The following receptacles are located on board:

Category		Type of Receptacle	Location
A	Plastics including synthetic ropes and fishing nets, plastic garbage bags, incinerator ashes from plastic products. Quantities shall be recorded and items mentioned		Collection place: Separation place:
B	Food wastes		Collection place: Separation place:
C	Domestic wastes		Collection place: Separation place:
D	Cooking oil		Collection place: Separation place:
E	Incinerator ashes		Collection place: Separation place:
F	Operational wastes		Collection place: Separation place:
G	Cargo residues		Collection place: Separation place:
H	Animal carcass(es)		Collection place: Separation place:
I	Fishing gear		Collection place: Separation place:

Date: Signature of the Designated Person:

Garbage Processing Equipment and Devices

The following equipment and devices are on board:

Incinerator	manufacturer: type: location: capacity: garbage categories: operating instructions:	..... cbm/day
Food waste disposer	manufacturer: type: location: capacity: garbage categories: operating instructions:	..... cbm/day
Comminuter/shredder	manufacturer: type: location: capacity: garbage categories: operating instructions:	..... cbm/day
Compactor	manufacturer: type: location: capacity: garbage categories: operating instructions:	..... cbm/day
Composter	manufacturer: type: location: capacity: garbage categories: operating instructions:	..... cbm/day
	manufacturer: type: location: capacity: garbage categories: operating instructions:	..... cbm/day
	manufacturer: type: location: capacity: garbage categories: operating instructions:	..... cbm/day

Remark:
Under the item "operating instructions" the exact storage place of these documents on board shall be laid down

Date: Signature of the Designated Person:

Appointment of the designated person and the responsible personnel for the operation of the processing devices

I hereby appoint the following persons until further notice:

Designated Person in charge of Garbage Management on Board

- Function:
- Name:

Person responsible for Operating the Incinerator

- Function:
- Name:

Person responsible for Operating the Food Waste Disposer/Comminutor

- Function:
- Name:

Person responsible for Operating the Compactor

- Function:
- Name:

Person responsible for Operating other Garbage Processing Equipment

- Function:
- Name:

m/v " MODEL....."

Voyage no. .....

Date: .....

This appointment becomes effective as from: .....

....
Master (name and signature)

List of Storage Devices and Appliances for the Storage until Disposal ashore or Discharge into the Sea

1 Storage location for garbage of the category A like plastic

- Location:
- Purpose: Storage until disposal to reception facilities or until incineration.
- Capacity:

2 Storage location for garbage of the category B like food waste

- Location:
- Purpose: Temporary storage until discharge into the sea.
- Capacity:

3 Storage location for garbage of the category C like paper products, rags, glass, metal, bottles, crockery etc.

- Location:
- Purpose: Storage until disposal to reception facilities or until incineration.
- Capacity:

4 Storage location for garbage of the category D like cooking oil

- Location:
- Purpose: Storage until disposal to reception facilities.
- Capacity:

5 Storage location for garbage of the category E like incinerator ashes

- Location:
- Purpose: Storage until disposal to reception facilities.
- Capacity:

6 Storage location for garbage of the category F like operational waste

- Location:
- Purpose: Storage until disposal to reception facilities or until incineration.
- Capacity:

7 Storage location for garbage of the category G like cargo residues

- Location:
- Purpose: Storage until disposal to reception facilities.
- Capacity:

8 Storage location for garbage of the category H like animal carcasses

- Location:
- Purpose: Temporary storage until discharge into the sea.
- Capacity:

9 Storage location for garbage of the category I like fishing gear

- Location:
- Purpose: Storage until disposal to reception facilities.
- Capacity:

10 Storage location for recyclable garbage

- Location:
- Purpose: Storage until disposal to reception facilities.
- Capacity:

11 Storage location for compost

- Location:
- Purpose: Storage until disposal for further processing ashore.
- Capacity:

Date: Signature of the designated person:

Placard

Discharge of Garbage into the Sea by type of garbage according to MARPOL 73/78, Annex V:

Garbage Type	All Ships except Platforms		Offshore platforms located more than 12 nm from nearest land and ships when alongside or within 500 meters of such platform Regulation 5
	Outside special areas Regulation 4 (Distances are from the nearest land)	Within special areas Regulation 6 (Distances are from nearest land or nearest ice-shelf)	
Food waste comminuted or ground	≥ 3 nm, en route and as far as practicable	≥ 12 nm, en route and as far as practicable	Discharge permitted
Food waste not comminuted or ground	≥ 12 nm, en route and as far as practicable	Discharge prohibited	Discharge prohibited
Cargo residues, not contained in washwater	≥ 12 nm, en route and as far as practicable	Discharge prohibited	Discharge prohibited
Cargo residues, contained in washwater	≥ 12 nm, en route and as far as practicable	≥ 12 nm, en route and as far as practicable (subject to conditions in regulation 6.1.2)	Discharge prohibited
Cleaning agents and additives contained in cargo hold washwater	Discharge permitted	≥ 12 nm, en route and as far as practicable (subject to conditions in regulation 6.1.2)	Discharge prohibited
Cleaning agents and additives in deck and external surfaces washwater	Discharge permitted	Discharge permitted	Discharge prohibited
Animal Carcasses (should be split or otherwise treated to ensure the carcasses will sink immediately)	Must be en route and as far from the nearest land as possible. Should be > 100 nm and maximum water depth	Discharge prohibited	Discharge prohibited
Oil, Lubricants and liquid used in Engines	Discharge prohibited	Discharge prohibited	Discharge prohibited
All other garbage including plastics, synthetic ropes, fishing gear, plastic garbage bags, incinerator ashes, clinkers, cooking oil, floating dunnage, lining and packing materials, paper, rags, glass, metal, bottles, crockery and similar refuse	Discharge prohibited	Discharge prohibited	Discharge prohibited

Date: Name and signature of the master: